Martinez Refinery
Renewable Fuels Project

Final

ENVIRONMENTAL IMPACT REPORT

Prepared for
Contra Costa County Department
of Conservation and Development

MARCH 2022

State Clearinghouse No. 2021020289

Martinez Renewable Fuels Project

(County File No. CDLP20-02046)

MARCH 2022

Prepared for:

Contra Costa County
Department of Conservation and Development
30 Muir Road
Martinez, CA 94553

STATE CLEARINGHOUSE NO. 2021020289

TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

Acronym	Definition
AAS	Allision Avoidance System
AB	Assembly Bill
ACP	Area Contingency Plan
ADA	Americans with Disabilities Act
AFY	Acre-foot per year
APE	Area of Potential Effect
API	American Petroleum Institute
APN	Assessor's Parcel Number
ATC	authorities to construct
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
bbls	barrels
BCDC	Bay Conservation and Development Commission
BMP	Best Management Practice
BOL	Bills of Lading
bpd	barrels per day
CalARP	California Accident Release Prevention
CAO	Cleanup and Abatement Order
CARB	California Air Resources Board
CBE	Communities for a Better Environment v. South Coast Air Quality Management District, 48 Cal. 4th 310 (2010)
CCC	Contra Costa County
CCCFPD	Contra Costa County Fire Protection District
CCR	California Code of Regulations
CCWD	Contra Costa Water District
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CI	carbon intensity
CSLC	California State Lands Commission
DAF	dissolved air floatation
dBA	A-weighted decibels
DCO	Distillers corn oil
DHS	Department of Health Services
DMMs	demand management measures
DPR	Department of Parks and Recreation
DTSC	Department of Toxic Substance Control
DWT	draft weight tonnage
EIA	Energy Information Administration
EISA	Energy Independence and Security Act
EIR	Environmental Impact Report
EPA	Emergency Planning and Community Right-to-Know Act
GRA	Geographic Response Plan Areas
GHG	Greenhouse Gas
GTAP	Global Trade Analysis Project

Acronym	Definition
AAS	Allision Avoidance System
H2	Hydrogen gas
H_2S	Hydrogen sulfide
HDO	hydrodeoxygenation
HEFA	Hydroprocessed Esters and Fatty Acid
HRA	health risk assessment
ILUC	indirect land use changes
ISO	Industrial Safety Ordinances
ISOR	Initial Statement of Reasons
LAFCOS	Contra Costa Local Agency Formation Commission
lbs	pounds
LCF	Low carbon fuel standard
LKS	Lempert-Keene- Seastrand Oil Spill Prevention and Response Act
LUC	Land Use Covenant
MBBR	Moving Bed Biological Reactor
MEPD	Marine Environmental Protection Division
MISA	Marine Invasive Species Act
MISP	Marine Invasive Species Program
MLD	Most Likely Descendant
MMscf/year	million standard cubic feet per year
MMscfd	million standard cubic feet per day
MM	Mitigation Measure
MOT	Marine Oil Terminal
MOTEMs	Marine Oil Terminal Engineering and Maintenance Standards
mph	miles per hour
MSD	Material Safety Data Sheet
MWh	megawatt-hour
NAHC	Native American Heritage Commission
NH3	Ammonia
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
OCIMF	Oil Companies International Marine Forum
OEHHA	Office of Environmental Health Hazard Assessment
OGV	Ocean-Going Vessels
OMP	Odor Management Plan
OSPD	Oil Spill Prevention Database
OSPR	Office of Spill Prevention and Response
OSRO	Oil Spill Response Organizations
P66	Phillips 66
PCN	Pre-Construction Notification
PHA	Process hazard analyses
PSM	Process safety management
PTE	Potential to emit
RCRA	Resource Conservation and Recovery Act
RMP	Risk Management Plan

Acronym	Definition
AAS	Allision Avoidance System
RFS	Renewable Fuel Standard
RNA	Regulated Navigational Area
S.F. Bay Regional Board	San Francisco Regional Water Quality Control Board
SAP	Sulfuric Acid Plant
SBO	Soybean Oil
SCA	Society for California Archaeology
S.F. RWQCB	San Francisco Bay Regional Water Quality Control Board
SIC	Standard Industrial Classification
SIGTTO	Society of International Gas Tanker and Terminal Operators
SOI	sphere of influence
SOPA	Society of Professional Archaeology
SPCC	Spill Prevention, Control, and Countermeasure
SRU	Sulfur Recovery Unit
SWPPP	Stormwater Pollution Prevention Plan
TAC	Toxic Air Contaminants
TCR	Tribal and Cultural Resources
TOL	Terminal Operating Limit
TPY	Tons per year
TWSA	Treated Water Service Area
U.S.	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
US EPA or EPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UWMP	Urban Water Management Plan
VFA	volatile fatty acids
VMT	vehicle miles traveled
VTS	Vessel Traffic Service
WMU	Waste Management Unit

CHAPTER 1 INTRODUCTION

This Final Environmental Impact Report (EIR) for the Martinez Refinery Renewable Fuels Project has been prepared in compliance with the California Environmental Quality Act (CEQA) on behalf of Contra Costa County, the CEQA lead agency for the project. The final EIR consists of the Draft EIR and its appendices, comments, responses to comments, and revisions to the Draft EIR.

As required by CEQA, the Draft EIR was made available to the public and regulatory agencies for review and comment during a 60-day period.

Pursuant to Section 15132 of the CEQA Guidelines, a Final EIR shall consist of the following:

(a) The Draft EIR or a revision of the draft.

(b) Comments and recommendations received on the Draft EIR either verbatim or in summary.

(c) A list of persons, organizations, and public agencies commenting on the Draft EIR.

(d) The responses of the Lead Agency to significant environmental points raised in the review and consultation process.

(e) Any other information added by the Lead Agency.

In compliance with CEQA requirements, this document contains the following:

- Comments received on the Draft EIR during the 60-day public comment period, including a list of persons, organizations, and public agencies that provided comments on the Draft EIR (Chapter 2, *Comments Received on the Draft EIR*);
- Responses to those comments (Chapter 3, *Responses to Comments*);
- Revisions to the Draft EIR and any other information added to the EIR by Contra Costa County as lead agency (Chapter 4, *Revisions to the Draft EIR*); and
- List of print references and personal communications cited in this Final EIR (Chapter 5, *References*).

CHAPTER 2 COMMENTS RECEIVED ON THE DRAFT EIR

This chapter includes a list of persons, organizations, and public agencies that provided comments on the Draft EIR (Table 2-1) followed by the verbatim communication that was received. Comments were received by mail and email.

Comment documents are numbered as shown in Table 2-1. Within each document each individual comment is identified with a sub-numeral (i.e., A1-1) and bracketed in the margin of the communication. A response for each comment can be found in Chapter 3, *Responses to Comments*. Following these letters is a listing of individuals who submitted form letters with substantially similar information. These comments have been consolidated and a response to the unique comments in the letters is provided.

Table 2-1. List of Comments Received

Comment Number	Commenter	Date Received
Agencies Comments		
A1	Contra Costa Local Agency Formation Commission	11/19/21
A2	Contra Costa Water District	12/13/21
A3	California Department of Transportation, District 4	12/15/21
A4	Bay Area Air Quality Management District	12/17/21
A5	San Francisco Bay Conservation and Development Commission	12/17/21
A6	California State Lands Commission	12/17/21
A7	California Air Resources Board (Retracted)	12/17/21
Public Comments		
O1	International Bird Rescue	10/25/21
O2	The Industrial Association of Contra Costa County	12/10/21
O3	Food Bank of Contra Costa & Solano	12/17/21
O4	Boilermakers Local 549	12/16/21

Comment Number	Commenter	Date Received
O5	Boys and Girls Club of Contra Costa	12/16/21
O6	California Business Roundtable	12/16/21
O7	California Manufacturers & Technology Association	12/16/21
O8	Chevron Products Company	12/16/21
O9	Habitat for Humanity East Bay/Silicon Valley	12/16/21
O10	Industrial Association of Contra Costa County	12/16/21
O11	Mt. Diablo Unified School District	12/16/21
O12	Asian Pacific Environmental Network, Biofuelwatch, California Environmental Justice Alliance, Center for Biological Diversity, Citizen Air Monitoring Network, Communities for Better Environment, Community Energy Resource, Extinction Rebellion San Francisco Bay Area, Fossil Free California, Friends of t he Earth, Interfaith Climate Action Network of Contra Costa County, Natural Resources Defense Council, Rainforest Action Network, Richmond Progressive Alliance, Rodeo Citizens Association, San Francisco Baykeeper, Stand.Earth, Sunflower Alliance, The Climate Center, and • 350 Contra Costa	12/17/21
O13	Center for Biological Diversity, Sunflower Alliance, Rodeo Citizen's Association, Biofuelwatch	12/17/21
O14	Diablo Valley College	12/17/21
O15	East Bay Leadership Council	12/17/21
O16	Marathon Martinez Community Advisory Panel	12/17/21
O17	The Climate Center	12/17/21
O18	Pacific Gas & Electric	12/13/21
I1	Marilyn Bardet	12/17/21

Comment Number	Commenter	Date Received
I2	Bhima Sheridan	12/17/21
I3	Dr. Stephen S. Rosenblum, Ph.D. Chemistry	12/17/21
I4	Kathy Kerridge	12/17/21
I5	Kathy Petricca	12/17/21
I6	Nadine Peyrucain	12/17/21
I7	Elizabeth Jacqueline Garcia	12/15/21
I8	Maureen Brennan	12/14/21

FORM LETTERS

A Martin
A.R. Puccio
Aaron Chan
Adrianna Dougherty
Alexandra Masci
Andrea Horbinski
Andrea Schauer
Andrew Tyrrell
Angela Presley
Anita Carswell
Anna Mirocha
Anna Vinogradoff
Anne Frost
Anne Gomer
Anne Hodgkin
Anne K Oklan
Anne Stewart
Anne Tuddenham
Annette Benton
B Sandow
Barb Benedict
Barbara Beno
Barbara Ellen
Barnum Melia
Benjamin Rodriguez
Benjamin Simrin
Bill Putt
Blake Wu
Bonnie Pannell
Bruce Anderson
Carol Agnost
Carol K
Carol Schaffer
Carrie Lindh
Cathy Druck
Charles Scott
Charles Wieland
Chris Swenning
Christine Hagelin
Christine Rivera
Christopher Hall
Connie Diernisse
Constantine Bogios
Cynthia G. Prise
Dale Drouin
Dan Bessie
David Wendt
David Wendt
Deanna Simmons
Deb Castellana
Deborah Clifford
Deborah Santone
Dennis Waterhouse
Derek Brigg
Diane and Tom Mader
Dolores Butkus
Dolores Flanders
Donald Meeker
EE Hallisy
Elaine Wander Leclaire
Elena Ronquillo
Elsa Ramos
Erin Barca
Estella Edwards
F S Grassia
Francesca Rago
Gail Ferriera
Gary Hughes
Gary Shaw
Gianna Abondolo
Glenda Dugan
Greg Piatt
Gwendoline Pouchoulin
Hal P. Bus
Helen Dickey
Helen J. Ryan
Henry Marks
Henry Martinez
Henry Tollick
Howard Flowers
Ian Nolan

idell weydemeyer
Ithzel Rodriguez
J Lasahn
James Monroe
Jan Jones
Jane C Kwiatkowski
Jane Kelsberg
Janet Bindas
Janet Jacobson
Janet Soderstrom
Janice Alcaide ChanPascua
Jason Scharnagel
Jay & Ariel Atkinson & Summerlin
Jay Van
Jean Tepperman
Jeffrey Hemenez
Jennie Richards
Jerry Horner
Joanne Anderson
JoAnne Ciazinski
John Ferrante
John Harris
Jonathan Spieler
Jorge Belloso-Curiel
Joseph Breazeale
Joshua Van Deventer
Joyce Cuneo
Judith Casino
Judith Gottesman
Judith Schumacher-Jenning
Judy Clayton
Julia M Fuller
Julie Zweig
K Weed
Karen Allen
Karen Schmidt
Katharine Barrett
Katherine Falk
Katherine Silvey
Kathleen McAfee
Kathleen Schauel
Kathleen Wong
Kathryn Spence
Kathy Bungarz
Kathy Steinbrecher
Katja Cooper
Kevin Schader
Koll Ellis
Kristina Wolf
Kristina Zweig
Lauren Schiffman
Lenor Sorenson
Lilah McElhanon
Lilly Datnow
Linda Morgan
Linda Ostro
Linda Riebel
Linda Waldroup
Linda Woodward
Lisa Brahney
Lisa Nichols
Lisa Park
Lisa Schoof
Lorraine Frey
Louise McGuire
Lynne Anne Salman
Lynne Olivier
Madeleine Saxe
Marc Hachey
Margaret Masek
Maria Bustamante
Marilyn Wojcik
Marinell Daniel
Marissa Swadener
Mark Hurst
Mark Patt
Marla Rogozin
Marsha Jarvis
Martha Wilson
Matt Kaplan
Matthew Carlstroem
Matthew Priebe
Maura Sullivan
Michael D'Adamo
Michael Domagalski
Michael Eichenholtz
Michael Friedman
Michael Kenney
Michael Kutilek
Michael Lerner
Michele Dawn Sanderson
Michelle Mehlhorn
Molly W Canto
Monica Catalano
Monique Roblin
Ms Storace
N.G. Peyrucain
Nancy Berman
Natasha Kaluza
Neale Miglani
Norma Wallace
Olivia Eielson
Patricia Moloney
Paula DeFelice
Pete Woiwode
Ramona Davis
Ramona Williams
Richard Esner
Robert Underwood
Roger Gies
Ron Kline
Ron Tragni
Ronald Bogin
Samantha Borg
Scott Tipton
Sheila Dixon
Shellie Krick
Sheree Courtney
Sheri Kuticka
Stacy Braslau-Schneck
Stan Fitzgerald
Stephanie Clark
Stephen Rosenblum
Steve Brown
Steve Mack
Storm Smiles
Susan Barton
Susan Freeman
Susan Goldstein
Susan King
Sushana Tamamian
Sveinn Ólafsson
Sylvia Nachlinger
T. Shaia
Tara Singer
Terry Campbell

Thomas Brustman	Vanessa Quintero	William Wallin
Tina Chinn	Victoria Ryan	Yehudit Lieberman
Valerie Ventre-Hutton	Wendy Lewis	

2.1 COMMENTS RECEIVED AFTER CLOSE OF THE COMMENT PERIOD

The County received some comments after the close of the 60-day public comment period, which ended December 17, 2021. The County, as Lead Agency, "need not consider certain comments filed after the close of the public comment period, if any, for the draft environmental impact report" unless those comments pertain to any of the following matters occurring after the close of the public comment period: (a) new issues raised by the lead agency, (b) new information released by the public agency, (c) project changes, (d) proposed conditions for approval, mitigation measures, or proposed findings or a proposed reporting and monitoring program, or (e) new information that was not reasonably known and could not have been reasonably known during the public comment period (Public Resources Code Section 21168.6.7(f)(6)). None of the comments received after the comment period pertain to these matters. Therefore, the County elected to only respond to comments received through December 17, 2021.

2.2 DRAFT EIR COMMENTS

The following pages include comments on the Draft EIR as received verbatim by Contra Costa County.

CONTRA COSTA LOCAL AGENCY FORMATION COMMISSION
40 Muir Road, 1st Floor • Martinez, CA 94553
e-mail: LouAnn.Texeira@lafco.cccounty.us
(925) 313-7133

November 19, 2021

Joseph Lawlor, Principal Planner
Contra Costa County
Department of Conservation and Development Community Development Division
30 Muir Road
Martinez, CA 94553

SUBJECT: Comments on DRAFT Environmental Impact Report
Martinez Refinery Renewable Fuels Project, State Clearinghouse Number 2021020289

Dear Mr. Lawlor:

Thank you for sending the Contra Costa Local Agency Formation Commission ("LAFCO") the notice of availability for the *DRAFT Environmental Impact Report - Martinez Refinery Renewable Fuels Project.* LAFCO appreciates the opportunity to review and comment on the Draft EIR pursuant to the California Environmental Quality Act (Pub. Res. Code § 21000 et seq.: "CEQA") and the State CEQA Guidelines (14 C.C.R. § 15000 set seq.). On March 22, 2021, LAFCO submitted comments on the project's Notice of Preparation/Notice of Scoping Meeting for a Draft Environmental Impact Report - Martinez Refinery Renewable Fuels Project. Our comments below are similar to those previously provided. A1-1

The project proposes to repurpose the existing Marathon Martinez Refinery (formerly known as the Tesoro Golden Eagle Refinery) from refining of crude oil to production of fuels from renewable feedstock sources. Existing refinery equipment would be altered or replaced, and additional new equipment, units, and tanks would be installed. LAFCO staff has reviewed the Draft Environmental Impact Report and offers the following comments.

General Comments

LAFCO is an independent, regulatory agency with discretion to approve, wholly, partially, or conditionally, or disapprove, changes of organization or reorganizations. In accordance with the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, LAFCO is required to consider various factors when evaluating a proposal, including, but not limited to, the provision of municipal services and infrastructure to the project site, timely and available supply of water, fair share of regional housing, consistency with regional plans, and other factors. A1-2

The factors relating to boundary and SOI changes are contained in Government Code sections 56668 and 56425, respectively. Including an assessment of these factors in the County's environmental document will

facilitate LAFCO's review and the LAFCO process. Deficiencies in the environmental document as required by LAFCO may result in the need for additional CEQA compliance work.

As a Responsible Agency pursuant to the CEQA, LAFCO will need to rely on the County's EIR in consideration of any local agency boundary changes required for the project. Should this project require LAFCO's approval, the EIR should specifically 1) reference the LAFCO action(s) in the Project Description (e.g., SOI amendment, annexation), 2) list LAFCO as Other Public Agencies Whose Approval is Required, and 3) most importantly, the LAFCO action(s) and relevant factors should be adequately evaluated in the environmental document. A1-2 cont'd

Specific Comments

1. *Municipal Fire Service*- It appears that most of the subject parcel (APN 159-260-013) is outside the service boundary of the Contra Costa County Fire Protection District (CCCFPD). The subject property should be annexed to CCCFPD for the provision of critical services including fire prevention, fire suppression, and emergency response. Annexation to a district requires LAFCO approval.
   a. It is important for the subject property to annex to the CCCFPD due to the risks associated with this industrial use. The Contra Costa County Hazard Mitigation Plan (Vol 1 and II) dated January 2018 notes that refineries in the County contribute an average of 30 hazardous materials spills per year as reported to the California Office of Emergency Services. Specifically, the Hazard Mitigation Plan states "Hazardous materials may be stored at or transported along critical facilities. In the industrial corridor along the northern and northwestern portions of the county, Chevron, Phillips 66, Shell, Tesoro Golden Eagle Refinery, Dow Chemical, and USS-Posco Industries all house hazardous materials. These facilities are susceptible to accidents and are visible targets for terrorism. The exposure of critical facilities and infrastructure to a terrorism event or hazardous material incident is based on the facility's criticality and physical vulnerability". A1-3
   b. Page 3.13-4 of the County's DEIR for this project correctly states that "CCCFPD has in prior years been called to respond to incidents at the Refinery (LAFCO 2016)."
2. *Wastewater Services* - It appears that the subject parcel is not currently receiving municipal wastewater services. Should the project need municipal wastewater services, annexation to a municipal wastewater service provider will be required. Annexation to a city or district requires LAFCO approval. A1-4
3. *Water Services* - It appears that the subject parcel is within Contra Costa Water District's service boundary, and no LAFCO action is needed to extend municipal water service to the subject areas. A1-5

Thank you for the opportunity to comment on the Martinez Refinery Renewable Fuels Project Draft EIR. Please contact the LAFCO office if you have any questions. A1-6

Sincerely,

Lou Ann Texeira
Executive Officer

c: LAFCO Environmental Planners

CONTRA COSTA WATER DISTRICT

December 13, 2021

Mr. Joseph Lawlor
Project Planner
Contra Costa County
Department of Conservation and Development
30 Muir Road
Martinez, CA 94553

Subject: CCWD Comment Letter for the Martinez Refinery Renewable Fuels Project Environmental Impact Report (EIR) (COUNTY FILE# CDLP20-02046)

Dear Mr. Lawlor:

The Contra Costa Water District (CCWD) is in receipt of the County Department of Conservation and Development's EIR for this proposed project, which consists of repurposing the existing Martinez Refinery owned by Tesoro Refining & Marketing Company, LLC, an indirect, wholly owned subsidiary of Marathon Petroleum Corporation (collectively, "Marathon"), to discontinue refining of crude oil and switch to production of fuels from renewable feedstock sources including rendered fats, fish oils, soybean and corn oil, and other cooking and vegetable oils, but excluding palm oil. Operations under the proposed project are anticipated to begin in 2022 with an estimated production of 23,000 bpd, with full production of 48,000 bpd expected to be achieved by the end of 2023. The repurposed refinery would operate 24 hours per day, seven days per week. A2-1

The following are CCWD's comments on this Project EIR:

1. There are various untreated water lines that serve the Marathon Refinery (see Figure 1 below). These include the Shortcut Pipeline and Lateral 25-6, owned by the United States Bureau of Reclamation (USBR) and operated by CCWD, the Tesoro Lateral, and two Foster Wheeler lines. These water lines are not discussed in the Project EIR, so please add this information into the administrative record for this project. Protection or changes to these water lines as a result of the Renewable Fuels Project will need to be coordinated with CCWD. A2-2
2. There are a few corrections needed to Section 3.15, as follows:
    a. Page 3.15-4: the first entry under Local Regulations should be listed as the Contra Costa Water District Water Management Plan. This was last updated in 2017 and accepted to the Federal Registry in 2018. A2-3
    b. Page 3.15-4: the second entry under Local Regulations describes CCWD's Draft Urban Water Management Plan (UWMP). The District adopted and submitted the 2020 UWMP in June 2021. A2-4

A copy of the final UWMP can be found here: https://www.ccwater.com/1053/Urban-Water-Management-Plan. A2-4 cont'd

c. Since the Final UWMP has been published, the references in the DEIR to this document should not state “Draft 2020 UWMP” (i.e. remove "Draft"). A2-5

d. Table 3.15-3 on page 3.15-3: Last two values should be 9,200 and 116,970 to be consistent with what is in the 2020 UWMP. Please also remove "Draft" from the source reference at this table. A2-6

e. Page 3.15-14: There is a reference to the Los Vaqueros improvements project Phase II, with the date of completion listed as 2021. The correct projection for completion is 2029. A2-7

f. Table 3.15-5 on page 3.15-16: this is the same table as Table 3.15-3 so should be corrected as listed above in comment item d. Table 6-9W from the 2020 UWMP could be more useful here as it shows future projected water supplies rather than repeating the information contained in Table 3.15-3. A2-8

g. Page 3.15-27: under the Current and Future Water Demand, there is a reference to the “County’s 2015 Urban Water Management Plan”. This should be updated to be CCWD (not County) and be 2020 UWMP dated June 2021. A2-9

h. Page 3.15-28: reference to Current and Projected Recycled Water Uses: This needs to be updated as appears to use language from the 2015 UWMP. The2020 UWMP notes conservation program saving exceeds 86,000AF since program inception. Recycled water volumes are ok, but the EIR may want to consider noting the increase in future uses also includes use at the former Concord Naval Weapons Station. A2-10

i. 3.15.5 References: the Draft Urban Water Management Plan should have the word “Draft” removed as mentioned above in these comments. A2-11

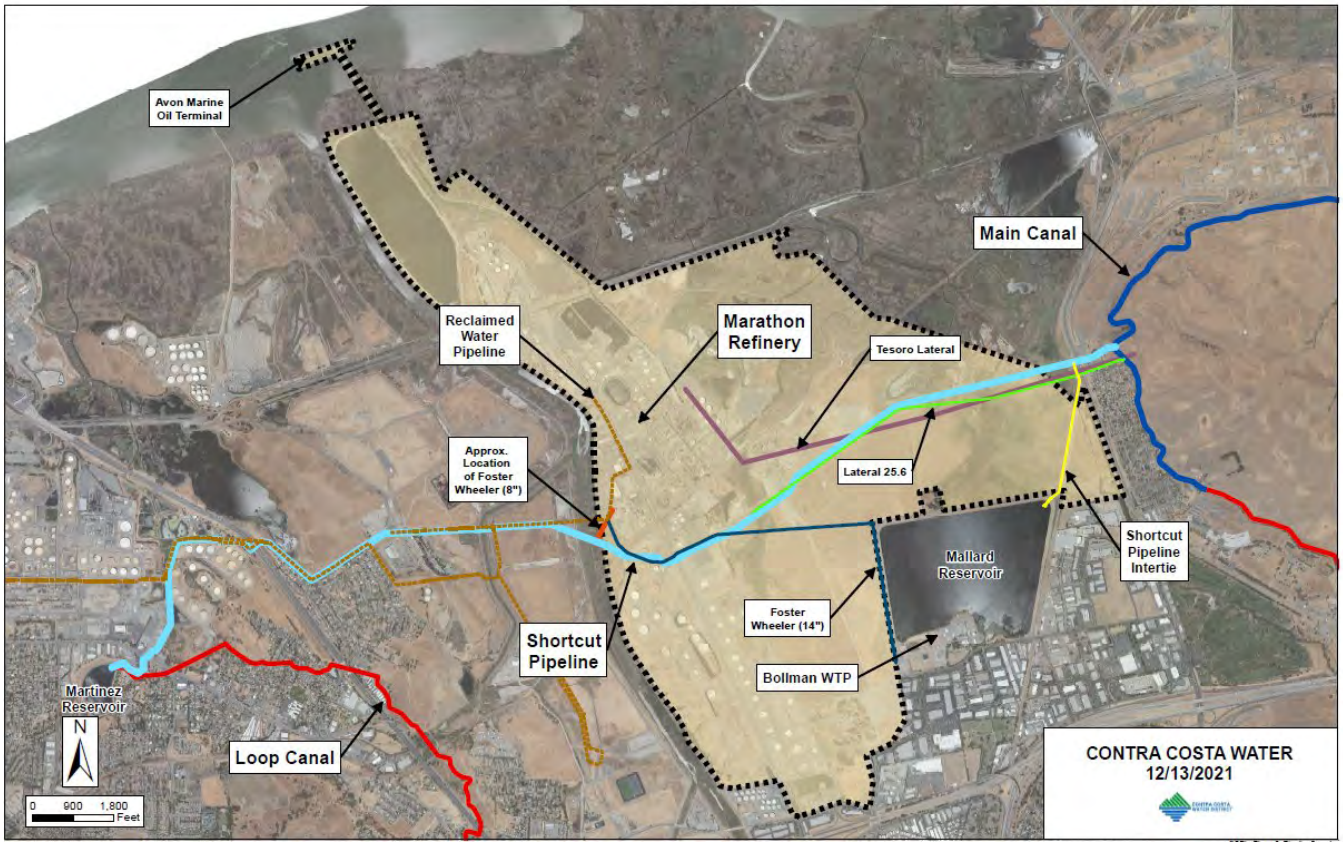
Please don’t hesitate to contact me if you have questions. I can be reached at cschneider@ccwater.com or by cell at (510) 406-1889.

Sincerely,

Christine Schneider
Senior Planner

CS:kh

Figure 1 -- Existing Water Lines Serving the Marathon Refinery or in the Vicinity



Martinez Refinery Renewable Fuels Project DEIR

Hernandez, Nick@DOT <Nick.Hernandez@dot.ca.gov>

Wed 12/15/2021 10:57 AM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>
Cc: Leong, Mark@DOT <Mark.Leong@dot.ca.gov>; state.clearinghouse@opr.ca.gov <state.clearinghouse@opr.ca.gov>

1 attachments (195 KB)
Martinez Refinery DEIR Caltrans.pdf;

Hello Joseph,

Thank you for the opportunity to review the Mar. nez Refinery Renewable Fuels Project DEIR.

Please find a ached Caltrans District 4 comments.

Please let us know if you have any ques ons.

Thank you,
Nick Hernandez *(he/him)*
Associate Transportation Planner, Local Development Review Branch
Office of Transit & Community Planning
Division of Transportation Planning & Local Assistance
California Department of Transportation, District 4
111 Grand Avenue | Oakland, CA 94612
Work cell: (510) 376-8116
Email: nick.hernandez@dot.ca.gov
www.dot.ca.gov/d4/
For real-time highway conditions: http://quickmap.dot.ca.gov/

California Department of Transportation

DISTRICT 4
OFFICE OF TRANSIT AND COMMUNITY PLANNING
P.O. BOX 23660, MS–10D | OAKLAND, CA 94623-0660
www.dot.ca.gov

December 15, 2021

SCH #: 2021020289
GTS #: 04-CC-2021-00506
GTS ID: 22063
Co/Rt/Pm: CC/680/23.0

Joseph Lawlor, Project Planner
Contra Costa County
Department of Conservation and Development
30 Muir Road
Martinez, CA 94553

Re: Martinez Refinery Renewable Fuels Project Draft Environmental Impact Report (DEIR)

Dear Joseph Lawlor:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Martinez Refinery Renewable Fuels Project. We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system. The following comments are based on our review of the October 2021 Draft EIR. A3-1

Project Understanding

The proposed project intends to repurpose the existing refinery to discontinue refining of crude oil and switch to production of fuels from renewable feedstock sources. The project is located near the State Route (SR)-4/Arnold Industrial Way interchange in Martinez. A3-2

Travel Demand Analysis

The project VMT analysis and significance determination are undertaken in a manner consistent with the Office of Planning and Research's (OPR) Technical Advisory. Per the DEIR, this project is found to have a less than significant VMT impact, therefore working towards meeting the State's VMT reduction goals. A3-3

Biological Resources
Please note the following regarding Appendix BIO: Biological Resources Appendices:

6. Avoidance and Minimization Measures:
- Clarify the nexus of completing Section 7 Biological Assessment, Marine Mammal Protection Act, and Essential Fish Habitat consultation through the United States Army Corps of Engineers; and A3-4

- Clarify how the 2018 NLAA Programmatic Biological Opinion covers project activities, what specific measure covers specific activities, and why formal consultation is not necessary. A3-5

General Comments:
- The 2018 NLAA Programmatic Biological Opinion covers species and habitat regulated by National Marine Fisheries Service. Please clarify if Section 7 consultation is necessary for species regulated by United States Fish & Wildlife Service, including, but not limited to: Salt marsh harvest mouse, Ridgway's rail, Soft Bird's-Beak, Delta smelt, etc. This document reports they have potential to occur in the Project area. However, effects analyses are not included, and determinations were not made. Please clarify if the project will result in a take. If a take is not warranted, please explain why; A3-6

- Concerning non-listed species-status species with potential to occur, please clarify how impacts would be avoided for each species; A3-7

- Please include a summary of agency technical assistance and coordination including names of agencies and representatives involved during the study phase. Although work is minor in nature at the terminals, please clarify if coordination and/or notification to the United States Coast Guard, San Francisco Bay Conservation and Development Commission, and/or State Lands Commission is necessary and if there were exemptions; and A3-8

- Please include names and numbers of all biological permits required for the project. A3-9

Equitable Access
If any Caltrans facilities are impacted by the project, those facilities must meet American Disabilities Act (ADA) Standards after project completion. As well, the project must maintain bicycle and pedestrian access during construction. These access considerations support Caltrans' equity mission to provide a safe, sustainable, and equitable transportation network for all users. A3-10

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, or for future notifications and requests for review of new projects, please email LDR-D4@dot.ca.gov. A3-11

Sincerely,

MARK LEONG
District Branch Chief
Local Development Review

c: State Clearinghouse

From:	Alison Kirk
To:	Joseph Lawlor
Cc:	Lashun Cross; Gary Kupp; Gregory H. Nudd; Henry Hilken; Wendy Goodfriend; Matthew Hanson; Lily MacIver; Justine Buenaflor
Subject:	BAAQMD Comment Letter on Martinez Refinery Renewable Fuels Project DEIR attached
Date:	Friday, December 17, 2021 1:55:05 PM
Attachments:	2021-12-17 Marathon Renewed DEIR Comment ltr.pdf
Importance:	High

Dear Joseph,

Attached please find the Air District's comment letter on the Martinez Refinery Renewable Fuels Project DEIR.

Please reply to confirm receipt.

Sincerely,

Alison Kirk
Pronouns: she/her
Principal Environmental Planner
Bay Area Air Quality Management District
375 Beale Street
San Francisco, CA 94105

December 17, 2021

Joseph Lawlor, Project Planner
Community Development Division
Contra Costa County, Department of Conservation and Development
30 Muir Road, Martinez, CA 94553

Re: Martinez Refinery Renewable Fuels Project Draft Environmental Impact Report

Dear Mr. Lawlor:

Bay Area Air Quality Management District (Air District) staff has reviewed the Draft Environmental Impact Report (DEIR) for Martinez Refinery Renewable Fuels Project (Project). The Project is located at the Marathon Martinez Refinery (Refinery), at 150 Solano Way, Martinez, in Contra Costa County (County), and comprises approximately 2,000 acres of land.

The proposed Project would repurpose the Refinery for production of fuels from renewable sources rather than from crude oil. Some existing refinery equipment would be altered or replaced, and additional new equipment units and tanks would be installed to facilitate production of fuels from renewable feedstock. Crude oil processing equipment that cannot be repurposed for processing of renewable feedstock would be shut down and removed from the Refinery. Upon completion of facility changes, the Refinery is anticipated to process approximately 48,000 barrels per day (bpd) of renewable feeds and would produce renewable diesel fuel, renewable propane, renewable naphtha, and potentially, renewable aviation fuel. Refined petroleum products would continue to be received, stored, and distributed through the Refinery, but would not be further processed at the Refinery.

The Project also includes the modification of the two marine oil terminals (MOT or MOTs), Avon MOT and Amorco MOT, to facilitate receipt of renewable feedstocks and distribution of renewable fuels outside of the Bay Area. Avon MOT is located on Suisun Bay, 1.75 miles east of the Benicia-Martinez Bridge, on unincorporated land in Contra Costa County. Amorco MOT is located approximately 0.6 miles west of the Benicia-Martinez Bridge in the city of Martinez.

The Air District has the following comments on the Project's DEIR.

Air Quality Impacts and Mitigation Measures

1. Impact AQ-2: Operation emissions in excess of the thresholds of significance. DEIR page 3.3-34 begins a discussion of the Project's significant and unavoidable impact due to nitrogen oxide (NOx) emissions from marine and rail transport. A4-1

However, rather than documenting the estimated emissions from the Project, Tables 3.3-14 and Table 3.3-15 provide pre- and post-project "emission change" summaries. Impact AQ-2 requires additional information to ensure the accurate and transparent portrayal of the Project's impact and identification of effective mitigation measures, including:

a. A table to document the Project's net operational emissions with language that compares the pre- and post-project net emissions. Pre-project emissions should show actual emissions and be compared to post-project potential to emit emissions.
b. A table and discussion that includes a breakdown of post-project emissions from new and existing sources based on the potential to emit.
c. If emissions from existing sources are calculated using different methods for different sources, an explanation should be provided.
d. The discussion of the significant impact from NOx emissions in the San Joaquin Air Pollution Control District (SJAPCD). The reliance on the California Air Resources Board (CARB) Commercial Harbor Craft Regulation to reduce emissions requires further explanation including estimated emission reductions from the regulation (DEIR p.3.3-38). In addition, complying with a regulation is not a CEQA mitigation and the DEIR must present and analyze additional actions to show that the Project will mitigate NOx emissions below the SJAPCD's threshold.

A4-1 cont'd

2. Impact AQ-4: Cumulative criteria pollutant health risk in excess of the thresholds of significance identified in the Air District CEQA Guidelines. The DEIR states that the Project's annual average fine particulate matter (PM2.5) concentrations are 0.12 micrograms per cubic meter ($\mu g/m^3$), and while this represents a decrease from baseline concentration, there is an existing significant and unavoidable cumulative impact for annual average PM2.5 concentrations in the Project area (Impact AQ-4, p. 3.3-39 and p. 3.3-40). The Project is located in a community that the State of California has identified as disproportionately impacted, disadvantaged and low-income under Senate Bill 1000 and by CalEPA's CalEnviroScreen 4.0. Therefore, if the Project has the potential to reduce air quality and community health impacts the Air District strongly encourages the County to include and require such reductions as conditions of Project approval in order to minimize the cumulative air pollution burden in this disproportionately impacted community.

   For example, Mitigation Measure AQ-1, recommended to address Impact AQ-1, would decrease fine particulate matter emissions. Thus, the Air District recommends that all measures in Mitigation Measure AQ-1b (DEIR page 3.3-33) be *required* as conditions of Project approval rather than recommended, including:

   a. Infrastructure shall be provided to support the off-road and on-road zero and near-zero emission technology vehicles and equipment that will be operating on-site.
   b. Portable equipment used during construction should be powered by electricity from the grid or onsite renewable sources, instead of diesel-powered generators.
   c. All off-road diesel-powered equipment used during construction shall be equipped with Tier 4 or cleaner equipment. In place of Tier 4 engines, off-road equipment can incorporate retrofits such that emission reductions achieved equal or exceed that of a Tier 4 engine.

A4-2

d. All off-road equipment with a power rating below 19 kilowatts (e.g., plate compactors, pressure washers), used during project construction shall be battery powered.
e. All heavy-duty trucks entering the construction site, during the grading and building construction phases shall be model year 2014 or later.
f. Renewable diesel shall be used for all truck fleets.

A4-2a cont'd

Additionally, the measures identified in the Best Management Practice Greenhouse Gas (GHG)-1 measure (DEIR p 3.8-19) will reduce PM2.5 emissions. The Air District recommends that the GHG-1 measures be updated, expanded, and required through contractual relationships with the marine and railroad operators, including but not limited to the following:

a. Ocean going vessels (OGV), shall use engines meeting the International Maritime Organization's Tier 4 engine standards or higher.
b. All engines in articulated tug-barge combinations and tugboats assisting oceangoing vessels and any equipment engaged in dredging activities shall meet U.S. Environmental Protection Agency (EPA) Tier 4 standard and be equipped with diesel particulate filters.
c. In advance of California Air Resources Board (CARB) requirements, the County should require shore power be provided to all vessel fleets and require all fleets to be shore power compatible.
d. All locomotives shall meet U.S. EPA Tier 4 engine standards.
e. Require a "clean fleet" (e.g., zero-emission light-and medium-duty delivery trucks, vans, automobiles) as part of business operations.
f. Ensure all service equipment (e.g., yard hostlers, yard equipment, forklifts, and pallet jacks) used within the project site are zero-emission.
g. Diesel back-up generators shall not be used on the property unless absolutely necessary. If necessary, generators shall have Best Available Control Technology (BACT) that meets U.S. EPA's Tier 4 emission standards or meet the most stringent in-use standard, whichever has the least emissions.

A4-2b

Please note the Project is subject to Air District Regulation 6-6: Prohibition of Trackout. In addition, MM AQ-1 should commit to the following additional best practices during both phases of construction:

a. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
b. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
c. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.

A4-2c

d. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
e. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
f. All trucks and equipment, including tires, shall be washed off prior to leaving the site.
g. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
h. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
i. Using only Tier 4 engines for all construction equipment and using zero-emission equipment as available.

A4-2c cont'd

3. Impact AQ-5: Creation of objectionable odors (DEIR page 3.3-41). The DEIR states that the Project's odors are less than significant with Mitigation Measure AQ-2 (MM AQ-2). MM AQ-2 states that during the construction phase of the Project, an Odor Management Plan (Odor Plan) shall be developed and implemented upon commencement of the renewable fuels processes. The Air District has the following comments on the proposed Odor Plan.
    a. The Air District does not have sufficient information to agree or disagree with the determination that with implementation of MM AQ-2 (Odor Plan) Impact AQ-5 is less than significant. Without the opportunity to review a proposed Odor Plan, it is not possible to assess its potential benefits or shortcomings.
    b. The Project Sponsor must commit to specific actions in the EIR as part of the public review process for the Odor Plan to be acceptable as a mitigation measure.
    c. The District recommends more robust discussion of enforcement measures to address odors from processing renewable feedstock and changes to the wastewater treatment emission units.
    d. Include a discussion in the Odor Plan of odors from mobile sources carrying odorous materials, and any sources that require approval by the California State Water Resources Control Board, such as wastewater pond closures.
    e. Additional details are needed to document how the County will enforce the Odor Plan to ensure the expected management and control strategies are achieved, such as what actions will be taken if an odor is suspected.
    f. When odor complaints are reported, the Odor Plan should require immediate action to prevent repeat complaints. In addition, the Odor Plan should include an annual evaluation of the overall system performance, identifying any trends to provide an opportunity for improvements to the plan, and updating the odor management and control strategies, as necessary.

A4-3

The Air District is available to help the County address the Odor Plan's potential compliance and enforcement issues by including odor control conditions on new, altered, or modified stationary source permits, and by assisting with the development of a robust Odor Plan to mitigate potential odors.

A4-3 cont'd

Project Renewable Feedstocks

Section 6.2.3 Resource Impacts discusses the land-use impacts of agricultural crops and forest system feedstocks, but there is no consideration of other cellulosic feedstocks from municipal waste streams. The Air District recommends that the County investigate requiring that the Project Sponsor procure a percentage of organic waste from local sources for use as feedstock at the facility. Local governments in California are required to meet Senate Bill 1383 organic waste diversion requirements to reduce statewide disposal of organic waste by 75 percent from 2014 levels by 2025. The procurement and utilization of this organic waste as potential feedstock could result in benefits for associated transportation impacts and costs, greenhouse gas emissions, and land use.

A4-4

Heath Risk Assessment (HRA) & Emissions Estimates Methodology

DEIR Table 3.3-17 "Summary of Results at Maximally Exposed Offsite Receptors, Operational Sources" shows the reduction in cancer risk and chronic risks anticipated to result from the Project (DEIR p 3.3-39). As described above in the discussion of Air Quality Impact AQ-2, Table 3.3-17 requires a companion table and discussion to document the Project's net operational emissions. Providing the materials described above in the comment on Impact AQ-2 in the DEIR's Section 3.3 will help to ensure that the Project's net emissions are transparent and understandable to the public and are minimized to the fullest extent feasible.

The Air District also recommends the following modifications to the emissions calculation and HRA methodology to make the DEIR more transparent and health protective, and to use the most current methodologies.

1. Roadways should be modeled as adjacent volume sources instead of line sources to be consistent and comparable to community level assessments under AB 617 (see DEIR Appendix AQ/GHG: Air Quality and GHG Technical Analysis, Appendix C).
2. The HRA only includes modeled emissions associated with ship hoteling at Avon and Amorco MOTs. The Air District recommends that transiting and maneuvering operation emissions be modeled in the HRA (DEIR Appendix AQ/GHG: Air Quality and GHG Technical Analysis, Appendix C).
3. Provide additional explanation for the different release parameters (e.g., initial vertical dimension) used to model trucks assigned to specific routes (DEIR Appendix AQ/GHG: Air Quality and GHG Technical Analysis, Tables B-5 and B-7).
4. Extend the fine receptor grid spacing for modeling from a radius of 25 meters to 300 meters around the property boundary.
5. Provide detailed equations, exposure parameters, and explanation as to how the worker exposure was estimated using the modeled annual average concentration under operation

A4-5

and construction scenarios (DEIR Appendix AQ/GHG: Air Quality and GHG Technical Analysis, Appendix C).

6. Use California Air Resources Board's (CARB) Health Risk Assessment default parameters for the rail analysis. For example, see the BNSF Railway Richmond Railyard analysis (November 20, 2007): (https://ww2.arb.ca.gov/sites/default/files/classic//railyard/hra/bnsf_richmond_hra.pdf)
7. For the on-road vehicle offsite paved road dust entrainment emission factors, the Air District recommends CARB's Miscellaneous Process Methodology 7.9 *Entrained Road Travel, Paved Road Dust* (2018) (https://ww3.arb.ca.gov/ei/areasrc/fullpdf/full7-9_2018.pdf) which is more current than U.S. EPA's AP 42 factors. The average vehicle weight of at least 16.5 tons (33,000 pounds) is equivalent to the weight of the T7 tractor vehicle types for the pre-and post-project emissions and should be used (see DEIR Appendix AQ/GHG: Air Quality and GHG Technical Analysis Table B-2b).
8. The Air District recommends that estimated impacts to the maximally exposed individual (MEI) be based solely on the local silt loading factor.
9. Provide an explanation for using 2022-2024 emission factors to calculate pre-project average emissions for vehicles from October 2015 to September 2020.
10. Use CARB's EMFAC 2021 model rather than EMFAC 2017 to estimate vehicle emission factors, as EMFAC 2021 was the most recent CARB emissions model when the Notice of Preparation for the Project was released on February 17, 2021.

A4-5 cont'd

We encourage the County to contact Air District staff with any questions or to request assistance during the environmental review process. If you have any questions regarding the Air District's permits, please contact Barry Young, Senior Advanced Projects Advisor, at byoung@baaqmd.gov or (415) 940-9641. If you have any questions regarding these comments, please contact Alison Kirk, Principal Environmental Planner akirk@baaqmd.gov, Matthew Hanson, Environmental Planner II at mhanson@baaqmd.gov, or Lily MacIver, Environmental Planner I at lmaciver@baaqmd.gov.

Sincerely,

Greg Nudd
Deputy Air Pollution Control Officer – Policy

Cc: BAAQMD Director John Gioia
BAAQMD Director David Hudson
BAAQMD Vice Chair Karen Mitchoff
BAAQMD Director Mark Ross

From:	Aichele, Cody@BCDC
To:	Joseph Lawlor
Cc:	Scourtis, Linda@BCDC; Buehmann, Erik@BCDC; Matthew Hanson; hhilken@baaqmd.gov
Subject:	BCDC comments for the Martinez Refinery Renewed DEIR
Date:	Friday, December 17, 2021 3:02:56 PM
Attachments:	MarathonDEIRcomments_BCDC.17Dec2021.pdf
Importance:	High

Dear Mr. Lawlor,

Please find the BCDC comments for the Martinez Refinery Renewed DEIR attached to this email.

If you have any questions, please let me know.

Have a wonderful holiday season!
Sincerely,
Cody Aichele-Rothman

BCDC Coastal Planner

San Francisco Bay Conservation and Development Commission
375 Beale Street, Suite 510, San Francisco, California 94105 tel 415 352 3600 fax 888 348 5190
State of California | Gavin Newsom – Governor | info@bcdc.ca.gov | www.bcdc.ca.gov

December 17, 2021

Via email only: joseph.lawlor@dcd.cccounty.us

Contra Costa County
Department of Conservation and Development
Community Development Division
30 Muir Road
Martinez, CA 94553
ATTN: Joseph W. Lawlor Jr, Project Planner

SUBJECT: BCDC Comments for Draft Environmental Impact Report– Proposed Martinez Refinery Renewable Fuels Project (County File #CDLP20 – 02046) (SCH #2021020289) BCDC Inq. File MC.MC.7415

Dear Mr. Lawlor:

Thank you for the opportunity to comment on Contra Costa County's Department of Conservation and Development's Draft Environmental Impact Report (DEIR) for the Proposed Martinez Refinery Renewable Fuels Project (Project), County File #CDLP20 – 02046, State Clearinghouse Number 2021020289, Notice of Availability dated October 14, 2021. The San Francisco Bay Conservation and Development Commission (BCDC or Commission) has not reviewed the DEIR, but the following comments provided by staff are based on the *San Francisco Bay Plan* (Bay Plan) as amended through May 2020 and the McAteer-Petris Act (MPA). When evaluating projects, BCDC considers all applicable policies. The goal of this letter is to highlight some policies that are relevant to the Project, and to encourage the applicant to meet with BCDC staff well before submitting the permit application to ensure that the proposed project design is consistent with BCDC policies. In reviewing the permit application, BCDC staff may raise additional relevant policies.

A5-1

The Proposed Project

The proposed Project will convert the Marathon Martinez Refinery located on the Carquinez Strait in Contra Costa County from a crude oil refinery to a renewable fuels refinery. By various conversions to the facilities and some new equipment described below, crude oil will no longer be used to produce the fuels at the Martinez Facility, rather, renewable feedstocks, such as vegetable oils and beef tallow, will be used. The renewable feedstocks are expected to include biological based oils (i.e., soybean oil and corn oil), rendered fats, and other miscellaneous renewable feedstocks including used cooking oils or other vegetable oils. The feedstocks would be processed into renewable diesel, naphtha, propane, and treated fuel gas.

A5-2

The update and conversion of the Martinez Facility will involve work on two wharves:

The Avon Marine Terminal: The wharf at Avon extends approximately 1,200 feet from the shoreline into the Bay and will be converted from distribution uses to primarily receiving uses, which requires modifications and reconfiguration of pipes connecting the wharf to the renewable fuels facility. The modifications on the Avon wharf will not require in-water work.

Marine traffic to the terminal will result in smaller but more frequent marine vessels transfers. Vessel calls at the Avon Marin Terminal are anticipated to increase twofold from 120 annual vessel visits pre-Project to approximately 364 annual vessel visits post-Project.

The Amorco Marine Terminal: The wharf at Amorco extends approximately 1,000 feet from the shoreline of the City of Martinez into the open water of the Carquinez Strait. The Project will result in the one active berth being used for shipment of renewable diesel products from smaller vessels, which will require a new fender to be mounted on the wharf above the high water line, with the fender panel extending into the water but not into the substrate below. The Project will also include maintenance activities and repairs to the concrete and five of the pilings, at least one of which will extend to the substrate.

Similar with the Avon Marine Terminal, the majority of the vessel traffic is expected to be smaller barges, however, vessel calls at the Amorco Marine Terminal are anticipated to decrease from 90 to 40 transfers as a result of the Amorco Marine Terminal being converted from receiving crude oil and heavy fuel oil for refining, to primarily distribution of renewable diesel product.

A5-cont'd

Once completed the plan is to run the Refinery 24 hours a day, 7 days a week.

Jurisdiction

BCDC is responsible for granting or denying permits for any proposed fill (e.g., earth or any other substance or material, including pilings or structures placed on pilings, and floating structures moored for extended periods of time); extraction of materials; or change in use of any water, land, or structure within the Commission's jurisdiction. Generally, BCDC's jurisdiction over San Francisco Bay extends from the Golden Gate to the confluence of the San Joaquin and Sacramento Rivers and includes tidal areas up to mean high tide, including all sloughs, and in marshlands up to five feet above mean sea level; a shoreline band consisting of territory located between the shoreline of the Bay and 100 feet landward and parallel to the shoreline; salt ponds; managed wetlands; and certain waterways that are tributaries to the Bay, such as Pacheco Creek. The Commission can grant a permit for a project if it finds that the project is either (1) necessary to the health, safety, and welfare of the public in the entire Bay Area, or (2) is consistent with the provisions of the McAteer-Petris Act and the Bay Plan. Portions of the project will take place within the Commission's Bay and 100-foot shoreline band jurisdiction. As a result, a permit or permit amendment from the Commission will likely be required for the project. The Project is also sited within a Water-Related Industry (WRI) Priority Use Area (PUA)

A5-3

designation, see below. There are several existing BCDC permits associated with this site. The Project proponents should be aware of the requirements of these permits and discuss the implications of the Project on these existing permits with BCDC staff. A5-3 cont'd

BCDC staff would like to clarify that while BCDC has a regional jurisdiction, it is a state agency. Within the text of the DEIR the context of our authority is unclear and varies. On page 48 where the DEIR discusses the Responsible Agencies, BCDC would be more appropriately listed as a state agency rather than a local group. Similarly on page 167, the San Francisco Bay Plan is listed in a Regional and Local context, where it is one of BCDC's state authorities. In Section 3.10.1 Environmental Setting, BCDC and the Bay Plan are again placed in the Local rather than the State context. However, on page 325, BCDC laws and policies are addressed in the State context. Please revise the DEIR to correct these inconsistencies. A5-4

The DEIR accurately identifies the site as located in a Bay Plan-designated Water-Related Industry priority use area. The DEIR recognizes that "Bay Plan policies require tidal marshes and tidal flats to be conserved to the fullest possible extent." The site in question has many of these protected areas bordering it, including a newly restored tidal marsh, directly across Pacheco Creek which was breached just weeks ago as part of the Lower Walnut Creek Restoration Project. The DEIR further states "Degradation of these habitats caused by construction activities would be a significant adverse impact." A5-5

The Bay Plan policies listed in this letter are not exhaustive. Our intention is to identify a selection of relevant policies which the DEIR has not already acknowledged or considered in all applicable contexts. The entirety of the Bay Plan and all relevant laws and policies are used to determine permit requirements of projects by BCDC. A5-6

Land Use

The DEIR recognizes Bay Plan Port Policy 3 and Water-related Industry Policy 4.a., which identify the area used for the refinery as an existing use and therefore acceptable continued use so long as the footprint of the development is not expected to expand into undeveloped areas, particularly sensitive nearby sites. While the DEIR may not elaborate on all applicable BCDC policies it does state:

"Bay Plan Ports Policy 3 encourages protection of port priority use areas for marine terminals. The Project is also consistent with Bay Plan Water-related Industry Policy 4.a, which encourages efficient and limited use of waterfront land for industrial purposes, because the Project would repurpose existing equipment within the current footprint of the Refinery and would not require an expansion of refining facilities to new areas of the shoreline. Therefore, the continued use of the Refinery and Avon and Amorco MOTs for receipt, storage, distribution and manufacturing of fuels, albeit from renewable feedstock rather than petroleum, would be consistent with allowable land uses specified in applicable land use plans of the City, County and BCDC." A5-7

To clarify, refineries are Water-Related Industrial uses, not Port uses, and the Port policies of the Bay Plan do not necessarily apply. In addition to the Water-Related Industry Policy described in the DEIR, the project will be required to be consistent with Water-related Industry Policy 5.a., which states, to the maximum extent possible, "Air and water pollution should be

minimized through strict compliance with all relevant laws, policies and standards. Mitigation, consistent with the Commission's policy concerning mitigation, should be provided for all unavoidable adverse environmental impacts."

This policy, which supports the work our partner agencies such as the Air District, also directs the County to align with Senate Bill 1383, which aims to reduce emissions across the state.

A5-7 cont'd

Climate Change

Sea level rise is of particular concern to facilities with operational infrastructure located on or near the shoreline of San Francisco Bay. With the rising waters of the Bay and the potential changes of water quality and quantity coming from the Delta, the environmental resources of the area may be particularly sensitive to changes and impacts. Due to proximity of the Project site to the Suisun Bay and Carquinez Strait shorelines and local creeks, sea level rise and flooding could present vulnerabilities to public or structural safety. Additionally, the S.F. Bay Regional Board has classified the San Francisco Bay and many of its tributaries as impaired for various water quality constituents.

Bay Plan Climate Change policies require a risk assessment for larger shoreline projects, as seen by Policy 2, which states:

"When planning shoreline areas or designing larger shoreline projects, a risk assessment should be prepared by a qualified engineer and should be based on the estimated 100-year flood elevation that takes into account the best estimates of future sea level rise and current flood protection and planned flood protection that will be funded and constructed when needed to provide protection for the proposed project or shoreline area. A range of sea level rise projections for mid-century and end of century based on the best scientific data available should be used in the risk assessment. Inundation maps used for the risk assessment should be prepared under the direction of a qualified engineer. The risk assessment should identify all types of potential flooding, degrees of uncertainty, consequences of defense failure, and risks to existing habitat from proposed flood protection devices."

A5-8

Pursuant to Climate Change Policy 3, if the risk assessment determines the project could pose a risk to public safety or ecosystem services, the project should be resilient to mid-century and if the Project would last beyond mid-century, it should be adaptable to end-of-century sea level rise projections, including storms.

In addition, the Bay Plan policies on Safety of Fills state, in part,

"Adequate measures should be provided to prevent damage from sea level rise and storm activity that may occur on fill or near the shoreline over the expected life of a project…. New projects on fill or near the shoreline should either be set back from the edge of the shore so that the project will not be subject to dynamic wave energy, be built so the bottom floor level of structures will be above a 100-year flood elevation that takes future sea level rise into account for the expected life of the project, be specifically designed to tolerate periodic flooding, or employ other effective means of addressing the impacts of future sea level rise and storm activity."

BCDC staff recommends that the Project proponent engage with BCDC regulatory staff to determine the appropriate analysis under the Climate Change and Safety of Fills policies for the Project.

The DEIR includes an analysis of the site's relationship to the FEMA 100-year flood zone as a minimal hazard. However, the project only describes plans for sea level rise projections through the year 2030. While a previous permit amendment to BCDC Permit No. 2014.006.00 authorized work at the Project site included conditions related to project resiliency up to the years 2030 and 2070, the Project subject to the DEIR may require additional analysis in order to be consistent with the Bay Plan policies related to sea level rise. In the Final EIR, the Project proponents should include the mean higher high water level along the shoreline and up Pacheco Creek (as BCDC jurisdiction extends up the creek, not just along the shore of the Bay at the site), the 100-year flood elevation, the mid- and end-of-century sea level projections using 2050 and 2100 (preferably using projections based on the best-available science found in the State's SLR guidance, available here: http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf), anticipated site-specific storm surge effects, and a preliminary assessment of the project's vulnerability to future flooding and sea level rise. While the DEIR assessment determined that 2030 water levels would increase by approximately 2.7 inches, based upon the OPC Sea Level Rise Guidance, the anticipated long-term global sea-level rise could be up to 16 inches over 50 years. While the HWQ Appendix, written to address the last BCDC permit amendment in 2014, does state that the Bents could be raised if needed to accommodate changes by 2030, additional analysis and project modification may be required to be consistent with the Climate Change and Safety of Fills policies.

A5-8 cont'd

Tidal Marsh

The Project area is approximately 2,000 acres owned by Marathon. Of these 2,000 acres, approximately 1,130 acres are currently developed for oil and gas refining operations, including ancillary support facilities. The remaining, approximately 870 acres include undeveloped marshlands and grasslands bordering the Bay and providing a buffer to the waterways. Avoidance and minimization measures to protect the habitats and species found around the project sites have been incorporated into the project design and practices to avoid potential impacts to the biological resources. For example, to help prevent impacts during transition periods scaffolding will be installed during construction and modification activities and removed afterward to protect the wetland resources.

A5-9

As there is so much tidal marsh and grassland habitat within the project area, BCDC staff would like to highlight the following Bay Plan policy on Tidal Marshes. Bay Plan Tidal Marshes and Tidal Flats Policies 3 states:

"Projects should be sited and designed to avoid, or if avoidance is infeasible, minimize adverse impacts on any transition zone present between tidal and upland habitats. Where a transition zone does not exist and it is feasible and ecologically appropriate, shoreline projects should be designed to provide a transition zone between tidal and upland habitats."

The DEIR describes that the proposed Project could cause potentially significant temporary impacts to special-status species during construction, as well as potentially causing injury or behavioral interruptions to aquatic species as a result of noise from increased number of vessels. While construction impacts of the Project would be temporary, and mitigation measures are identified that could reduce these impacts to less than significant, operational impacts to biological resources, hazards, and water quality would remain significant even with mitigation. The project should be consistent with BCDC policies, including potential impacts from fill, construction staging, and construction activities.

The proposed Renewable Fuels Project is expected to reduce the overall hazards associated with producing fuels because crude oil will no longer be used at the Martinez Facility.

A5-9 cont'd

However, the DEIR recognizes "MOT lease conditions, contingency planning and required response measures are already being implemented at the Project Site. However, adherence to these protocols and spill response measures is not a guarantee that contaminants will never be released. The probability of a serious spill would be minimized to the extent feasible with implementation of applicable lease conditions (…), but the risk cannot be eliminated, and a large spill could still occur and result in impacts on water quality."

The transition activities (loading and unloading of products) can carry risk of accidental spills or hazardous incidents. The new configuration of the Refinery, particularly the increased vessel traffic to the wharves, may increase the likelihood of incidents as ship traffic and frequency of loading and unloading of cargo also increases. The new products being brought in and produced may have different impacts on the environment and different hazards if released. Safety plans should be incorporated into the daily operations to further protect the environmental resources. Training and incident planning must be prepared and undertaken in case of an incident or emergency.

Water Quality

The DEIR recognizes that construction and operation of the Project, including marine transportation of feedstock and fuels, effluent discharges and stormwater runoff from new and repurposed facilities, could affect water quality at and around the Project Site. The Bay Plan includes policies on Water Quality.

Bay Plan Water Quality Policy 1 states:

"Bay water pollution should be prevented to the greatest extent feasible. The Bay's tidal marshes, tidal flats, and water surface area and volume should be conserved and, whenever possible, restored and increased to protect and improve water quality. Fresh water inflow into the Bay should be maintained at a level adequate to protect Bay resources and beneficial uses."

A5-10

Bay Plan Water Quality Policy 2 states:

"Water quality in all parts of the Bay should be maintained at a level that will support and promote the beneficial uses of the Bay as identified in the San Francisco Bay Regional Water Quality Control Board's *Water Quality Control Plan, San Francisco Bay Basin* and should

be protected from all harmful or potentially harmful pollutants. The policies, recommendations, decisions, advice and authority of the State Water Resources Control Board and the Regional Board should be the basis for carrying out the Commission's water quality responsibilities."

The measures identified in the DEIR to protect and conserve grasslands and marshes surrounding the Project, controlling any new or existing runoff, as well as contingency planning, can support consistency with these policies.

The project proponent should engage with the San Francisco Bay Regional Water Quality Control Board and California Department of Fish and Wildlife Oil Spill Prevention and Response to address and examine any risks from operation of the proposed Project, particularly those of accidental release or incident. Any necessary approvals from the Regional Water Quality Control Board would likely be a filing requirement for an application for a BCDC permit, and BCDC will rely on the advice and decisions of the Regional Water Quality Control Board in determining consistency with BCDC's laws and policies. Potentially significant release of hazardous materials and water quality impacts may result from spills of feedstocks or refined products causing adverse impacts to the San Francisco Bay Estuary and associated biota. Even with the implementation of the lease conditions listed in the DEIR, contingency planning and required response measures, a large spill could still occur and result in impacts on water quality that would be significant and unavoidable. All other listed potential impacts on Water Quality and Hydrology were considered "no impact" or "less than significant" and would not require mitigation.

A5-10 cont'd

Environmental Justice and Social Equity

BCDC has recently amended the Bay Plan to include policies on Environmental Justice and Social Equity. As the Project moves forward, and enters the permitting phase, please keep the following Bay Plan policies in mind.

Bay Plan Environmental Justice and Social Equity Policy 2 states:

"Since addressing issues of environmental justice and social equity should begin as early as possible in the project planning process, the Commission should support, encourage, and request local governments to include environmental justice and social equity in their general plans, zoning ordinances, and in their discretionary approval processes."

Bay Plan Environmental Justice and Social Equity Policy 3 states, in part:

"Equitable, culturally-relevant community outreach and engagement should be conducted by local governments and project applicants to meaningfully involve potentially impacted communities for major projects and appropriate minor projects in underrepresented and/or identified vulnerable and/or disadvantaged communities, and such outreach and engagement should continue throughout the Commission review and permitting processes. Evidence of how community concerns were addressed should be provided. If such previous outreach and engagement did not occur, further outreach and engagement should be conducted prior to Commission action."

A5-11

As part of a future BCDC Permit Application, the Project proponent should be prepared to describe how the proponent has connected with the nearby communities, conducted community outreach, and addressed any possible concerns the community has related to the

project. BCDC has been developing a mapping tool to help project proponents and other parties identify the populations that may be at risk around the Bay shoreline. The mapping tool can be found here: https://www.bcdc.ca.gov/data/community.html . A5-11 cont'd

In conclusion, while certain repair or replacement work may be covered by the existing permits, other aspects of the Project, such as the new fender proposed for the Amorco Marine Terminal, may require an authorization from BCDC in the form of a permit or a permit amendment. Please consult with BCDC regulatory staff to discuss the policies described in the letter, along with other policies, prior to submitting an application. A5-12

Once again, thank you for providing BCDC an opportunity to comment on the Marathon Refinery Renewable Fuels Project. We hope these comments aid you in preparing the final EIR. If you, or the applicant, have any questions regarding this letter or the Commission's policies and permitting process, please do not hesitate to contact me at (415) 352-3641 or via email at cody.aichele@bcdc.ca.gov. A5-13

Thank you.

Sincerely,

DocuSigned by:
6E54B2B02E1B41D...

CODY AICHELE-ROTHMAN
Coastal Planner

cc: Matthew Hanson, Bay Area Air Quality Management District, mhanson@baaqmd.gov
Henry Hilken, Bay Area Air Quality Management District, hhilken@baaqmd.gov

CA-R / rc

CALIFORNIA STATE LANDS COMMISSION
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Sacramento, CA 95825-8202

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Contact Phone: **(916) 574-1890**

December 17, 2021

File Ref: SCH # 2021020289

Joseph Lawlor, Project Planner
Community Development Division
Contra Costa County, Department of Conservation and Development
30 Muir Road, Martinez, CA

VIA ELECTRONIC MAIL ONLY (joseph.lawlor@dcd.cccounty.us)

Subject: Draft Environmental Impact Report for the Martinez Refinery Renewable Fuels Project

Dear Mr. Lawlor:

The California State Lands Commission (Commission) staff has reviewed the subject Draft Environmental Impact Report (Draft EIR) for the Martinez Refinery Renewable Fuels Project (Project), which is being prepared by the Community Development Division of the Department of Conservation and Development of Contra Costa County (County). The County is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The Commission is a trustee agency for projects that could directly or indirectly affect State sovereign land and their accompanying Public Trust resources or uses. Additionally, if the Project involves work on State sovereign land, the Commission will act as a responsible agency. The Commission is also a regulatory agency that oversees the Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS). A6-1

Commission Jurisdiction and Public Trust Lands and Regulatory Authority

The Commission has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The Commission also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6009, subd. (c); 6009.1; 6301; 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the common law Public Trust Doctrine. Therefore, the Commission has jurisdiction over present day and historic tidelands on the Site. A6-2

Marathon Petroleum Corporation (Marathon) submitted applications in 2021 to amend both Lease No. PRC 3453.1 and Lease No. PRC 3454.1 for the change in use described in the Project. The leases are applicable only for the Avon and Amorco Marine Oil Terminals as they are located on sovereign land under the Commission's jurisdiction. The refinery is not located on sovereign land under the Commission's jurisdiction and is not subject to lease. The comments below are specific to any use of State-owned sovereign land under the jurisdiction of the Commission within the Project area. Commission staff request that the County consider our comments on the Project's Draft EIR to ensure that impacts to State sovereign land are adequately analyzed for the Commission's use of the Final EIR when considering lease amendments for the Avon and Amorco Marine Oil Terminals.

A6-2 cont'd

The Commission also has regulatory authority over MOTEMS, which are codified in California Code of Regulations, title 24, California Building Code, Chapter 31F—Marine Oil Terminals (Cal. Code Regs., tit. 24, § 3101F et seq.).

Project Description

Marathon plans to repurpose its Martinez Refinery for production of fuels from renewable sources rather than from crude oil. The Project lists the following objectives:

- Repurpose the Marathon Martinez Refinery to a renewable fuels production facility.
- Eliminate the refining of crude oil at the Martinez Refinery while creating high quality jobs.
- Provide renewable fuels to allow California to achieve significant progress towards meeting its renewable energy goals.
- Produce renewable fuels that significantly reduce the lifecycle generation of greenhouse gas emissions, as well as other criteria pollutants including particulate matter.
- Reduce emissions from mobile sources by providing cleaner burning fuels.
- Repurpose/reuse existing critical infrastructure, to the extent feasible.

A6-3

The Draft EIR identifies the Reduced Renewable Feedstock Throughput Alternative as the Environmentally Superior Alternative.

The comments below are specific to any use of State-owned sovereign land under the jurisdiction of the Commission within the Project area. Commission staff request that the County consider the following comments on the Project's Draft EIR to ensure that impacts to State sovereign land are adequately analyzed for the Commission's use of the Final EIR when considering amendments to Marathon's leases.

Engineering Review

A6-4

Please see the attached table.

Environmental Review

General Comments

The Draft EIR relies on the impact analysis and mitigations in both the Tesoro Amorco Marine Oil Terminal Lease Consideration EIR and Tesoro Avon Marine Oil Terminal Lease Consideration EIR, for which the Commission was the CEQA Lead Agency. However, it is not clear which Lead Agency (the County or the Commission) would take responsibility for implementing and enforcing the mitigation measures that are provided in the two lease consideration EIRs, but offered in this EIR as mitigations for this Project's impacts. Please coordinate with Commission staff on this matter so that it can be clarified in the Final EIR. A6-5

Biological Resources

Staff recommends that a Worker Awareness Training Program be added to MM BIO-1a to further reduce potential impacts to special-status species due to renovation activity. A6-6

Marine Invasive Species

Staff recommends that the Marine Invasive Species Program (MISP) regulatory language be updated with the following:

> MISP was reauthorized and expanded in 2003 with the passage of the Marine Invasive Species Act (MISA; AB 433, Chapter 491, Statutes of 2003) which, among other provisions, directed the Commission to adopt ballast water management regulations for vessels moving coastally between ports on the west coast of the U.S. Since 2003, the MISA has been amended numerous times, most notably to establish California's ballast water discharge performance standards (SB 497, Chapter 292, Statutes of 2006) and to authorize the Commission to adopt and implement biofouling management regulations (AB 740, Chapter 370, Statutes of 2007).
>
> The Commission adopts and amends regulations to implement the MISA (Public Resources Code section 71201.7). The ballast water management regulations for coastal vessels were adopted in 2006 (California Code of Regulations, title 2, section 2280 et seq.); ballast water discharge performance standards were codified in 2007 (California Code of Regulations, title 2, section 2291 et seq.); and the biofouling management regulations (see section 7.1) were adopted and implemented in 2017 (California Code of Regulations, title 2, section 2298.1 et seq.). These regulations were strengthened through the adoption of enforcement regulations in 2017 (California Code Regulations, title 2, section 2299.01 et seq.).
>
> In 2019, the Commission sponsored AB 912 (Chapter 433, Statutes of 2019) which authorizes the Commission to:
>
> - Adopt and enforce the federal ballast water discharge performance standards set forth in section 151.2030(a) of Title 33 of the Code of Federal Regulations

A6-7

- Delay implementation of the interim and final California ballast water discharge performance standards to 2030 and 2040, respectively, due to a lack of available ballast water treatment technologies to enable vessels to meet the California standards

A6-7 cont'd

In 2021, the Commission amended existing regulations (California Code of Regulations, title 2, section 2291 et seq.) to implement the requirements of AB912.

Cultural Resources and Tribal Cultural Resources

Title to Resources Within Commission Jurisdiction: The EIR should state that the title to all archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the state and under the jurisdiction of the Commission (Pub. Resources Code, § 6313). Commission staff requests that the County consult with Staff Attorney Jamie Garrett (Jamie.garrett@slc.ca.gov) should any cultural and/or Tribal Cultural resources on state lands be discovered during construction of the proposed Project.

A6-8

Staff requests that the following statement be included as a mitigation measure in the final EIR, "The final disposition of archaeological, historical, and paleontological resources recovered on State land under the jurisdiction of the California State Lands Commission must be approved by the Commission."

A6-9

Thank you for the opportunity to comment on the Draft EIR for the Project. As a trustee and regulatory agency, Commission staff request that you consider our comments prior to certification of the Final EIR.

Please send copies of future Project-related documents, including electronic copies of the Final EIR, Mitigation Monitoring and Reporting Program, Notice of Determination, CEQA Findings, and Statement of Overriding Considerations when they become available. Please refer questions concerning environmental review to Sarah Mongano, Senior Environmental Scientist, at (916) 574-1889 or sarah.mongano@slc.ca.gov. For questions concerning Commission leasing jurisdiction, please contact Marlene Schroeder, Public Land Management Specialist, at marlene.schroeder@slc.ca.gov or (916) 574-2320. For questions concerning the MOTEMS review, please contact Kendra Oliver, Senior Engineer, at (510) 680-0875, or kendra.oliver@slc.ca.gov. For questions concerning archaeological or historic resources under Commission jurisdiction, please contact Jamie Garrett, Staff Attorney, at jamie.garrett@slc.ca.gov or (916) 574-0398.

A6-10

Sincerely,

Nicole Dobroski, Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
Sarah Mongano (DEPM), Commission
Marlene Schroeder (LMD), Commission
Kendra Oliver (MEPD), Commission
Chris Beckwith (MEPD), Commission
Lina Ceballos (MISP), Commission
Joe Fabel (Legal), Commission

att: table of Marine Environmental Protection Division comments on the Martinez Refinery Renewable Fuels Project Draft EIR

Marine Environmental Protection Division comments on the Martinez Refinery Renewable Fuels Project DEIR:

Reference (Page #s)	Description	Comments	
ES-18 to 19 2-14 3.4-4 3.9-16 to 17	**CSLC MEPD JURISDICITIONAL LIMITATIONS** [pgs. ES-18 to 19 and 3.9-16 to 17] ***Mitigation Measure HAZ-1:*** *The permittee shall comply with mitigation measures as outlined in the Operational Safety/Risk of Accident sections of the EIRs for both Amorco and Avon MOTs and as incorporated by reference into the leases as regulatory (lease) conditions. These measures include CSLC-established MOTEMS that have set minimum requirements for preventative maintenance, including periodic inspection of all components related to transfer operations pipelines. The permittee shall comply with those requirements, as well as with the CSLC's operational requirements, including Article 5.5,* titled *Marine Terminal Oil Pipelines (California Code of Regulations, Title 2, Sections 2560-2571). The implementation of the measures, which are discussed in detail in the Avon EIR, are as follows:* • *Installation of a Remote Release Systems* • *Maintaining of a Tension Monitoring Systems* • *Maintaining of an Allision Avoidance Systems* • *Development of a Fire Protection Assessment* • *Participation in the USCG Ports and Waterways Safety Assessment Workshops* • *Response to any Vessel Spills near the Project* --- [pg. 2-14] ***2.4.2.2 Avon Marine Oil Terminal*** ***…*** *Any changes to the MOT must be compliant with Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) regulations.* ***2.4.2.3 Amorco Marine Oil Terminal*** *…* --- [pg. 3.4-4] *Lempert-Keene-Seastrand Oil Spill Prevention and Response Act* *The Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990 covers all aspects of marine oil spill prevention and response in California. Administration of the act is under the authority of a chief deputy director of the CDFW, who is also then responsible for carrying out the CDFW's water pollution enforcement duties. Through the act, California State Lands Commission (CSLC) responsibilities were expanded through the creation of the Marine Environmental Protection Division (formerly the Marine Facilities Division) to oversee the safety of marine terminals and the transfer of crude oil from ships to shore-based facilities. The act also authorizes trustee agencies to seek monetary compensation for injured natural resources.*	(1) The CSLC Marine Environmental Protection Division (MEPD) oversees both engineering and operations regulations at Marine Oil Terminals (MOTs) in California. The engineering regulations are codified in MOTEMS (24CCR§3101F *et* seq. or California Building Code [CBC] Chapter 31F). The operations regulations are codified in Article 5. Marine Terminals Inspection and Monitoring (2CCR§2300 *et seq*), Article 5.3 Marine Terminals Personnel Training and Certification (2CCR§2540 *et seq*), and Article 5.5 Marine Terminals Oil Pipelines (2CCR§2560 *et seq*). (2) The CSLC MEPD regulations apply to MOTs that transfer oil, petroleum products and renewable fuels only and related activities in accordance with the statutory authority granted in the *Lempert-Keene-Seastrand Oil Spill Prevention & Response Act*. Thus, the following shall be considered: (a) Products not regulated under LKS Act (e.g. renewable feedstocks such as soybean oil and tallow) may be detrimental to the environment if spilled. Therefore, MM HAZ-1 should explicitly articulate that the MM will be required for all vessels calling and related operations at the Amorco and Avon MOTs regardless of product type and LKS regulatory status. (b) Similarly, CSLC MOT operations regulations are not enforceable on MOT assets that are converted from petroleum to non-regulated products (e.g. renewable feedstocks such as	A6-11 A6-12 A6-13

Reference (Page #s)	Description	Comments
	----------	soybean oil and tallow). These operations regulations are codified in Article 5 (2CCR§2300 *et seq*), Article 5.3 (2CCR§2540 *et seq*), and Article 5.5 (2CCR§2560 *et seq*). For example, static liquid pressure testing of pipelines is a fundamental spill prevention measure that may not have state regulatory oversight for all pipelines at the post-Project Amorco and Avon MOTs. A6-13 ct'd (c) With regards to the statements *"Any changes to the [Avon] MOT must be compliant with Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) regulations"* (pg. 2-14) and *"the permittee shall comply with those [MOTEMS] requirements, as well as with the CSLC's operational requirements…"* (pg. 3.9-16), it should be noted that both the Avon and Amorco MOTs are subject to MEPD regulatory authority. However, based on the LKS statutory authority, certain changes to the MOT may not be subject to MOTEMS, Article 5.5, or other MEPD regulatory compliance (e.g. renewable feedstock pipelines). A6-14 (d) The statement that MEPD was created *"to oversee the safety of marine terminals and the transfer of crude oil from ships to shore-based facilities"* (pg. 3.4-4) is incomplete. MEPD adopts and enforces engineering and operations regulations at all California MOTs in order to prevent oil spills and to protect public health, safety and the environment in accordance with LKS (i.e. A6-15

Reference (Page #s)	Description	Comments	
		not limited to *"safety"* or *"transfer of crude oil"*) (3) The statement *"The implementation of the measures, which are discussed in detail in the Avon EIR…"* (pgs. ES-18 to 19 and 3.9-17) excludes reference to the Amorco EIR.	A6-15 ct'd A6-16
1-3 to 1-4	***1.5 USE OF THIS EIR BY RESPONSIBLE AGENCIES*** *In addition to land use permit approval by the County, the Project requires permits from other federal, state and local agencies including the United States Army Corps of Engineers, Bay Area Air Quality Management District, San Francisco Bay Conservation and Development Commission, San Francisco Bay Regional Water Quality Control Board and California State Lands Commission…* ***…*** ***State*** • *California State Lands Commission* o *Lease modification to accommodate changes to terminal uses* *…*	(4) While CSLC does not issue building permits, it should be noted that the following are subject to CSLC MEPD engineering review for MOTEMS-compliance and acceptance (as applicable under LKS) per MOTEMS Section 3101F.8.3: 1. *Any audit, inspection, analysis or evaluation of MOTs.* 2. *Any significant change, modification or re-design of a structural, mooring, fire, piping/pipelines, mechanical or electrical system at an MOT are subject to, prior to use or reuse.* 3. *Engineering analysis and design for any new MOT prior to construction.* 4. *Construction inspection team and the construction inspection report(s).*	A6-17
2-17	***2.5.4.2 Project Modifications at Avon MOT*** *At the Avon MOT, part of the system of pipes and hoses would be reconfigured to keep the finished petroleum products separate from the renewable feedstocks, and to facilitate transmission of the renewable feedstock through receiving pipelines. This renovation work would primarily occur on the Avon MOT's 26 Line pipeline, which extends from offshore on the east side of the paved access road and wharf, to an aboveground pipe rack on the east side of a pedestrian walkway onshore. The 26 Line would be equipped with heat tracing, wrapped in insulation, and then placed in a metal sleeve, the joints of which would be sealed with silicone, all of which is intended to keep the feedstock in a transmissible liquid state. While the offshore work in the 26 Line would occur over water, no in-water work is proposed as part of the Project.* ***2.5.4.3 Project Modifications at Amorco MOT***	(5) For the Avon MOT, since the existing 26 Line pipeline is proposed to transfer renewable feedstock, CSLC MEPD regulatory authority over these modifications and long-term asset would be limited, and it is recommended that supplemental MMs be considered to safeguard the design, construction, testing, inspection, maintenance and operations of these pipeline and hoses. For example, consider requirements for pipe stress analysis during design, routine static liquid pressure testing, etc., or require MEPD regulatory compliance via MMs at the	A6-18

Reference (Page #s)	Description	Comments	
	As part of the Project, modifications are proposed at the Amorco MOT to accommodate the smaller marine vessels (25,000- to 50,000-barrel capacities) expected to dock there. These modifications include a fender that would be mounted at Dolphin A-81, between the existing fenders on Dolphins A-76 and A-77. The new super cone fender, approximately 15 feet long and 7 feet wide, would be attached to the dolphin above the high water line, with the fender panel extending into the water but not into the substrate below. (See Figure 2.10, Typical Super Code Fender.) The Project would also include maintenance activities on Dolphins A-76 and A-77 consisting of repairs to the concrete and five of the pilings.	Amorco and Avon MOTs regardless of product type and LKS regulatory status. (6) For the Amorco MOT, identify the size of *"the smaller marine vessels"* in terms of deadweight tonnage (DWT), etc. and the product types these vessels are anticipated to transfer (i.e. received/offloaded and distributed/loaded). (7) For the Amorco MOT, CSLC MEPD regulatory authority over the fender and pipelines modifications and long-term asset may be limited by jurisdictional authority, and it is recommended that supplemental MMs be considered to safeguard the design, construction, testing, inspection, maintenance and operations of the fender, pipelines, etc. (8) Furthermore, the MOTEMS mooring and berthing analysis and design and TOLs standards may not be regulatorily enforceable for all vessels calling at the Amorco and Avon MOT unless supplementally required via the MMs. Therefore, please specify that MOTEMS-compliant mooring and berthing analysis and design and TOLs standards will be required for all MOT modifications and vessels calling at the Amorco MOT (and Avon MOT) regardless of product type and LKS regulatory status. (9) The full extent of future built modifications to the Amorco and Avon MOTs for Project implementation are unclear. Please elaborate, such as addressing the following: (a) Identify if mechanical or electrical components or systems will be changed as part of the Project, including MM-required systems at the MOTs (i.e. Remote Release Systems, Tension Monitoring Systems,	A6-18 ct'd A6-19 A6-20 A6-21 A6-22

Reference (Page #s)	Description	Comments	
		Allision Avoidance Systems, environmental monitoring systems). (b) Identify if built mitigations resulting from the SPCC will be implemented. (c) Identify if any additional piping/pipelines will be changed as part of the Project, included but not limited to upgrades, modifications and/or re-routing existing piping and ancillary components, piping insulation, or heat trace. (d) Identify if any piping/pipelines at the MOTs will be taken out of service as part of the Project. Note that per MOTEMS Section 3109F.2, Item #12: *"Pipelines that do not have a valid and certified Static Liquid Pressure Test (SLPT) [9.4] shall be marked "OUT OF SERVICE". Out-of-service piping and pipelines shall be purged, gas-freed and physically isolated from sources of oil."*	A6-22 ct'd A6-23 A6-24 A6-25
2-36 to 38 3.3-28	[pg. 2-36] ***2.5.5.1 Refinery*** *… Marine transportation of renewable feedstock and fuels produced at the Refinery would continue to use the Avon and Amorco MOTs in the proposed, modified operations of the Refinery. In addition, the Project would utilize the Stockton Terminal located a 3003 Navy Drive in Stockton, California. The Stockton Terminal is also owned by Marathon.* *Under the proposed Project, the majority of the renewable feedstock is expected to be delivered in smaller barges with capacities of 25,000 to 50,000 barrels per vessel, thus resulting in a higher number of smaller marine vessels (up to approximately 400 vessels per year) calling at the marine terminals. Of these estimated 400 marine vessels per year, or approximately seven per week on average, the Avon MOT would receive about four ships each week and the Amorco MOT would have an estimated three ships per week. Up to six roundtrip barge trips are estimated to transport renewable feedstock and renewable fuel to the Stockton terminal, though the exact location to which feedstock would be transported has not yet been defined. To be conservative, Marathon has assumed Stockton as the furthest*	(10) Currently, there are no MOTs in the Stockton region that are active and regulatorily-approved for operations per the CSLC MEPD records. Therefore, the marine terminal(s) associated with the proposed Stockton Terminal operations and transfer of CSLC-regulated products (e.g. renewable fuels) will be required to physically and operationally upgrade prior to use to satisfy all of the CSLC regulations (i.e. MOTEMS (24CCR§3101F *et seq*), Article 5. Marine Terminals Inspection and Monitoring (2CCR§2300 *et seq*), Article 5.3 Marine Terminals Personnel Training and Certification (2CCR§2540 *et seq*), and Article 5.5 Marine Terminals Oil Pipelines (2CCR§2560 *et seq*)), including compliance with all <u>new</u> MOT	A6-26 ct'd

Reference (Page #s)	Description	Comments
	distance out that could be used in order to establish the reasonable worst case transportation by barge/vessel scenario. --- [pgs. 2-37 to 38] ***2.5.5.6 Rail*** *…* *The Project would include transportation of renewable fuels feedstock via rail into third-party terminals in the region because the Refinery is not equipped to unload renewable feedstock from trains. The third-party terminals could be as far away as Stockton, at which point the renewable feedstock would be transferred onto a barge or other marine transport vessel and delivered to the Marathon facility via the Avon Terminal. Other third-party facilities closer to Martinez, at specific locations to be determined subject to contractual agreements, could also be used and could include facilities where railcars could be transported to, unloaded, and the feedstock delivered to Marathon via existing transportation infrastructure. To be conservative, Marathon has assumed Stockton as the furthest distance out that could be used in order to establish the reasonable worst case transportation scenario for analysis.* *…* --- [pg. 3.3-28] ***3.3.3.1 Methodology for Impact Analysis*** *…* *Mobile Sources* *…Barges may be used to transport feedstocks from third party terminals. The specific terminals have not yet been identified. To be conservative shipping distances were based on use of Stockton terminals which would be the farthest location from the Avon and Amorco terminals…*	standards (e.g. *"New"* or *"(N)"* per MOTs, new valve closure times). A6-26 ct'd (11) Define the timeframe (i.e. per week, month or year) associated with the statement *"Up to six roundtrip barge trips are estimated to transport renewable feedstock and renewable fuel to the Stockton terminal, …"* (pg. 2-36). A6-27 (12) It is recommended that the terminology *"ships"* (pg. 2-36) be updated to vessels, when referring to both tankers and barges. A6-28
2-36 to 37	***2.5.5.2 Avon Marine Oil Terminal*** *Under the proposed Project, the use of the Avon MOT would change from a point of distribution to primarily a facility for receiving of renewable feedstocks, and modifications to the MOTs existing system of pipes and hoses would be necessary for this change. The Avon MOT would still be used secondarily for receipt of finished petroleum products, though these petroleum products would not be processed at the Refinery and would instead be distributed to the market using Refinery loading facilities. In total, the Avon MOT would receive an average of 70,000 bpd of renewable feedstocks, gasoline product for distribution, and naphtha for transfer.* ***2.5.5.3 Amorco Marine Oil Terminal*** *During Refinery operations, the Amorco Marine Terminal has been used for receiving approximately 108,000 bpd of crude oil and 5,000 bpd of heavy fuel oil for refining. Under the*	(13) For the Avon MOT, identify the baseline quantity of products transferred. A6-29

<table>
<tr><th>Reference (Page #s)</th><th>Description</th><th>Comments</th></tr>
<tr><td></td><td>proposed Project, use of the Amorco MOT would change from a receiving facility to primarily a distribution facility for loading of renewable diesel product for outbound shipments from the Refinery. Product from the Refinery would be distributed from the Amorco MOT at an average rate of 27,000 bpd of renewable fuel, with the balance distributed by pipeline and trucks. It is expected that the actual daily maximum loading would fluctuate dependent on the size of the vessel being loaded, but that throughput across the wharf would remain within permitted levels.</td><td></td></tr>
<tr><td>3-3 to 3-5
3.3-27 to 28</td><td><u>PRODUCT THROUGHPUT AT THE MARATHON REFINERY'S AMORCO & AVON MOTS:</u>
Table 3-1 Historical Throughput for Marathon Refinery
<table>
<tr><th>Type</th><th>Units</th><th>Year 1 (2015-2016)</th><th>Year 2 (2016-2017)</th><th>Year 3 (2017-2018)</th><th>Year 4 (2018-2019)</th><th>Year 5 (2019-2020)</th></tr>
<tr><td>Feedstocks</td><td>bpd</td><td>128,340</td><td>137,590</td><td>140,590</td><td>135,287</td><td>61,397</td></tr>
<tr><td>Products</td><td>bpd</td><td>144,013</td><td>147,013</td><td>151,185</td><td>151,894</td><td>71,858</td></tr>
</table>
Source: Marathon Petroleum Corporation, 2021
Table 3-3 Comparative Throughput and Production for Marathon Refinery, 1-year, 3-year Average, and 5-year Average
<table>
<tr><th>Type</th><th>Units</th><th>1-year (2019-2020)</th><th>1-year (2018-2019)</th><th>3-year Average (2017-2020)</th><th>5-year Average (2015-2020)</th></tr>
<tr><td>Feedstocks</td><td>bpd</td><td>61,397</td><td>135,287</td><td>112,425</td><td>120,641</td></tr>
<tr><td>Products</td><td>bpd</td><td>71,858</td><td>151,894</td><td>124,979</td><td>133,193</td></tr>
</table>
bpd = barrels per day
Source: Marathon Petroleum Corporation, 2021

[pgs. 3.3-27 to 28] 3.3.3.1 Methodology for Impact Analysis …
Mobile Sources
…Marine tankers and barges are also used to transport feedstocks and products to and from the facility. The Avon and Amorco MOTs are used for docking and loading/unloading of materials. Overall, the number of vessel calls at the Amorco MOT is expected to decrease, and the number of vessel calls at the Avon MOT is expected to increase compared to past actual operations. However, this Project does not change the unloading/loading capacities of these two MOTs….</td><td>(14) Cumulative vessel traffic (i.e. calls/year) at the Amorco and Avon MOTs will increase post-Project (i.e. 143 vessel calls/year [Table 3-4] vs. up to approximately 400 vessel calls/year), and "Overall, the number of vessel calls at the Amorco MOT is expected to decrease, and the number of vessel calls at the Avon MOT is expected to increase compared to past actual operations" (pgs. 3.3-27 to 28). However, it is unclear the extent to which the volume of product throughput at the MOTs (i.e. transferred over water) will change since the Marathon Refinery throughput data (Tables 3-1 and 3-2) is not discretized by mode of transportation and MOT. Please identify the proposed Project product throughput at each MOT (i.e. received/offloaded/ discharged and shipped/loaded) by product type. A6-30
(15) Furthermore, it is unclear how environmental impacts are influenced by the proposed changes in vessel sizes/types, vessel calls per year, changes in throughput over the water, etc. (e.g. biological resources due to changes in vessel drafts, propeller vs. tug activities, worst-case oil spill scenarios). A6-31</td></tr>
<tr><td>3-3 to 3-5
3.4-34</td><td><u>VESSEL TRAFFIC AT THE MARATHON REFINERY'S AMORCO & AVON MOTS:</u></td><td>(16) Identify why marine vessels were not analyzed by type (i.e. tanker, barge and tugs) in the A6-32</td></tr>
</table>

Reference (Page #s)	Description	Comments
	Table 3-2 Annual Vehicle and Vessel Traffic for Marathon Refinery Source: Marathon Petroleum Corporation, 2021 **Table 3-4 Comparative Vehicle and Vessel Traffic for Marathon Refinery, 1-year, 3-year Average, and 5-year Average** *Source*: Marathon Petroleum Corporation, 2021 --- [pg. 3.4-34] ***Impact BIO-6: Increase deposition or erosion of sensitive habitats along the vessel path, including marshlands within and adjacent to the lease area, resulting from the resuspension of sediments by calling vessels. (Less than Significant)*** *…Vessel calls at Avon MOT would increase from 120 per year to 364 per year. Vessel calls at Amorco MOT would decrease from 90 per year to 40 per year…* --- [pg. 3.9-16] ***Impact HAZ-1: Create a hazard to the public or the environment through the routine transport, use, and/or disposal of hazardous materials. (Potentially Significant)*** *…However, there will be a 3- to 4-fold increase in vessel calls for the Project relative to Baseline (e.g., 400 vessels per year versus a baseline average of 143 vessels per year)…*	vessel traffic analysis, including but not limited to consideration of proposed Project changes in vessel traffic types (e.g. an increase in smaller barges). A6-32 ct'd (17) Many agencies track vessel traffic and product throughput at California Marine Oil Terminals (MOTs). It is noted that the vessel traffic data presented in Table 3-2 differs from the CSLC Marine Environmental Protection Division (MEPD) Oil Spill Prevention Database (OSPD) records, where the MEPD records identify fewer vessel calls in each of the 5 years. A6-33 (18) The statement *"Vessel calls at Avon MOT would increase from 120 per year to 364 per year. Vessel calls at Amorco MOT would decrease from 90 per year to 40 per year"* (pg. 3.4-34) appears to be inconsistent with the baseline data presented in Table 3-4 (i.e. 210 (=120+90) vs. 143 vessels per year) and the 400 vessels per year Project value stated in multiple locations (pg. 3.9-16). Furthermore, it is noted that the vessel traffic values of 120 and 90 per year for the Avon and Amorco MOTs (respectfully) differ from the CSLC Marine Environmental Protection Division (MEPD) Oil Spill Prevention Database (OSPD) records, where the MEPD records identify fewer vessel calls for the 5-year average. A6-34

Vessel or Vehicle	Units	Year 1 (2015-2016)	Year 2 (2016-2017)	Year 3 (2017-2018)	Year 4 (2018-2019)	Year 5 (2019-2020)
Truck	Miles Traveled	4,290,831	4,524,176	4,518,547	4,559,507	2,837,991
Train	Miles Traveled	5,604	4,961	5,261	4,820	2,380
Vessel	Calls	116	149	166	161	124

Vessel or Vehicle	Units	1-year (2019-2020)	1-year (2018-2019)	3-year Average (2017-2020)	5-year Average (2015-2020)
Truck	**Miles Traveled**	2,837,991	4,559,507	3,972,015	4,146,210
Train	**Miles Traveled**	2,380	4,820	4,154	4,605
Vessel	**Calls**	124	161	150	143

<table>
<tr><th>Reference (Page #s)</th><th>Description</th><th>Comments</th></tr>
<tr><td>3-5</td><td>
Table 3-5 Refinery Turnaround Schedule, 2015-2019
<table>
<tr><th>Turnaround Year</th><th>2015</th><th>2016</th><th>2017</th><th>2018</th><th>2019</th></tr>
<tr><td>Equipment Shutdown</td><td>• Crude
• No. 3 HDS
• No. 6 Boiler</td><td>n/a</td><td>• Catalytic Cracker</td><td>• HCK
• No.1 HDA
• LHP C-14
• East Flare
• West Flare
• DCU
• No. 5 Gas
• SRU
• DEA</td><td>• No. 2 Hydrogen Plant
• Acid Plant
• Ammonia Recovery</td></tr>
</table>
Notes:
HDS = hydrodesulfurization unit
HCK = Hydrocracker
HDA = Hydrodearomatization
LHP = Light Hydrocarbon Processing
DCU = Delayed Coker Unit
SRU = Sulfur Recovery Unit
DEA = Diethylamine

Source: Marathon Petroleum Corporation, 2021
</td><td>(19) The Refinery turnaround discussion and schedule (Table 3-5) presented do not address:
(a) the impact of turnarounds on vessel traffic, and
(b) turnarounds which occurred during this 5-year period at the Amorco MOT and Avon MOT (e.g. Tesoro Avon Berth 1A construction and commissioning in 2015-2017) and their impacts on vessel traffic and refinery throughput.
A6-35</td></tr>
<tr><td>3.4-41</td><td>Impact BIO-8: Cause significant adverse impacts to the San Francisco Bay Estuary and associated biota as a result of spills. (Potentially Significant)
… Biofuel spills may occur from leaks in equipment, pipes, storage tanks and during transfer of biofuel. Biofuels, unlike conventional petroleum-based oils, readily biodegrade under both aerobic and anaerobic conditions (IRTC 2011). The release of a readily degradable biofuel to soil or water results in the rapid consumption of oxygen. This can be detrimental in surface waters where low oxygen levels can adversely affect biological communities.
Biofuel feedstocks – vegetable oils and animal fats – would be transported via barge to the Refinery terminals…</td><td>(20) Since biofuels and renewable fuels are not equivalent (i.e. produced via different processes, chemically differ, blended and used dissimilarly):
(a) Mixed use of these terminologies (i.e. “biofuels” vs. “renewable fuels”, “biodiesel” vs. “renewable diesel”, etc.) should be verified for accuracy.
A6-36
(b) Regulatory compliance requirements may differ.
A6-37
(c) Identify all types of biofuels that will be transferred at the Marine Terminal post-Project (i.e. received/offloaded/ discharged and shipped/loaded).
A6-38</td></tr>
<tr><td>3.4-41
3.10-17 to 18</td><td>Impact BIO-8: Cause significant adverse impacts to the San Francisco Bay Estuary and associated biota as a result of spills. (Potentially Significant)
… Marathon would be required to update the Refinery’s FRP and Spill Prevention, Control, and Countermeasure Plan (SPCC) to demonstrate preparedness to respond to vegetable oil and</td><td>(21) The SPCC Plan should be updated to address all hazards associated with the Project operations at the Amorco and Avon MOTs (i.e. not just “to
A6-39</td></tr>
</table>

Reference (Page #s)	Description	Comments	
	animal fat spills…. --- [pg. 3.10-17 to 18] **Impact HWQ-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. (Potentially Significant.)** *…Terminals at the Project Site are also subject to U.S. EPA regulations that require the preparation of a Spill Prevention, Control, and Countermeasures Plan (SPCC Plan), and regulations from the U.S. EPA and California Department of Fish and Wildlife (CDFW) Office of Spill Prevention and Response (OSPR) for the development and maintenance of oil spill response and contingency plans. Marathon has contingency planning and response measures for oil releases in place, including an existing facility SPCC Plan (Tesoro 2016, revised 2018), Northern California Blanket Oil Spill Response Plan (Tesoro 2017, updated 2020), and SWPPP (2013)…*	*demonstrate preparedness to respond to vegetable oil and animal fat spills"*). (22) Explain why the SPCC Plan is required to be updated for the post-Project phase only and not for other phases of the Project (e.g. during construction and demolition). (23) See MOTEMS Section 3101F.5 for SPCC Plan related design/built and operational/ administrative regulatory requirements.	A6-39 ct'd A6-40 A6-41
3.9-5 3.10-18 4-14 6-15	[pg. 3.9-5] ***3.9.1.1 Regulatory and Policy Context*** *…* <u>*California State Lands Commission (CSLC)*</u> *… The CSLC also developed MOT Engineering and Maintenance Standards (MOTEMS) to establish standards for the design, construction and maintenance of marine oil terminal berthing and cargo loading/unloading facilities. MOTEMS is intended to minimize the possibility of accidents at MOTs during extreme weather events, seismic activity and routine operations that could lead to releases of petroleum substances to the environment. Existing facilities are required to retrofit or rebuild as necessary to meet MOTEMS, which the Refinery operators have already done pursuant to recently-renewed leases with CSLC, and the terminal will continue to be subject to compliance with MOTEMS requirements…* --- [pg. 3.10-18] **Impact HWQ-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. (Potentially Significant.)** *…Additionally, the California State Lands Commission (CSLC) has developed the Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS), which are standards that apply to all existing and new marine oil terminals in California and establish minimum engineering, inspection, and maintenance criteria to prevent oil spills and protect public health, safety, and the environment. These standards include conditions for operation which are specified in leases that Tesoro maintains with the CSLC. These lease conditions include the following five requirements (e.g., as mitigation measures [MMs]) designed to minimize the potential for a release during loading/unloading operations at the MOTs:*	(24) MOTEMS (24CCR§3101F et seq) establishes minimum engineering, inspection and maintenance criteria for all MOTs in California, including the design and evaluation (i.e. not just *"design, construction and maintenance"*) of new and existing MOTs. (25) The MOTEMS standards are comprehensive and contain requirements for assessment of the structural, mechanical, and electrical systems, including, but not limited to routine audits and inspections, geotechnical assessments, structural evaluations, seismic analyses, berthing and mooring analyses, fire protection, pipelines, mechanical and electrical equipment, and electrical systems (i.e. not just the *"berthing and cargo loading/unloading facilities"* portions of the MOT). (26) MOTEMS also addresses numerous potentially damage causing events such as earthquake, storm, vessel impact, fire, explosion, and tsunami (i.e. not just *"extreme weather events, seismic activity and routine operations"*).	A6-42 A6-43 A6-44

Reference (Page #s)	Description	Comments	
	• *MM OS-1a: Remote Release Systems* • *MM OS-1b: Tension Monitoring Systems* • *MM OS-1c: Allision Avoidance Systems* • *MM OS-4a: USCG Ports and Waterways Safety Assessment* • *MM OS-4b: Spill Response to Vessel Spills* --- [pg. 4-14] ***4.3.9 Hydrology and Water Quality*** *…Accidental releases of feedstocks or product during loading and unloading operations either in transit to or from the facility or at the associated Avon and Amorco MOTs could contaminate the surrounding surface water with floating feedstock or product. The consequences of a spill on water quality would depend on several factors, including the size of the spill, the effectiveness of the response effort, and the resources (biological, water, etc.) affected by the spill. As described in Section 3.10, Hydrology and Water Quality, best management practices, engineering and maintenance standards, and spill prevention, response and control plans are required by various agencies including the U.S. EPA, California Department of Fish and Wildlife and California State Lands Commission to minimize the potential for a reduction in water quality from an accidental release of feedstock or product. However, even with implementation of these best practices and plans, a large spill could still occur and result in impacts on water quality that would be a* ***significant and unavoidable*** *impact of the Project…* --- [pg. 6-15] ***6.3.6.2 Risk of Accidental Spill*** *…Compliance with existing regulations, implementation of the recommended safety measures and implementation of the mitigation measures noted above would reduce the potential impacts associated with a release but would not be expected to eliminate the potential hazard impacts. No feasible mitigation measures were identified to further reduce significant adverse hazard impacts. Therefore, hazards and hazardous material impacts due to accidental discharges from Project operations would remain significant and unavoidable…*	(27) The statement *"…to meet MOTEMS, which the Refinery operators have already done…"* (pg. 3.9-5) are misleading. MOTEMS compliance is a living process such that no MOT, including the Amorco and Avon MOTs, has fully satisfied the MOTEMS compliance requirements. CSLC MEPD continues to work with Marathon to identify deficiencies during routine MOTEMS audits and inspections of the Amorco and Avon MOTs and take appropriate corrective actions. (28) The statement *"These [MOTEMS] standards include conditions for operation which are specified in leases that Tesoro maintains with the CSLC"* (pg. 3.10-18) is inaccurate.	A6-45 A6-46
3.9-6	***3.9.1.1 Regulatory and Policy Context …*** ***State …*** <u>*California Accidental Release Prevention Program*</u>	(29) At MOTs, MOTEMS Sections 3104F.5.2 and 3109F.4 requires seismic assessment of existing nonstructural components, nonbuilding structures and building structures and their supports and attachments in accordance with CalARP or ASCE Guidelines.	A6-47
3.9-10	***3.9.3.1 Methodology for Impact Analysis …***	(30)	

Reference (Page #s)	Description	Comments
	The principal modes of product transportation currently utilized for the Project Site are truck, rail and marine vessel as well as pipeline. These transportation modes would continue under the proposed Project, and therefore, transportation of future products is taken into consideration as part of this analysis. As noted in the risk analyses performed as part of the Amorco and Avon EIRs (CLSC 2014 and CLSC 2015) which formed the basis for the respective EIRs, the subject leases considered San Francisco Bay vessel traffic data and probabilities of upset conditions for vessels independent of vessel size or cargo volumes based on data maintained by CSLC and other authorities. Based on the analyses performed in these EIRs and the leases granted by CSLC per these EIRs, the probabilities derived from data maintained by CSLC should remain valid as the basis for the existing lease conditions. As such, the terms of the leases under which the MOTs operate represent existing regulatory conditions for the Renewable Fuels Project EIR…	
2-1 to 2 3.10-16	**PROJECT SCHEDULE** [pg. 2-1 to 2-2] ***2.1 REFINERY HISTORY AND PROPOSED PROJECT SUMMARY …*** *…Construction of the proposed Project would begin as soon as all necessary permits are received, with a target date of 2022. Marathon anticipates that operations under the proposed Project would begin in 2022 with an estimated production of 23,000 bpd, ramping up to full production of 48,000 bpd expected to be achieved by the end of 2023.* --- [pg. 3.3-24] ***3.3.3.1 Methodology for Impact Analysis …*** *On-Site Construction* *…Factors were selected for each equipment category, based on an average expected horsepower for each equipment category, with operation during the anticipated construction period from 2022 to 2024…* --- [pg. 3.6-6] ***3.6.3.1 Methodology for Impact Analysis …*** ***Construction*** *The Project would be constructed in a single phase with overlapping development activities. Construction could commence in 2021, pending Project approval and EIR certification, with full buildout and operation of the Project anticipated by 2023.* --- [pg. 3.10-16] ***Impact HWQ-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. (Potentially Significant.)***	(31) The Project schedule appears unclear due to inconsistencies. Please address the following: (a) Construction anticipated to commence in 2021 (e.g. pg. 3.6-6) or 2022 (e.g. pg. 2-2)? A6-48 (b) Anticipated construction period of 2 or 3 years (i.e. starting in 2021 or 2022 and full buildout in 2023 or 2024)? A6-49 (c) Does construction need to be completed to attain *"full buildout and operation of the Project"* (pg. 3.6-6) or *"reaching full capacity of 48,000 bpd fresh feed processing"* (pg. 3.10-16)? A6-50

Reference (Page #s)	Description	Comments
	Once authorizations are received, the operation of the proposed Project would phase in over a period of 3 years, starting in 2022 with estimated average processing of 17,000 barrels per day (bpd) of fresh feed (short-term maximum 23,000 bpd) and reaching full capacity of 48,000 bpd fresh feed processing by the end of 2023… --- [pg. 3.14-8] ***Impact TRAN-2: Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b). (Less than Significant)*** *…Construction of the proposed Project is estimated to continue for 22 months, after which ongoing maintenance could be performed by permanent Refinery maintenance staff…* --- [pg. 5-4] ***5.2.2 Alternative 2: Reduced Renewable Feedstock Throughput*** *…As noted in Section 2.5.2 of the Project Description, the proponent anticipates phasing in the Project over two years, with an interim throughput of 23,000 bpd…*	
	MANAGEMENT OF CHANGE (MOC) FOR THE REFINERY AND MOTS MODIFICATIONS	(32) Please address the Management of Change (MOC) procedures that would be undertaken at the refinery and MOTs to shift from processing petroleum to renewable products. For the Amorco and Avon MOTs, a Management of Change process is also required whenever physical changes are made to the built MOT that significantly impact operations (ref. MOTEMS § 3101F.7). A6-51

Comment A7 - RETRACTED

RE: CARB comments on the Martinez Refinery Renewable Fuels Project DEIR (SCH#2021020289)

Armstrong, Stanley@ARB <stanley.armstrong@arb.ca.gov>

Fri 12/17/2021 9:13 AM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>

Cc: Krieger, Robert@ARB <robert.krieger@arb.ca.gov>

Hi Joseph,

We want to retract our comment le er on the Mar nez Refinery Renewable Fuels Project DEIR. Please disregard my email below.

Thanks,
Stan

From: Armstrong, Stanley@ARB
Sent: Thursday, December 16, 2021 4:38 PM
To: joseph.lawlor@dcd.cccounty.us
Cc: Krieger, Robert@ARB <robert.krieger@arb.ca.gov>
Subject: CARB comments on the Mar nez Refinery Renewable Fuels Project DEIR (SCH#2021020289)

Hi Joseph,

A ached are the California Air Resources Board's comments on the Mar nez Refinery Renewable Fuels Project DEIR.

Thanks,
Stan

CALIFORNIA AIR RESOURCES BOARD

Stanley Armstrong
Air Pollution Specialist
Transportation &Toxics Division
1001 I Street
Sacramento, CA 95814

December 16, 2021

Joseph Lawlor
Project Planner
Contra Costa County
Community Development Division
30 Muir Road
Martinez, California 94553
joseph.lawlor@dcd.cccounty.us

Dear Joseph Lawlor:

Thank you for providing the California Air Resources Board (CARB) with the opportunity to comment on the Martinez Refinery Renewable Fuels Project (Project) Draft Environmental Impact Report (DEIR), State Clearinghouse No. 2021020289. The Project proposes the conversion of the existing Martinez Refinery from its current production of fossil fuels (conventional diesel fuel, gasoline, distillates, propane, and various by-products) to the production of renewable fuels, including renewable diesel, renewable propane, renewable naphtha, and potentially renewable jet. Once the Project is operational, no crude oil would be processed at the Martinez Refinery. The Project is anticipated to decrease tanker vessel calls from 210 to 98 calls per year, and heavy-duty truck trips from 224 to 180 trips per day. The Project is also anticipated to increase rail traffic from 27 to 63 rail cars per day. The Project is within an unincorporated area of Contra Costa County (County), California, which is the lead agency for California Environmental Quality Act (CEQA) purposes.

Although portions of the operations at the Martinez Refinery are expected to decrease as a result of the proposed modifications under the Project, the Martinez Refinery will continue to contribute to the exposure of nearby communities to elevated levels of air pollution. Residences are located east, west and south of the Project, with the closest homes located within 170 feet of the of the Project's eastern boundary. In addition to residences, Martinez Junior High School is located less than a mile from the Project's western boundary. These residences and schools are already exposed to toxic diesel particulate matter (diesel PM) emissions generated by existing industrial buildings, vehicle traffic along Interstate 680 (I-680), and rail traffic along existing rail lines.

The State of California has placed additional emphasis on protecting local communities from the harmful effects of air pollution through the passage of Assembly Bill 617 (AB 617) (Garcia, Chapter 136, Statutes of 2017). AB 617 is a significant piece of air quality legislation that highlights the need for further emission reductions in communities with high exposure burdens, like those in which the Project is located. Diesel PM emissions generated during the construction and operation of the Project would negatively impact neighboring communities, which are already impacted by air pollution from existing industrial buildings, vehicle traffic along I-680, and local rail traffic.

Through its authority under Health and Safety Code section 39711, the California Environmental Protection Agency (CalEPA) is charged with the duty to identify disadvantaged communities. CalEPA bases its identification of these communities on geographic, socioeconomic, public health, and environmental hazard criteria (Health and Safety Code, section 39711, subsection (a)). In this capacity, CalEPA currently defines a disadvantaged community, from an environmental hazard and socioeconomic standpoint, as a community that scores within the top 25 percent of the census tracts, as analyzed by the California Communities Environmental Health Screening Tool Version 3.0 (CalEnviroScreen). CalEnviroScreen uses a screening methodology to help identify California communities currently disproportionately burdened by multiple sources of pollution. The census tract containing the Project is within the top 20 percent for Pollution Burden[1] and is considered a disadvantaged community; therefore, the County must ensure that the Project does not adversely impact neighboring disadvantaged communities.

Industrial facilities, like the facility described in the Project, can result in high volumes of heavy-duty diesel trucks, vessel calls, locomotive operations and operation of on-site equipment (e.g., forklifts and yard tractors) that emit toxic diesel emissions, and contribute to regional air pollution and global climate change.[2] Governor Gavin Newsom signed Executive Order N-79-20 on September 23, 2020. The executive order states: "It shall be a goal of the State that 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035. It shall be a further goal of the State that 100 percent of medium and heavy-duty vehicles in the State be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks. It shall be further a goal of the State to transition to 100 percent zero emission off-road vehicles and equipment by 2035 where feasible." The executive order further directs the development of regulations to help meet these goals. To ensure that lead agencies, like the County, stay in step with evolving scientific knowledge to protect public health from adverse air quality and greenhouse gas impacts from the transportation sector, which serves as the basis of the Governor's Executive Order N-79-20, CARB staff urges the County and applicant to construct and operate the Project using the zero-emission technologies provided in this letter.

1 Pollution Burden represents the potential exposure to pollutants and the adverse environmental conditions caused by pollution.

2 With regard to greenhouse gas emissions from this project, CARB has been clear that local governments and project proponents have a responsibility to properly mitigate these impacts. CARB's guidance, set out in detail in the Scoping Plan issued in 2017, makes clear that in CARB's expert view, local mitigation is critical to achieving climate goals and reducing greenhouse gases below levels of significance.

The County Must Implement All Feasible Mitigation Measures to Reduce the Project's Impact on Air Quality

Chapter 3.3 (Air Quality) of the DEIR concludes that air pollutant emissions emitted during the Project's construction and the net change in Project operations would not exceed any of the Bay Area Air Quality Management District's (BAAQMD) significance thresholds. The DEIR also concluded that the operation of the Project would contribute to the cumulative exposure of residences and onsite workers to particulate matter 2.5 in diameter (PM2.5) concentrations that would exceed the BAAQMD's significance threshold. The Project would also increase rail traffic in the Placer County Air Pollution Control District (PCAPCD) and marine vessel trips (tugs and barges) in the San Joaquin Valley Air Pollution Control District (SJVAPCD). This incremental increase in NOx emissions from rail and marine vessel trips would exceed the PCAPCD and SJAPCD significance thresholds. To reduce the Project's construction emissions, the DEIR included two mitigation measures (Mitigation Measure 1a and Mitigation Measure 1b), which would require the implementation of the BAAQMD's basic control measures and best management practices during Project construction. The DEIR did not include any mitigation measures to reduce the Project's PM2.5 concentrations in the BAAQMD or NOx emissions emitted in the PCAPCD and SJAVPD. After implementing Mitigation Measure 1a and Mitigation Measure 1b, the County and applicant concluded in the DEIR that the Project would increase PM2.5 concentrations and NOx emissions that would result in a significant and unavoidable impact.

Under CEQA, projects that will have a significant and unavoidable impact on the environment must implement all feasible mitigation measures to reduce those impacts (see California Public Resources Code§ 21081; 14 CCR§ 15126.2(b)). To meet this requirement of CEQA and the goal set in Governor's Executive Order N-79-20, CARB staff urge the County and applicant to include measures listed below to further reduce the Project's air pollutant emissions emitted during Project construction and operation.

- In construction contracts, include language that requires all heavy-duty trucks entering the construction site, during all construction phases be model year 2014 or later.
- Require all service equipment (e.g., yard hostlers, yard equipment, forklifts, and pallet jacks) used within the Project site to be zero-emission. This equipment is widely available and can be purchased using incentive funding from CARB's Clean Off-Road Equipment Voucher Incentive Project (CORE).[3]
- Require all heavy-duty trucks entering or on the Project site to be model year 2014 or later, expedite a transition to zero-emission vehicles, and be fully zero-emission beginning in 2023. A list of commercially available zero-emission trucks can be obtained from the Hybrid and Zero-emission Truck and Bus Voucher Incentive Project

3 Clean Off-Road Equipment Voucher Incentive Project. Accessible at: *https://californiacore.org/how-toparticipate/*

(HVIP).[4] Additional incentive funds can be obtained from the Carl Moyer Program and Voucher Incentive Program.[5]

- Restrict trucks and support equipment from idling longer than two minutes while on site.
- Prior to the start of Project operations, vegetative walls[6] or other effective barriers shall be installed that separate loading docks and people living or working nearby.
- Prior to the start of Project operations, require all tug and ocean-going vessels supporting Project operations to be equipped with Tier 4 or cleaner engines.

To further reduce air pollutant emissions emitted by the Project, CARB staff urges the County and applicant to install infrastructure at the Avon and Amorco marine oil terminals to include air pollutant emission reductions from tanker vessels. Under CARB's new At Berth Regulation,[7] if a terminal receives 20 or more annual tanker vessel visits, then every tanker visiting that terminal would be subject to the control requirements of the regulation. Because the Project would result in more than 20 annual tanker visits at the Avon and Amorco marine oil terminals, these marine oil terminals would be subject to the control requirements of the new At Berth Regulation. In addition to the emission reduction measures listed above, CARB urges the County and applicant to require all tanker vessels visiting Project's marine terminals to be plugged into electrical power or use another CARB-approved emission control strategy to comply with the new At Berth Regulation.

The FEIR should include a Mitigation Measure Requiring the Project to use the Cleanest Switcher and Line-Haul Locomotives Available

To meet the emission reduction targets established by Executive Order N-79-20, CARB is presently developing regulatory concepts for the In-Use Locomotive Regulation to reduce air pollutant emissions, toxic air contaminants and greenhouse gas emissions from locomotives operating through California. These concepts would require locomotive operators to mitigate diesel PM emissions by paying into an account used by the operators to develop or purchase zero-emission locomotives, prohibit the operation of locomotives with an original engine build date that is 23 years or older starting in 2030, limit locomotive idling durations to 30 minutes, and require operators to register their locomotives with CARB. More information about the proposed In-Use Locomotive Regulation and associated workshops

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4 Zero-Emission Truck and Bus Voucher Incentive Project. Accessible at: *https://californiahvip.org/*
5 Carl Moyer Program and Voucher Incentive Program. *https://ww2.arb.ca.gov/carl-moyer-program-apply*
6 Effectiveness of Sound Wall-Vegetation Combination Barriers as Near-Roadway Pollutant Mitigation Strategies (2017) is available at: *https://ww2.arb.ca.gov/sites/default/files/classic//research/apr/past/13-306.pdf*
7 Ocean-Going Vessel At-Berth Regulation. Accessible at: *https://ww2.arb.ca.gov/our-work/programs/ocean-going-vessels-berth-regulation*

can be obtained from CARB's website: *https://ww2.arb.ca.gov/our-work/programs/reducing-rail-emissions-california*.

Based on emerging technologies in batteries and hydrogen fuel cells, zero-emission locomotive is becoming a reality and could be used in the near future to meet the needs of the Project. CARB has sponsored, and continues to sponsor, demonstration projects to accelerate the adoption of clean freight technologies and reduce air pollution caused by the movement of goods throughout the State. CARB's Zero and Near Zero-emission Freight Facilities Program successfully demonstrated batteries in locomotives that could be developed further and applied to the Project.[8] Although there are no demonstration projects currently funded by CARB, there are demonstration projects presently underway that focus on battery-electric and hydrogen zero-emission locomotive technologies. An example of these demonstration projects is provided below.

- **Lithium-ion Battery Technology**. "Progress Rail, a Caterpillar company, has reached an agreement with Pacific Harbor Line to supply its new EMD® Joule battery electric locomotive for a demonstration project operating in the POLA and POLB, California. The new, six-axle locomotive will feature the latest lithium-ion battery technology and battery management system, alongside alternating current (AC) traction and state-of-the-art electronics. The locomotive includes battery capacity of 2.4 megawatt hours, for a run time of up to 24 hours, depending upon charging and utilization. It is anticipated for delivery in the second half of 2021."[9]
- **Hydrogen-Powered Locomotive Pilot Project.** In December 2020, Canadian Pacific (CP) has announced plans to develop line-haul hydrogen-powered locomotive technology. The "[h]ydrogen Locomotive Program will retrofit a line-haul locomotive with hydrogen fuel cells and battery technology to drive the locomotive's electric traction motors. Once operational, CP will conduct rail service trials and qualification testing to evaluate the technology's readiness for the freight-rail sector."[10]
- **Ultium Battery and HYDROTEC Hydrogen Fuel Cell Technology.** In June 2021, Wabtec Corporation and General Motors (GM) announced develop and commercialize GM's Ultium battery technology and HYDROTEC hydrogen fuel cell systems.[11]

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8 California Air Resources Board (CARB), 2020. CARB's Zero and Near Zero-emission Freight Facility Program. Accessible at *https://ww2.arb.ca.gov/news/carb-announces-more-200-million-new-funding-clean-freight-transportation#:~:text=The%20goal%20of%20CARB's%20Zero,commercialization%20of%20these%20technologies%20statewide*

9 Progress Rail, 2020. Progress Rail and Pacific Harbor Line Sign Agreement. Accessible at *https://www.progressrail.com/en/Company/News/PressReleases/ProgressRailAndPacificHarborLineSignAgreementForBatteryLocomotive.html*

10 Canadian Pacific, 2020. CP announces hydrogen-powered locomotive pilot project. Accessible at *https://www.cpr.ca/en/media/cp-announces-hydrogen-powered-locomotive-pilot-project*

11 General Modtors, 2021. Wabtec and GM to Develop Advanced Ultium Battery and HYDROTEC Hydrogen Fuel Cell Solutions for Rail Industry. Accessible at

With the development of locomotive technology presently underway, and the goals set by Executive Order N-79-20, it is reasonable to expect that zero-emission switcher and line-haul locomotives could be available by 2030. To this end, CARB staff urges the County and applicant to present a mitigation measure in the FEIR that requires all switcher and line-haul locomotives serving the Project to be zero-emission.

Conclusion

To reduce the exposure of toxic diesel PM emissions in disadvantaged communities already impacted by air pollution, the final design of the Project should include all existing and emerging zero-emission technologies to minimize diesel PM and NOx emissions, as well as the greenhouse gases that contribute to climate change. CARB encourages the County and applicant to implement the applicable measures listed in this letter.

Given the breadth and scope of projects subject to CEQA review throughout California that have air quality and greenhouse gas impacts, coupled with CARB's limited staff resources to substantively respond to all issues associated with a project, CARB must prioritize its substantive comments here based on staff time, resources, and its assessment of impacts. CARB's deliberate decision to substantively comment on some issues does not constitute an admission or concession that it substantively agrees with the lead agency's findings and conclusions on any issues on which CARB does not substantively submit comments.

CARB appreciates the opportunity to comment on the DEIR for the Project and can provide assistance on zero-emission technologies and emission reduction strategies, as needed. Please include CARB on your list of selected State agencies that will receive the FEIR. If you have questions, please contact Stanley Armstrong, Air Pollution Specialist via email at *stanley.armstrong@arb.ca.gov*.

Sincerely,

Robert Krieger, Branch Chief, Risk Reduction Branch

cc: See next page.

---

https://plants.gm.com/media/us/en/gm/home.detail.html/content/Pages/news/us/en/2021/jun/0615-wabtec.html

cc: State Clearinghouse
state.clearinghouse@opr.ca.gov

Henry Hilken, Director of Planning and Climate Protection, Bay Area Air Quality Management District
hhilken@baaqmd.gov

Gregory Nudd, Deputy Air Pollution Control Officer, Bay Area Air Quality Management District
hhilken@baaqmd.gov

Paul Cort, Staff Attorney, Earth Justice
pcort@earthjustice.org

Alison Kirk, Principal Environmental Planner, Bay Area Air Quality Management District
akirk@baaqmd.gov

Matthew Hanson, Environmental Planner, Bay Area Air Quality Management District
mhanson@baaqmd.gov

Morgan Capilla, NEPA Reviewer, U.S. Environmental Protection Agency, Air Division, Region 9
capilla.morgan@epa.gov

Stanley Armstrong, Air Pollution Specialist, Risk Reduction Branch

INTERNATIONAL BIRD RESCUE
-SINCE 1971-

October 22, 2021

Contra Costa County Board of Supervisors
1025 Escobar St.
Martinez, CA 94553

Dear Board of Supervisors,

I write to you today in support of Marathon Petroleum and the conversion of their Martinez Refinery to renewable fuels. We applaud their efforts to move towards sustainable energy.

Marathon has supported our work rescuing and rehabilitating native Contra Costa wildlife for a number of years. They are a long-term, reliable organizational partner whose philanthropy has enabled us to provide effective, ethical, humane, and immediate solutions for local citizens and to thousands of wild, native aquatic birds harmed by human impact. O1-1

As a result of their community investment, we are able to mitigate human impact on the environment, support biodiversity, and inspire thousands of people annually to take action on behalf of wildlife and of ourselves.

I hope you will take these positive benefits into consideration as you assess and permit their project.

Sincerely,

DocuSigned by:
B7AD4BB90C0749C...

JD Bergeron
Chief Executive Officer

SF BAY-DELTA WILDLIFE CENTER
4369 Cordelia Road
Fairfield, CA 94534
P 707.207.0380
E sfbird@birdrescue.org

LOS ANGELES WILDLIFE CENTER
3601 S Gaffey Street Box 3
San Pedro, CA 90731
P 310.514.2573
E labird@birdrescue.org

ALASKA WILDLIFE RESPONSE CENTER
651 E 100th Avenue #C
Anchorage, AK 99515
P 907.562.1326
E alaska@birdrescue.org

BIRD HELPLINE
P 401.285.0895

SPILL EMERGENCY LINE
P 888.447.1743

BIRDRESCUE.ORG

THE INDUSTRIAL ASSOCIATION OF CONTRA COSTA COUNTY

December 10, 2021

Contra Costa County Dept. of Conservation &
Development Community: Development Division
Attention Gary Kupp, Senior Planner
30 Muir Road
Martinez, CA 94553

Dear Mr. Kupp:

On behalf of the Industrial Association of Contra Costa County (IACCC), I write to offer my strong support of Marathon Petroleum's Martinez Renewable Fuels project. In response to the Draft EIR, I am submitting this letter to be entered into the administrative record.

I am the Executive Director of the IACCC; an organization that includes over 50 large, mid-size, and small companies throughout Contra Costa County and the surrounding region. We fully support Marathon's project and believe the Draft EIR accurately represents this forward-thinking and responsible project.

O2-1

The Martinez Renewable Fuels project positions Marathon to be a world leader in renewable energy production. In addition to being a very positive step towards improving local air quality, the resulting direct and indirect employment will have an economic multiplying effect that impacts the County, the Bay Area, and the state of California, including employees from many other IACCC member companies.

Therefore, the Industrial Association of Contra Costa County strongly supports Marathon's Martinez Renewable Fuels projects and the Draft EIR, and we ask that you approve the EIR and the Renewable Fuels project as soon as possible.

Thank you.

Mark Hughes
Executive Director
Industrial Association of Contra Costa County
(707) 656-1765

Cc: Honorable Contra Costa County Supervisor Diane Burgis, Chair
Honorable Contra Costa County Supervisor Federal D. Glover, Vice Chair
Honorable Contra Costa County Supervisor John M. Gioia
Honorable Contra Costa County Supervisor Candace Andersen
Honorable Contra Costa County Supervisor Karen Mitchoff

From:	John Calender
To:	Joseph Lawlor; John Gioia; John_Gioia; Supervisor Candace Andersen; Supervisor_Burgis; SupervisorMitchoff; District5
Subject:	Food Bank - Marathon Renewable Diesel Energy - Support Letter
Date:	Friday, December 17, 2021 3:56:59 PM
Attachments:	Fairfield Scan_12152021120348_20211215120348.PDF
Importance:	High

To Whom it May Concern,

Please find the Food Bank of Contra Costa and Solano's Letter of Support for Marathon Petroleum's Renewable Diesel Energy Project attached to this email. Our Letter is signed by our CEO Joel Sjostrom. Hard Copies were also mailed out to each respecting district. Thank you for your attention to this email.

John Calender
Corporate Relations Manager
Food Bank of Contra Costa & Solano
Office: 925-771-1313
Cell: 415-516-9562
Donate: **www.foodbankccs.org**

FOOD BANK of Contra Costa & Solano

CONCORD LOCATION
4010 Nelson Avenue
Concord, CA 94520
P: 925-676-7543
F: 925-671-7933

FAIRFIELD LOCATION
2370 North Watney Way
Fairfield, CA 94533
P: 707-421-9777
F: 707-421-0205

Member of FEEDING AMERICA
Federal Tax ID: 94-2418054

December 15, 2021

Contra Costa County Board of Supervisors
1025 Escobar St. Martinez, CA 94553

Dear Board of Supervisors,

I write to you today in support of Marathon Petroleum and the conversion of their Martinez Refinery to renewable fuels. We applaud their efforts to move towards sustainable energy. Marathon has supported our work of providing food to the food insecure members of our community for a number of years.

They are a long-term, reliable organizational partner whose philanthropy has enabled us to provide effective and immediate solutions for the local residents of Contra Costa and Solano Counties. They share our interests in sustainable food and grocery recovery, clean energy for delivery trucks as well as support of those affected by natural disaster each year. O3-1

As a result of their community investment, we are able to provide sustainable and fresh produce and food to those in need, reduce food waste and inspire thousands of people annually to take action on behalf of those who face hardship and struggle amidst the pandemic backdrop. I hope you will take these positive benefits into consideration as you assess and permit their project.

Thank you for your consideration.

Joel Sjostrom – CEO – Food Bank of Contra Costa and Solano

Tax ID 94-2418054

Boilermaker 549

Osvaldo Troche Jr <otrochejr@bmlocal549.org>

Thu 12/16/2021 5:01 PM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>
Cc: Timothy Jefferies <tjeff@bmlocal549.org>; SupervisorMitchoff <SupervisorMitchoff@bos.cccounty.us>; District5 <District5@bos.cccounty.us>; Supervisor Candace Andersen <SupervisorAndersen@bos.cccounty.us>; Supervisor_Burgis <Supervisor_Burgis@bos.cccounty.us>; John Gioia <John.Gioia@bos.cccounty.us>; SMKonig@Marathonpetroleum.com <SMKonig@Marathonpetroleum.com>

Good A. ernoon,
A□ached you will find in support le□er for Marathon Mar□nez Renewable Fuels Project. Have a blessed day and Happy holidays!!

Thanks,

Osvaldo Troche Jr
Business Agent
Boilermakers Local 549
2191 Piedmont way
Pi□sburg CA, 94565
Phone: (925)635-9227
Cell: (925)597-3750
Fax: (925)427-5980

International Brotherhood of Boilermakers • Iron Ship Builders • Blacksmiths • Forgers & Helpers

LOCAL LODGE 549

Timothy Jefferies
Business Manager/Secretary Treasurer
2191 Piedmont Way • Pittsburg, California 94565 • phone: (925) 427-4121 • fax: (925) 427-5980

December 16, 2021

Department of Conservation and Development &
Community Development division
Attn: Mr. Joseph Lawlor
30 Muir Road
Martinez, Ca 94553

Dear Mr. Lawlor:

I am Timothy Jefferies, Business Manager/Secretary-Treasurer for the Boilermakers Local 549, representing #800 hard-working Building Trades employees in Contra Costa County. In response to the Draft EIR, I am submitting this letter of support to be entered into the record on behalf of the Boilermakers Local 549. I would like to express my membership's strong support for the Marathon Martinez Renewable Fuels project, and our belief that the Draft EIR is an accurate representation of this important project.

The project will allow Marathon to convert the currently idled Martinez petroleum refinery into a renewable fuel facility with a production capacity of approximately 730 million gallons per year of lower carbon-intensity renewable diesel. At the same time, it will serve the best interests of the men and women of the Boilermakers Local 549, as well as Contra Costa County, the broader Bay Area, and the state of California. The Building Trades support the energy transition in California and applaud Marathon's investment in this project. This project will generate green jobs for the Bay Area community. Up to 150 full-time employees will continue working at the facility, and up to 1,400 construction trades jobs are expected during peak construction of the project. The 4 million project hours the construction is estimated to require will boost the local economy, while the retention of the permanent jobs will help keep well-paying jobs in the local community.

O4-1

By allowing Marathon to continue operating successfully in the Bay Area, local communities will benefit from the many partnerships the company has established with local nonprofits, business associations, and municipalities. This year alone, Marathon invested over $800,000 in local communities through more than 50 organizations, supporting thriving communities, workforce development, and sustainability.

The Martinez Renewable Fuels project will reduce greenhouse gas emissions by 60%, criteria air pollutants by 70%, and water use by 1 billion gallons annually compared to the facility's

operations as a petroleum refinery. Its renewable fuels production of approximately 730 million gallons per year will help California meet its Low Carbon Fuel Standard goals of lowering the carbon intensity of our state's transportation sector.

With these benefits in mind, the Boilermakers Local 549 requests that you support the permitting for conversion of MPC's Martinez refinery into a renewable fuel facility. I appreciate your thoughtful consideration of the many benefits this project brings to the Bay Area economy, its communities, and the environment we all share.

O4-1 cont'd

Thank you for your time and consideration.

Timothy Jefferies
Business Manager/Secretary-Treasurer
www.boilermakerslocal549.org

Cc: Honorable Contra Costa County Supervisor Diane Burgis, Chair
Honorable Contra Costa County Supervisor Federal D. Glover, Vice Chair
Honorable Contra Costa County Supervisor John M. Gioia
Honorable Contra Costa County Supervisor Candace Andersen
Honorable Contra Costa County Supervisor Karen Mitchoff

Support for Marathon

Lorna Padia Markus <lpadia@mowat.com>

Thu 12/16/2021 6:00 PM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>; john.gioia@boscccounty.us <john.gioia@boscccounty.us>; Supervisor Candace Andersen <SupervisorAndersen@bos.cccounty.us>; Supervisor_Burgis <Supervisor_Burgis@bos.cccounty.us>; SupervisorMitchoff <SupervisorMitchoff@bos.cccounty.us>; District5 <District5@bos.cccounty.us>
Cc: Michael Dunn <mdunn@bgccontracosta.org>

Please find our le er of support of Marathon a ached in their pursuit of their Mar nez Renewables Project.

Thank you,

Lorna Padia Markus

BOYS & GIRLS CLUBS
OF CONTRA COSTA

December 16, 2021

Contra Costa County Board of Supervisors
1025 Escobar St.
Martinez, CA 94553

Dear Board of Supervisors,

On behalf of the Governing Board of the Boys & Girls Clubs of Contra Costa, we are sending this letter in support of Marathon Petroleum. Marathon has been a valuable partner to the Boys & Girls Clubs of Contra Costa in supporting our youth.

O5-1

Marathon has consistently supported our work in Martinez, as well as our new locations in West Contra Costa, and will be a partner as we work towards expanding in Concord.

We are excited to continue to partner with Marathon and are in support of their future endeavors.

Sincerely,

Lorna Padia Markus

Lorna Padia Markus
Board Chair

Letter of Support Marathon Petroleum's Martinez Renewable Fuels Project

Rosa Pamintuan <rosa@cbrt.org>

Thu 12/16/2021 1:45 PM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>
Cc: Supervisor_Burgis <Supervisor_Burgis@bos.cccounty.us>; District5 <District5@bos.cccounty.us>; John_Gioia <John_Gioia@bos.cccounty.us>; Supervisor Candace Andersen <SupervisorAndersen@bos.cccounty.us>; SupervisorMitchoff <SupervisorMitchoff@bos.cccounty.us>

Mr. Lawlor,

A ached please find a le er of support for Marathon Petroleum's Mar nez Renewable Fuels Project.

Best regards,

California Business Roundtable

Rosa Pamintuan
Opera ons Manager

1301 I Street | Sacramento | 95814
(916) 553-4093 | rosa@cbrt.org

Leadership for Jobs and a Strong Economy

California Business Roundtable

December 16, 2021

Mr. Joseph Lawlor
Project Planner
Contra Costa County

Delivered via electronic mail

Mr. Lawlor,

On behalf of the California Business Roundtable Board of Directors, I am writing to express our strong support for Marathon Petroleum's Martinez Renewable Fuels project. This letter in support of the project is in response to the Draft Environmental Impact Report (EIR) and should be entered into the administrative record.

The Business Roundtable represents California's largest employers and advocates for jobs and a strong economy. The Marathon Renewable Fuels project is forward thinking, responsible and important for both the local economy and environment. The project will be a positive step forward for local air quality, provide both direct and indirect jobs to the region and have a positive impact on the local and regional economy.

Not only will the project provide more than 1,400 union jobs during construction, but there will be more than 130 full-time employees located at the facility upon its completion. Moreover, this project has multiple environmental benefits as well. The Marathon Martinez Renewable Fuels project is a major step forward in investing in the types of diverse renewable fuels the state and world will need to meet our climate goals. O6-1

We believe the Draft EIR accurately represents the benefits of this project and its importance for the local, regional and state economy and environment. We strongly support Marathon's Martinez Renewable Fuels project and ask you to approve the EIR and project as soon as possible.

Thank you in advance for your consideration. Please do not hesitate to contact me if you have any questions or would like to discuss our support for this critically important project.

Sincerely,

Robert C. Lapsley

ROBERT C. LAPSLEY
President

cc: Honorable Contra Costa County Supervisor Diane Burgis, Chair
Honorable Contra Costa County Supervisor Federal D. Glover, Vice Chair
Honorable Contra Costa County Supervisor John M. Gioia
Honorable Contra Costa County Supervisor Candace Andersen
Honorable Contra Costa County Supervisor Karen Mitchoff

Marathon Petroleum's Martinez Renewable Fuels Project

Geri Royer <groyer@cmta.net>
on behalf of
Lance Hastings <lhastings@cmta.net>

Thu 12/16/2021 1:32 PM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>
Cc: John Gioia <John.Gioia@bos.cccounty.us>; Candace Andersen <Candace.Andersen@bos.cccounty.us>; Supervisor_Burgis <Supervisor_Burgis@bos.cccounty.us>; SupervisorMitchoff <SupervisorMitchoff@bos.cccounty.us>; district@bos.cccounty.us <district@bos.cccounty.us>; assemblymember.grayson@assembly.ca.gov <assemblymember.grayson@assembly.ca.gov>

Attached is our letter of support for Marathon Petroleum's Martinez Renewable Fuels Project. A hard copy is being mailed.

CMTA
CALIFORNIA MANUFACTURERS & TECHNOLOGY ASSOCIATION

Geri Royer
Executive Assistant to President Lance Hastings
Membership Manager

p: 916.498.3330 **f:** 916.441.5449 **c:** 916.712.8952
a: 1121 L Street, Suite 700, Sacramento, CA 95814
e: groyer@cmta.net **w:** www.cmta.net

@cmta
#MakingCA

CMTA
CALIFORNIA MANUFACTURERS & TECHNOLOGY ASSOCIATION
LANCE HASTINGS
PRESIDENT

December 16, 2021

Mr. Joseph Lawlor, Project Planner
Contra Costa County
Department of Conservation & Development
30 Muir Road
Martinez, CA 94553

Dear Mr. Lawlor:

This letter is to express the California Manufacturers & Technology Association's (CMTA) **strong support of Marathon Petroleum's Martinez Renewable Fuels project**. As directed by the protocols in the Draft Economic Impact Report (EIR), I am submitting this letter on behalf of CMTA so that it will be entered into the administrative record.

This project exemplifies the innovative spirit of California's manufacturing sector. In fact, projects like these provide the most viable pathway to attaining aggressive environmental goals and preserving the strong manufacturing wage base in Contra Costa County, and the rest of the state. From reduced water consumption and carbon intensity to the four million project hours for good construction jobs, this Marathon initiative should be held up as a model for future products that attain such an effective balance of environmental and economic objectives.

Renewable technologies are expanding at record pace, and Contra Costa County can be on the forefront of these efforts. CMTA is proud to support the Marathon Petroleum project and believes the Draft EIR is an accurate representation of this important project.

O7-1

CMTA urges your favorable consideration to:

- Approve the project's Draft Environmental Impact Report, and subsequently
- Approve Marathon's Martinez Renewable Fuels project

If you have any questions regarding CMTA's support, please do not hesitate to contact me at lhastings@cmta.net or 916-498-3310.

Respectfully submitted,

Lance Hastings

1121 L STREET, SUITE 700 SACRAMENTO CA 95814
916-441-5420 FAX 916-441-5449 WWW.CMTA.NET

Courtesy Copies sent to:

Contra Costa County Supervisor Diane Burgis, Chair
Contra Costa County Supervisor Federal D. Glover, Vice Chair
Contra Costa County Supervisor John M. Gioia
Contra Costa County Supervisor Candace Andersen
Contra Costa County Supervisor Karen Mitchoff
Assemblymember Tim Grayson, 14th Assembly District

Martinez Refinery Renewable Fuels Project (County File #CDLP20-02046) - DEIR Summary Project Description of Chevron Avon Connectivity Project - Description Revision Request

Haugeberg, Troy <THaugeberg@chevron.com>

Thu 12/16/2021 1:57 PM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>
Cc: McDonald, Michael <michaelmcdonald@chevron.com>; Flores, Jerry <Jerry.Flores@aecom.com>; Sean Tully <Sean.Tully@dcd.cccounty.us>

Joseph Lawlor,

Chevron requests that the summary project descrip on for the Chevron Avon Connec vity project found in the cumula ve impact segment of the Mar nez Refinery Renewable Fuels Project (County File #CDLP20-02046) be updated and revised with the following statement in the DEIR:

Chevron Products Company, the project applicant, proposes to add a second connection from the existing Bay Area Products Line to flow refined liquid product to the Chevron Avon Terminal at 611 Solano Way, Martinez, CA 94553. This second connection associated with the Avon Connectivity Project would, if completed, enable Chevron to directly transport refined liquid products from the Avon Terminal to the Kinder Morgan Concord Terminal located in unincorporated Contra Costa County near the City of Concord and would also allow Chevron to directly transport such products from the Avon Terminal to TransMontaigne Partners' Martinez Oil Terminal located in the City of Martinez.

O8-1

Let me know if this proposed language meets the needs of the County for the intended purpose in the DEIR. Also, can you please confirm receipt of this email.

Regards,

Troy Haugeberg
Sr. Project Manager

Chevron

Habitat for Humanity East Bay/Silicon Valley - Letter of Support for Marathon

Pat Rickett <PRickett@habitatebsv.org>

Thu 12/16/2021 11:03 AM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>

Dear Mr. Lawlor,

I hope this email finds you well! I wanted to provide the a ached le er of support regarding Marathon Petroleum's permit to convert their Mar nez refinery to renewable fuels. We applaud their efforts to move towards a more sustainable future for the area that we serve. Please consider this le er of support when assessing their permit, and feel free to reach out if you have any ques ons about their support for our affiliate. Happy Holidays to you and your loved ones!

Best,

Pat

Pat Ricke (he/him)
Corporate Development Manager
Habitat for Humanity East Bay/Silicon Valley
Office: 2619 Broadway, Oakland, CA 94612
Phone: 510.803.3366 | PRicke @HabitatEBSV.org
HabitatEBSV.org | /HabitatEBSV | @HabitatEBSV | eNews

Habitat for Humanity®
East Bay/Silicon Valley

December 14th, 2021

Contra Costa County Board of Supervisors
1025 Escobar St.
Martinez, CA 94553

Dear Board of Supervisors,

I am writing to you today in support of Marathon Petroleum and the conversion of their Martinez Refinery to renewable fuels. We at Habitat for Humanity East Bay/Silicon Valley admire their movement towards sustainable energy and admire their efforts.

Marathon supports our programs providing affordable housing and housing solutions in Contra Costa County. This support includes sponsoring our Esperanza Place Development in Walnut Creek which will be our first zero net energy development. The support and volunteerism from Marathon have been crucial in our pre-development work as employees have taken the time to volunteer on site and help us preserve existing historic trees and prepare the site for development.

O9-1

In addition, Marathon has provided local high school students with the opportunity to experience a real working construction site through their Hands on for Habitat initiative with our Trades Support Program. This program has demonstrated their commitment to future generations and their lifelong success.

Please consider their generous support of their community through these wonderful programs in your decision to support the conversion of their Martinez Refinery.

Sincerely,

DocuSigned by:
Patrick Rickett
CAA83E6F10E248E...

Pat Rickett
Corporate Development Officer
Habitat for Humanity East Bay/Silicon Valley

Marathon Petroleum's Martinez Renewable Fuels Project and Draft EIR - Industrial Association's Letter of Support

Mark Hughes <markhughesiaccc@gmail.com>

Thu 12/16/2021 8:22 PM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>

Dear Mr. Lawlor,

Attached is a letter from the Industrial Association of Contra Costa County, expressing support for Marathon Petroleum's Martinez Renewable Fuels Project and the draft EIR.

Please let me know if you have any questions.

Thank you.

Mark Hughes
Executive Director
Industrial Association of Contra Costa County
(707) 656-1765

THE INDUSTRIAL ASSOCIATION OF CONTRA COSTA COUNTY

December 14, 2021

Contra Costa County Dept. of Conservation &
Development Community: Development Division
Attention Joseph Lawlor, Project Planner
30 Muir Road
Martinez, CA 94553

Dear Mr. Lawlor:

On behalf of the Industrial Association of Contra Costa County (IACCC), I write to offer my strong support of Marathon Petroleum's Martinez Renewable Fuels project. In response to the Draft EIR, I am submitting this letter to be entered into the administrative record.

I am the Executive Director of the IACCC; an organization that includes over 50 large, mid-size, and small companies throughout Contra Costa County and the surrounding region. We fully support Marathon's project and believe the Draft EIR accurately represents this forward-thinking and responsible project.

O10-1

The Martinez Renewable Fuels project positions Marathon to be a world leader in renewable energy production. In addition to being a very positive step towards improving local air quality, the resulting direct and indirect employment will have an economic multiplying effect that impacts the County, the Bay Area, and the state of California, including employees from many other IACCC member companies.

Therefore, the Industrial Association of Contra Costa County strongly supports Marathon's Martinez Renewable Fuels projects and the Draft EIR, and we ask that you approve the EIR and the Renewable Fuels project as soon as possible.

Thank you.

Mark Hughes
Executive Director
Industrial Association of Contra Costa County
(707) 656-1765

Cc: Honorable Contra Costa County Supervisor Diane Burgis, Chair
Honorable Contra Costa County Supervisor Federal D. Glover, Vice Chair
Honorable Contra Costa County Supervisor John M. Gioia
Honorable Contra Costa County Supervisor Candace Andersen
Honorable Contra Costa County Supervisor Karen Mitchoff

Mt. Diablo Unified School District letter of Support for Marathon Petroleum

Laura Juranek <juranekl@mdusd.org>

Thu 12/16/2021 2:48 PM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>
Cc: John Gioia <John.Gioia@bos.cccounty.us>; Supervisor Candace Andersen <SupervisorAndersen@bos.cccounty.us>; Supervisor_Burgis <Supervisor_Burgis@bos.cccounty.us>; SupervisorMitchoff <SupervisorMitchoff@bos.cccounty.us>; District5 <District5@bos.cccounty.us>

1 attachments (44 KB)
MDUSD Support letter for Marthon Petroleum.pdf;

Good afternoon,

Please see the attached letter of support from MDUSD for Marathon Petroleum and our partnership with their organization.

Please contact me if you have any questions.

Thank you,

Laura Juranek

Execu ve Assistant
to the Superintendent

925.682.8000 ext. 4000

MT. DIABLO UNIFIED SCHOOL DISTRICT
JAMES W. DENT EDUCATION CENTER
1936 Carlotta Drive
Concord, CA 94519-1397
Phone (925) 682-8000

Adam Clark, Ed.D.
Superintendent

November 29, 2021

Contra Costa County Board of Supervisors
1025 Escobar St.
Martinez, CA 94553

Dear Board of Supervisors,

On behalf of the Governing Board as well as Mt. Diablo Unified School District leadership, I write to you today in support of Marathon Petroleum. Marathon has been a valuable partner to MDUSD as well as our stakeholders. As a result of this partnership, we have been able to offer the following experiences for our students and staff:

- Outdoor Tents for outdoor education
- STEM Symposium - Teacher Education (projected)
- Scare Away Hunger- Food drive for local food bank
- Robotics Summer Camp
- Career Technical Education - Hands On for High School
- FastTrax Camp (Engineering Tech & Industrial Design)
- Education Department Expansion: Virtual Education Field Trip Development Lindsay Wildlife Rehabilitation Hospital
- Delta Discovery Voyage

O11-1

Marathon has partnered with MDUSD to provide grants, student experiences and professional learning opportunities for staff for a number of years.

We are excited to continue to partner with Marathon and are in support of their future endeavors.

Sincerely,

Adam Clark Ed.D.

Superintendent

Comments concerning DEIR for Marathon renewable fuels project (File No. CDLP20-02046)

Alexander, Ann <aalexander@nrdc.org>

Fri 12/17/2021 11:54 AM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>
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Mr. Lawlor, a ached please find comments on the dra. Environmental Impact Report for the Marathon Mar nez renewable fuels project (File No. CDLP20-02046), submi ed on behalf of Asian Pacific Environmental Network, Biofuelwatch, California Environmental Jus ce Alliance, Center for Biological Diversity, Communi es for a Be er Environment, Ci zen Air Monitoring Network, Community Energy reSource, Ex nc on Rebellion San Francisco Bay Area, Fossil Free California, Friends of the Earth, Interfaith Climate Ac on Network of Contra Costa County, Natural Resources Defense Council, Rainforest Ac on Network, Richmond Progressive Alliance, Rodeo Ci zens Associa on, San Francisco Baykeeper, Stand.Earth, Sunflower Alliance, The Climate Center, and 350 Contra Costa.

A thumb drive containing all sources cited is being sent via overnight mail, under cover of the a ached le er.

Please confirm receipt.

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December 17, 2021

Via electronic mail (joseph.lawlor@dcd.cccounty.us)[1]

Joseph W. Lawlor Jr., AICP
Project Planner
Contra Costa County
Department of Conservation and Development
30 Muir Rd
Martinez, CA 94553

Re: Martinez refinery renewable fuels project (File No. CDLP20-02046) – comments concerning draft environmental impact report

Dear Mr. Lawler:

Asian Pacific Environmental Network, Biofuelwatch, California Environmental Justice Alliance, Center for Biological Diversity, Communities for a Better Environment, Citizen Air Monitoring Network, Community Energy reSource, Extinction Rebellion San Francisco Bay Area, Fossil Free California, Friends of the Earth, Interfaith Climate Action Network of Contra Costa County, Natural Resources Defense Council, Rainforest Action Network, Richmond Progressive Alliance, Rodeo Citizens Association, San Francisco Baykeeper, Stand.Earth, Sunflower Alliance, The Climate Center, and 350 Contra Costa (collectively, Commenters) appreciate this opportunity to submit comments concerning the Contra Costa County's Draft Environmental Impact Report (DEIR) for the Martinez refinery (Refinery) renewable fuels project (Project) proposed by Marathon Petroleum Corporation (Marathon).

For reasons explained in these comments, the DEIR falls far short of the basic requirements of the California Environmental Quality Act (CEQA), Pub. Resources Code § O12-1

[1] The sources cited in this Comment are being sent separately via overnight mail to the County on a thumb drive.

21000 et seq. An EIR is "the heart of CEQA."[2] "The purpose of an environmental impact report is to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project." Pub. Res. Code § 21061. The EIR "is an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return. The EIR is also intended 'to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action.' …." *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal. 3d 376, 392 ("Laurel Heights I"). A project's effects include all indirect impacts that are "reasonably foreseeable." CEQA Guidelines, § 15064, subd. (d). An indirect environmental impact is "reasonably foreseeable" when "the [proposed] activity is capable, at least in theory, of causing" a physical change in the environment. Union of Medical Marijuana Patients, Inc. v. City of San Diego (2019) 7 Cal.5th 1171, 1197. Courts have analyzed whether it is "reasonably foreseeable" that a project will cause indirect physical changes to the environment in a variety of factual contexts, including changes to off-site land use, lifecycle impacts, and displaced development impacts. *County Sanitation Dist. No. 2 v. County of Kern* (2005) 127 Cal.App.4th 1544. *See Save the Plastic Bag Coalition v. City of Manhattan Beach* (2011) 52 Cal.4th 155, 174; *Muzzy Ranch Co. v. Solano County Airport Land Use Com*. (2007) 41 Cal.4th 372, 382-383. As explained below, the DEIR fails adequately to describe the Project's significant effects, let alone mitigate them.

O12-1 cont'd

The DEIR fails to meet these legal standards. The proposed Project is unprecedented in scale and scope. A conversion of an existing refinery of this size is new and untested in California, implicating unknown impacts on operational safety, the agricultural land use systems supplying the feedstock, air emissions, and California's climate goals in the transportation sector, among other things. The law requires more than the limited and uninformative document the County has produced. And the community in and around Martinez who will have to live with the Project, and everyone else potentially affected by it, deserve better.

O12-2

Its key deficiencies, described in the sections below, include the following:

- *Incorrect baseline.* The assessment of impacts in the DEIR, and its definition of the no-project alternative is grounded in an assumption that in the absence of the proposed conversions, the Refinery would continue processing crude oil at historic levels. This assumption is unsupported and contrary to fact – particularly given that the Refinery had shut down its crude processing operations at the time it proposed the Project.

O12-3

- *Faulty project description.* The DEIR fails to disclose essential information regarding the proposed biofuel processing operations. This includes key information about feedstocks, as well as about the proposed refining process – such as processing chemistry, hydrogen production and input requirements (a major emissions generator) and refining temperature and pressure (which implicates process upset risks),– that

O12-4

[2] *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal. 3d 376, 392 ("*Laurel Heights I"*).

are essential to an assessment of the proposed new operations on the surrounding community. O12-4 cont'd

- *Failure to consider safety impacts.* The County ignored available information indicating a possible heightened threat of process upsets associated with processing of biofuel feedstocks, creating greater risk for workers and the community. O12-5
- *Failure to fully evaluate air quality impacts.* The DEIR, having failed to describe the new proposed process chemistry, fails as well to describe the air emissions impact of that process chemistry on air quality. In particular, the County ignored available information that the new feedstocks risk an increase in flaring and accidental releases; and failed to evaluate the differing air emissions impacts of various proposed feedstocks and product slates. The County also failed to assess the acute short-term hazards from flaring, confining itself to addressing longer-term pollution. O12-6 O12-7
- *Failure to fully evaluate marine impacts.* The DEIR failed to either describe the increase and change in use of marine facilities in connection with the Project, or evaluate the many risks associated with it. O12-8
- *Failure to consider the environmental impacts of land use changes.* The Project will require importation of an unprecedented volume of food crop feedstocks such as soy bean oil. Yet the DEIR entirely neglects to consider the environmental impact of this massive diversion of food crop oils on land use – including conversion of forest land to cropland, and incentivizing increases in palm oil production. O12-9
- *Inadequate analysis of climate impacts.* The DEIR failed to consider the indirect impacts of the proposed Project on California's climate goals. Full analysis of climate impacts must consider not just emissions from Project operations, but also the impact of a large influx of combustion fuel on climate goals for the transportation sector. O12-10
- *Inadequate discussion of hazardous contamination.* The Project will have a limited lifetime given that California's climate commitments lead away from combustion fuel. Accordingly, the DEIR should have considered the environmental impacts associated with decommissioning the Refinery site, which is almost certainly heavily contaminated with toxics. Additionally, the DEIR inadequately evaluated the impact of Project construction and operation on ongoing efforts to remediate and monitor hazardous waste contamination. O12-11 O12-12
- *Deficient cumulative impacts analysis.* Remarkably, even though the DEIR was issued simultaneously with the DEIR for the very similar biofuel conversion project at the Phillips 66 Rodeo refinery, the DEIR makes no effort at all to evaluate the cumulative impact of those two projects together – not to mention other biofuel conversion projects – on key issues such as land use impact and regional air quality. O12-13
- *Deficient 'no project' alternative analysis.* Without the proposed Project, the Refinery would have remained closed. Accordingly, the DEIR should have considered the environmental impacts associated with subsequent legal requirements for site decommissioning. O12-14
- *Deficient project alternatives analysis.* The DEIR improperly considers the various alternatives for reducing the Project's impact separately rather than together. The option of reducing the scope of the Project can and should have been considered together with the option of using electrolytic hydrogen production. It also defines the Project objectives so narrowly as to distort the consideration of alternatives. O12-15

The County had abundant information concerning all of these subjects at its fingertips that would have facilitated the type of robust analysis required for this project, but chose to ignore it in the DEIRs. Commenters requested in their March 22, 2021 CEQA scoping comments on the Notice of Preparation (Scoping Comments) that these topics be considered, and provided voluminous documentation concerning each.[3] The County chose to ignore it all in drafting the DEIR, resulting in a woefully deficient document.

O12-16

The deficiencies we have identified are too pervasive and deep to be corrected merely by making changes in a final EIR. In order to ensure that the public has full information and opportunity to comment upon, the County must re-circulate a revised DEIR providing fully-documented analysis of all of the issues addressed in this comment (as well as the Scoping Comments). It is unavoidable that addressing the deficiencies identified in these comments in a manner that complies with CEA will necessarily require addition of "significant new information." CEQA Guidelines § 15088.5.[4]

O12-17

This Comment document includes and incorporates the previously-submitted Scoping Comments as well as the expert report of Greg Karras accompanying this document as an appendix. All sources cited in this document have are being provided electronically to the County under separate cover.

O12-18

[3] Biofuelwatch, Community Energy reSource, Interfaith Climate Action Network of Contra Costa County, Natural Resources Defense Council, Rodeo Citizens Association, San Francisco Baykeeper, Sierra Club, Stand.Earth, Sunflower Alliance, and 350 Contra Costa, Martinez refinery renewable fuels project (File No. CDLP20-02046) – comments concerning scoping submitted via electronic mail and via overnight mail (Mar. 22, 2021), available at Contra Costa County Department of Conservation & Development Community Development Division. Appendix NOP: Comments on Notice of Preparation (NOP) https://www.contracosta.ca.gov/DocumentCenter/View/72958/Appendix-NOP (accessed Dec. 8, 2021).

[4] The regulations implementing CEQA, 14 CCR 15000 *et seq.*, are cited herein as the CEQA Guidelines.

TABLE OF CONTENTS

O12-19

O12-19 cont'd

O12-19 cont'd

O12-19 cont'd

O12-19 cont'd

O12-20

I. STATEMENTS OF INTEREST

The interest of each of the Commenters in the DEIR and Project impacts is as follows:

Asian Pacific Environmental Network (APEN) is an environmental justice organization with deep roots in California's Asian immigrant and refugee communities. Since 1993, APEN has built a membership base of Laotian refugees in Richmond and throughout West Contra Costa County. We organize to stop big oil companies from poisoning our air so that our families can thrive.

Biofuelwatch provides information, advocacy and campaigning in relation to the climate, environmental, human rights and public health impacts of large-scale industrial bioenergy. Central to the Biofuelwatch mission is promoting citizen engagement in environmental decision making in relation to bioenergy and other bio-based products – including bioenergy-related decisions on land use and environmental permitting.

California Environmental Justice Alliance (CEJA) is a statewide, community-led alliance that works to achieve environmental justice by advancing policy solutions. We unite the powerful local organizing of our members across the state in the communities most impacted by environmental hazards – low-income and communities of color – to create comprehensive opportunities for change at a statewide level through building community power. We seek to address the climate crisis through holistic solutions that address poverty and pollution, starting in the most over-burdened communities. O12-21

Center for Biological Diversity is a national, nonprofit conservation organization with more than 1.3 million members and online activists dedicated to the protection of endangered species and wild places, public health, and fighting climate change. The Center works to secure a sustainable and healthy future for people and for all species, great and small, hovering on the brink of extinction. It does so through science, law, and creative media, with a focus on protecting the lands, waters, and the climate.

Citizen Air Monitoring Network is a community group started in 2016 in Vallejo. Our mission is to make sure the air quality in our community is healthy for all. Vallejo is situated in the middle of five refineries, and we are deeply concerned about the impact of their operation.

Communities for a Better Environment is a California nonprofit environmental justice organization with offices in Northern and Southern California. For more than 40 years, CBE has been a membership organization fighting to protecting and enhancing the environment and public health by reducing air, water, and toxics pollution. Hundreds of CBE members live, work, and breathe in Contra Costa County and the area surrounding the Marathon Refinery. The Northern California office is located in Contra Costa County.

Community Energy reSource offers independent pollution prevention, environmental justice, and energy systems science for communities and workers on the frontlines of today's climate, health, and social justice crises. Its work focuses on assisting communities with a just transition from oil refining and fossil power to clean, safe jobs and better health.

Extinction Rebellion San Francisco Bay Area (XRSFBay) is a local chapter of the global movement to compel business and government to address the climate and ecological crisis. We use nonviolent direct action, theater and art to bring the message that we are running out of time to prevent climate disaster and it is necessary to Tell the Truth, Act Now, Go Beyond Politics and Create a Just Transition for all beings in the Bay Area and beyond.

Fossil Free California is a nonprofit organization of climate justice volunteers. Many are members of the two largest public pension funds in the country, CalPERS and CalSTRS, which continue to invest in fossil fuel companies. Fossil Free California works to end financial support for climate-damaging fossil fuels and promotes the transition to a socially just and environmentally sustainable society. Together with allied environmental and climate justice organizations, we mobilize grassroots pressure on CalPERS and CalSTRS, as well as other public institutions, to divest their fossil fuel holdings.

Friends of the Earth is a national nonprofit environmental organization which strives for a more healthy and just world. Along with our 2 million members and activists we work at the nexus of environmental protection, economic justice and social justice to fundamentally transform the way our country and world value people and the environment. For more than 50 years, we have championed the causes of a clean and sustainable environment, protection of the nation's public lands and waterways, and the exposure of political malfeasance and corporate greed. Our current programs focus on promoting clean energy and solutions to climate change; ensuring a healthy, just and resilient food system where organic is for all; protecting marine ecosystems and the people who depend on them; and transforming our financial, economic and political systems.

O12-21 cont'd

Interfaith Climate Action Network of Contra Costa County County (ICAN) is a non-profit environmental justice organization working group of California Interfaith Power and Light, whose offices are in Oakland. CA. The mission of ICAN is to inform and educate faith and non-faith communities and individuals about how to mitigate climate change, advocate with leaders of BILPOC communities before government agencies, industry and other organizations that need to hear our collective voices. They are committed to centering the voices of those most impacted by industry, particularly the communities close to the refineries in Contra Costa County.

Natural Resources Defense Council (NRDC) is a nonprofit environmental membership organization that uses law, science, and the support of more than 440,000 members throughout the United States to ensure a safe and healthy environment for all living things. Over 2,200 of NRDC's members reside in Contra Costa County, some of those in the City of Rodeo. NRDC has a long-established history of working to ensure proper oversight of refining activities and minimize their carbon footprint and other environmental impacts, and ensure that biofuels are produced in a sustainable manner.

Rainforest Action Network (RAN) preserves forests, protects the climate and upholds human rights by challenging corporate power and systemic injustice through frontline partnerships and strategic campaigns. RAN works toward a world where the rights and dignity of all communities are respected and where healthy forests, a stable climate and wild biodiversity are protected and celebrated. RAN is a collaborative organization that challenges corporate power and exposes institutional systems of injustice in order to drive positive systemic change.

Richmond Progressive Alliance is an association of members in Richmond, California, with the explicit goal of taking political decision-making back from corporations and putting power in the hands of the people. The RPA mobilizes people in support of progressive policies and candidates, often in alliance with other local groups.

Rodeo Citizens Association is a non-profit environmental organization with the primary purpose of providing a means for the citizens of Rodeo to address issues of local concern with respect to health, safety, and the environment. Currently, RCA's primary activity is focused on promoting responsible use of land and natural resources around the community and to engage in community outreach activities involving education and awareness of environmental protection issues impacting the region.

San Francisco Baykeeper (Baykeeper) has worked for more than 25 years to stop pollution in San Francisco Bay and has more than five thousand members and supporters who use and enjoy the environmental, recreational, and aesthetic qualities of San Francisco Bay and its surrounding tributaries and ecosystems. San Francisco Bay is a treasure of the Bay Area, and the heart of our landscape, communities, and economy. Oil spills pose one of the primary threats to a healthy Bay, and environmental impacts from increased marine terminal activity directly threaten Baykeeper's core mission of a Bay that is free from pollution, safe for recreation, surrounded by healthy beaches, and ready for a future of sea level rise and scarce resources. San Francisco Baykeeper is one of 200 Waterkeeper organizations working for clean water around the world. Baykeeper is a founding member of the international Waterkeeper Alliance and was the first Waterkeeper on the West Coast. Baykeeper also works with 12 Waterkeepers across California and the California Coastkeeper Alliance.

O12-21 cont'd

Stand.earth is a San Francisco-based nonprofit that challenges corporations and governments to treat people and the environment with respect, because our lives depend on it. From biodiversity to air, to water quality and climate change, Stand.earth designs and implements strategies that make protecting our planet everyone's business. Its current campaigns focus on shifting corporate behavior, breaking the human addiction to fossil fuels, and developing the leadership required to catalyze long-term change.

Sunflower Alliance engages in advocacy, education, and organizing to promote the health and safety of San Francisco Bay Area communities threatened by the toxic pollution and climate-disruptive impacts of the fossil fuel industry. They are a grassroots group committed to activating broader public engagement in building an equitable, regenerative, and renewable energy-fueled economy.

The Climate Center works to rapidly reduce climate pollution at scale, starting in California. The Climate Center's strategic goal is that by 2025, California will enact policies to accelerate equitable climate action, achieving net-negative emissions and resilient communities for all by 2030, catalyzing other states, the nation and the world to take effective and equity-centered climate action.

350 Contra Costa is a home base and welcoming front door to mobilize environmental activism. It is comprised of concerned citizens taking action for a better community. They envision a world where all people equitably share clean air, water and soil in a healthy, sustainable, and post-carbon future. It is a local affiliate of 350 Bay Area**.**

II. THE PROJECT DESCRIPTION IN THE DEIR IS LEGALLY INADEQUATE[1]

An EIR must describe a proposed project with sufficient detail and accuracy to permit informed decision-making, as an inaccurate or incomplete project description renders the analysis of significant environmental impacts inherently unreliable. *See* CEQA Guidelines § 15124. "An accurate, stable and finite project description is the *síne qua non* of an informative and legally sufficient EIR." *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus*, 27 Cal.App.4th 713, 730 (1994), quoting *County of Inyo v. City of Los Angeles*, 71 Cal.App.3d 185, 193 (1977). "An accurate project description is necessary for an intelligent evaluation of the potential environmental effects of a proposed activity." *San Joaquin Raptor*, 27 Cal.App.4th at730 (citation omitted). O12-22

Accordingly, courts have found that even if an EIR is adequate in all other respects, the use of a "truncated project concept" violates CEQA and mandates the conclusion that the lead agency did not proceed in a manner required by law. *Id.* When an EIR fails to disclose the "true scope" of a project because it "concealed, ignored, excluded, or simply failed to provide pertinent information" regarding the reasonably foreseeable consequences of the project, then the EIR is inadequate as a matter of law because it violated the information disclosure provisions of CEQA. *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 82-83 ("*City of Richmond*").

The Project DEIR fails to meet basic CEQA requirements for complete and accurate project description. As described in more detail below, the DEIR's cursory description failed entirely to address the actual processes and process chemistry associated with biofuel refining; and failed to address the operational duration of the Project, which is highly relevant to impacts expected to worsen over time.

A. The DEIR Failed to Describe Aspects of the Proposed Refining Process Essential to Analyzing Project Impacts

As discussed in the sections below, the Project aspects that the DEIR fails to describe, and that are critical to understanding its impacts, are manifold. They include the following:

- Process chemistry for Hydrotreating Esters and Fatty Acids (HEFA), the biofuel refining technology proposed for the Project.
- The class, types, and differing chemistries and processing characteristics of HEFA feedstocks which can have varying upstream land use, air quality, and safety impacts.
- The geographic sources and existing volumetric supplies of each potential feedstock, necessary to fully disclose upstream environmental impacts of land use changes.
- Hydrogen demand associated with HEFA technology, including differential hydrogen demands for production targeting HEFA diesel versus jet fuel, which affect air emission levels.
- The process chemistry of proposed hydrogen production, which could coproduce carbon dioxide, to enable processing of HEFA feedstocks

O12-23

[1] Supplemental information in support of this analysis is provided in Karras 2021c accompanying this comment, in the section entitled "Project Description and Scope."

- Known differences in hydro-conversion processing between petroleum and HEFA refining, which have potential to lead to increased risk associated with HEFA refining of process upset, process safety hazard, and flaring incidents
- A Project component designed to maximize jet fuel production, which has impacts that differ from diesel production.
- Marine terminal modificatios and changes in use of the terminal, including an increase in ship traffic associated with the Project
- The anticipated and technically achievable operating duration of the project.

O12-23 cont'd

1. The DEIR Fails to Disclose Information Regarding the HEFA Biofuel Refining Process Essential to Evaluating its Impacts

The HEFA biofuel refining technology proposed to be used for the Project has important capabilities, limitations, and risks that distinguish it from other biofuel technologies. These differences result in environmental impacts associated with HEFA technology that are unique or uniquely severe as compared with other biofuel technologies.

The DEIR, however, describes none of this. In its entire 400-plus pages, it does not once even mention or reference HEFA, or in any way describe what it is and how it works. This is a major deficiency, and inadequate disclosure that undercuts the integrity of the entire DEIR analysis, for reasons described throughout this Comment with respect to the risks and impacts that attend HEFA production.

The following subsections describe the aspects of the HEFA process that needed to be included in a description of the Project but were not.

O12-24

a. HEFA as the Proposed Type of Processing

As noted above, the DEIR never once mentions that HEFA is the technology the Project would employ. It can be discerned nonetheless that HEFA is, in fact, the proposed technology, based on the Project's sole reliance upon repurposed refinery hydrotreaters and hydrocrackers for feed conversion to fuels, and upon repurposed refinery hydrogen plants to produce and supply hydrogen for that hydro-conversion processing. This is confirmed by independent expert review of the Project.[2] [3] [4]

But the fact that technical experts (such as Commenters') can read between the lines and discern that HEFA is the proposed technology does not satisfy CEQA's requirement that the County directly disclose this information to the public. Such disclosure was particularly important here given the wide range of existing biofuel technologies and environmentally significant differences between them, and the significant environmental impacts that attend

[2] Karras, G, *Changing Hydrocarbons Midstream*; technical report and accompanying supporting material appendix for Natural Resources Defense Council, San Francisco, CA, June 2021 (Karras, 2021a).
[3] Karras, G, *Unsustainable Aviation Fuel;* technical report for Natural Resources Defense Council, San Francisco, CA, August 2021 (Karras, 2021b).
[4] Karras, G, *Technical Report in Support of Comments Concerning Marathon Martinez Renewable Fuels Project*; technical report prepared for Natural Resources Defense Council, San Francisco, CA, December 2021 (Karras, 2021c).

HEFA production. In a revised DEIR, the County should disclose, explain, and evaluate the specific impacts of HEFA production.

O12-24 cont'd

b. Capabilities and Limitations of HEFA

HEFA processing technology differs from most or all other commercially available biofuel technologies in many ways linked to environmental impacts, in ways that must be known in order to evaluate Project impacts:[5] [6] [7] First, HEFA biofuels can be produced by repurposing otherwise stranded petroleum refining assets, thereby potentially extending the operable duration and resultant local impacts of large combustion fuel refineries concentrated in disparately toxic low income Black and Brown communities. Second, HEFA diesel can be blended with petroleum diesel in pipelines, petroleum storage tanks, and internal combustion vehicles in any amount, thereby raising the potential for competition with or interference with California climate goals for the development of zero-emission vehicles infrastructure for climate stabilization. Third, HEFA technology has inherent limitations that affect its potential as a sustainable substitute for petroleum diesel, jet fuel, or both - including its low yield on feedstock, high hydrogen demand, and limited feedstock supply. The DEIR fails to disclose or describe any these basic differences between HEFA and other biofuels (having failed to even mention HEFA at all), thereby obscuring unique or uniquely pronounced environmental consequences of the type of biofuel project proposed.

O12-25

c. HEFA process chemistry

HEFA process chemistry reacts lipidic (oily) vegetable oils and animal fats with hydrogen over a catalyst at high temperature and very high pressure to produce and alter the chemical structure of deoxygenated hydrocarbons. Although this is done in repurposed refinery equipment, this process chemistry is radically different from petroleum processing in respects that lead directly to potential environmental impacts of the Project.[8] Moreover, site-specific differences in process design conditions[9]—which have been reported in other CEQA reviews for oil refining projects[10]—can affect the severity of impacts significantly. The DEIR fails to disclose or describe this basic information.

O12-26

d. Differing hydrogen demand associated with different feedstocks and product slates

Known environmental emissions and hazards of HEFA processing are related in part to the amount of hydrogen demand per barrel of feed converted to biofuel, which varies significantly among HEFA feedstocks and product production targets.[11] The DEIR does not

O12-27

[5] Karras, 2021a and 2021b.
[6] Karras, 2021a.
[7] Karras, 2021b.
[8] *Id*.
[9] In addition to process-specific operating temperatures, pressures, and engineered process controls such as quench and depressurization systems, examples include process unit-specific input, internal recycle rates, hydrogen consumption rates, and in some cases, even how those operating conditions interact across refining processes to affect overall hydrogen demand when processing feedstocks of various qualities.
[10] *See* Chevron Refinery Modernization Project, SCH# 2011062042, DEIR Appendix 4.3–URM: Unit Rate Model.
[11] *Id.*

disclose this data. Moreover, to a significant degree, process hydrogen demand and thus resultant impacts may vary depending on plant and project-specific design specifications, data the DEIR likewise fails to disclose or describe.

O12-27 cont'd

e. Process chemistry of proposed hydrogen production

This deficiency in the DEIR project description fails to inform that public of known climate impacts the proposed Project would cause and fails to disclose data necessary to adequate review of Project impacts. First, the DEIR fails to specifically disclose that the type of hydrogen production proposed for this "renewable" fuels project would use fossil gas hydrogen production, which, because of its production chemistry, can emit roughly ten tons of carbon dioxide per ton of hydrogen produced.[12] The DEIR further fails to describe the high *and* variable carbon intensity of fossil gas hydrogen technology among specific plants and refineries;[13] and the project-specific hydrogen production design data necessary for impact estimation.

O12-28

f. Differences between HEFA and petroleum refining that increase risk of process upset, process safety hazard, and flaring incidents

There is a risk of upsets, fires, explosions, and flaring (Section V) linked to specific process hazards that switching from petroleum to HEFA processing has known potential intensify.[14] The DEIR fails to disclose the aspects of the HEFA process creating these hazards, and fails to describe the known differences between HEFA and crude refining that could worsen these impacts.

O12-29

g. Process upset, process safety hazard, and flaring incident records at the Refinery

The risk of explosion, fire, and flaring impact of the proposed HEFA refining is associated with specific design and operating specifications of the Refinery units proposed for conversion. These specifications, and the attendant risk, can be estimated using available data concerning past incidents involving the same units.[15] [16] The DEIR fails to disclose of address this incident data.

O12-30

The failure to describe anything at all about the proposed new technology makes a meaningful evaluation of its impacts impossible. Moreover, failing to name and describe HEFA technology eliminated the opportunity for the County to assess whether an alternative biofuel production technology (e.g., Fischer-Tropsch synthesis) might result in different impacts. This analytical limitation was compounded by the DEIR's overly narrow description of the Project's purpose described in Section VIII, which accepted at face value Marathon's commercial desire to repurpose its stranded asset to the greatest extent possible, an assumption that biased the DEIR against consideration of alternative technologies.

O12-31

O12-32

[12] Karras, 2021a.
[13] Sun et al. 2019. Environ. Sci. Technol. 53: 7103–7113. DOI: 10.1021/acs.est.8b06197, https://pubs.acs.org/doi/10.1021/acs.est.8b06197.
[14] Karras, 2021a,
[15] *Id.*
[16] BAAQMD §12-12-406 causal reports; reports relevant to the Project accompany this Comment; recent reports available at https://www.baaqmd.gov/about-air-quality/research-and-data/flare-data/flare-causal-reports

2. The DEIR Fails to Disclose Adequate Information Concerning HEFA Feedstocks

HEFA feedstock is limited to lipids (triacylglycerols and fatty acids freed from them) produced as primary or secondary agricultural products, but there are many different oils and fat in this class of feedstocks, and many environmentally significant differences between them in terms of chemistry and process characteristics.[17] As discussed in Sections IV, VI, and VII, choice of feedstock has a major effect on the magnitude and potential significance of multiple impacts, from upstream land use impacts to process safety to air emissions.

The DEIR, however, provides extremely minimal information concerning Project feedstocks. The DEIR merely lists three types of materials that feedstock for the Project is "expected to include": distillers corn oil (DCO), soybean oil (SBO), and previously-rendered fats (tallow). DEIR at 2-36. It does not reflect a commitment by Marathon to use these feedstocks exclusively. It does additionally state, "As technology evolves, other biological fuel sources such as used cooking oils, and plant and animal processing by-products, may also be used as feedstock using substantially the same equipment and processes as those proposed under the proposed Project." *Id.* This cryptic reference to the possibility that other feedstocks may be used "as technology evolves" is entirely insufficient. What technology is potentially evolving, and what additional feedstocks would such evolved technology allow? What is the availability of such feedstocks?

O12-33

This description is entirely inadequate to inform the public regarding the nature and impacts of the Project – regardless of whether or not it is possible to specify an exact quantity of each feedstock that will be used into the future. Even the absence of such precise information, the County was obligated to use available information to estimate the likelihood of any given feedstock or combination of feedstocks will be used. Section IV details some of that information on upstream environmental impacts of land use changes, presenting multiple sources of data concerning availability and current use patterns of known feedstocks. That information is sufficient to develop at least a reasonable prediction of the likely mix, or range of potential mixes.

The DEIR should have developed scenarios (including a reasonable worst case scenario – *see* Section IV) for likely feedstock mixes. It should also have specified likely sources for anticipated feedstocks, necessary to facilitate analysis of the upstream environmental impacts of land use changes described in Section IV. Then, as described in that section, the DEIR should have evaluated capping the use of particular feedstocks as a mitigation measure.

O12-34

3. The DEIR Fails to Disclose a Project Component Designed to Maximize Jet Fuel Production

During and after proposed Project construction, Marathon would configure the repurposed refinery to swing between production targets to maximize HEFA diesel production and those to maximize HEFA jet fuel production. The capability and intent to do so is clear from

O12-35

[17] *Id.*

the existence of two hydrocracking reactors, which the Project proposes to operate in series.[18] However, the Project's ability to effectuate this flexibility in production targets depends upon Project aspects not disclosed in the DEIR. Specifically, the DEIR does not disclose the need to boost low jet fuel yield for mid-term Project viability; and neither does it disclose how the Project will achieve that end - including the need to add intentional hydrocracking to HEFA processing for boosting jet fuel yield, and the capability of the 1st Stage Hydrocracker configuration included in the Project to do just that. These steps would increase Project impacts.[19]

O12-35 cont'd

B. The DEIR Fails to Sufficiently Describe Changes Affecting the Project's Marine Facilities

The DEIR fails to adequately describe either the marine terminal modifications or changes in use of the terminal.. In the absence of such description, the public is not in a position to evaluate potential Project impacts on such resources.

The DEIR fails to provide an estimate or evaluation of how many ships are projected to use the marine facilities under the new plan. The five-year average for vessel calls was, according to the DEIR, 143. DEIR Table 3-4.

O12-36

Table 3-4 Comparative Vehicle and Vessel Traffic for Marathon Refinery, 1-year, 3-year Average, and 5-year Average

Vessel or Vehicle	Units	1-year (2019-2020)	1-year (2018-2019)	3-year Average (2017-2020)	5-year Average (2015-2020)
Truck	Miles Traveled	2,837,991	4,559,507	3,972,015	4,146,210
Train	Miles Traveled	2,380	4,820	4,154	4,605
Vessel	Calls	124	161	150	143

Source: Marathon Petroleum Corporation, 2021

No description is provided about whether that number would increase or decrease under the Project.[20] Instead, the public is expected to flip back and forth between different sections and try to estimate for itself whether various levels of feedstocks and finished product traveling across

[18] DEIR pp. 2-20, 2-21: Table 2-1 (separate 1st and 2nd stage hydrocracker components to be deployed for different types of processing).

[19] Karras 2021c.

[20] To the extent this information is buried somewhere in the approximately 450 pages of the DEIR, or in the thousands of pages of appendices, it is not sufficiently clear and/or accessible. For instance, buried in the Air Impacts section of the DEIR is the statement that "Overall, the number of vessel calls at the Amorco MOT is expected to decrease, and the number of vessel calls at the Avon MOT is expected to increase compared to past actual operations." DEIR 3.3-27. No precise information is estimated or given. This type of obfuscation and hiding the ball is not permitted under CEQA. Another random statement, unsupported or referenced, mentions that "[w]ith the Project, it is estimated there will be an increase in deep-draft vessels." DEIR 3.4-37. Impacts must be discussed in a plain, straightforward manner that is easily accessible by the public. That "the Project does not change the unloading/loading capacities of these two MOTs" is irrelevant. *Id*. The DEIR must evaluate proposed conditions against existing conditions, as well as against the various alternatives, including the No Project Alternative. This DEIR fails to do so.

Marathon's wharves constitute an increase in impacts to marine resources. CEQA requires more.

The description of the modifications contemplated under the Project constitute two paragraphs, and the descriptions about how operations would change constitute another two short paragraphs. At the Avon MOT, for instance, we are told that "part of the system of pipes and hoses would be reconfigured to keep the finished petroleum products separate from the renewable feedstocks, and to facilitate transmission of the renewable feedstock through receiving pipelines." DEIR 2-17. That, and the rest of the paragraph describing minor details of the conversation, are the only analysis provided. "[T]he Avon MOT would change from a point of distribution to primarily a facility for receiving of renewable feedstocks." DEIR 2-36. "In total, the Avon MOT would receive an average of 70,000 bpd of renewable feedstocks, gasoline product for distribution, and naptha for transfer." DEIR 2-37. No further specifics are given. Nothing in this description tells the public how much of each feedstock, gasoline product, and naptha will be coming over this wharf, what kinds of vessels will be bringing it, what the chemical composition of the feedstocks and other products will be, what kinds of equipment might be needed should a spill at the Avon MOT occur, how these feedstocks and other products differ from the petroleum products the refinery typically handles and what types of equipment might be more or less effective at addressing these differences, etc. The list of missing details is far longer than the bare 9- and 7-line paragraphs provided in the DEIR. DEIR 2-17, 2-36 – 2-37.

Similarly, the DEIR neglects to give required details of the changes in use expected at the other marine terminal attached to the Marathon Refinery, the Amorco MOT. Here, the public is only told that there will need to be "modifications … to accommodate the smaller marine vessels (25,000- to 50,000-barrel capacities) expected to dock there." The only volume information the public is given is that "use of the Amorco MOT would change from a receiving facility to primarily a distribution facility for loading of renewable diesel product for outbound shipments from the Refinery. Product from the Refinery would be distributed from the Amorco MOT at an average rate of 27,000 bpd of renewable fuel." DEIR 2-37. Again, the public is not told how many smaller (or larger) vessels are expected, what they will be carrying, and all the other questions left unanswered by the description of the Avon MOT, as well. Again, the DEIR only provides two 8-line paragraphs. This is glaringly insufficient.

These deficiencies are of particular import given that the DEIR suggest in places – albeit with extreme lack of clarity – that ship traffic may, in fact, increase in connection with the Project. One among a series of confusing tables buried in Appendix B to Appendix AQ-GH appears to show an increase in pre- to post-Project (though the specific baseline period used is not explained) increase of number of trips to the Avon MOT of 144, from 120 trips pre-Project to 364 trips post-Project. DEIR Appendix AQ-GH, Appendix B, Table B-7. Similarly, onside annual pre-Project emissions are estimated (confusingly) as 210 trips, while total post-Project trips are estimated at 404. *Id*. This at least doubling of the amount of vessel traffic is not adequately evaluated or discussed in the DEIR.

Thus, even if the DEIR's baseline is taken at face value, in spite of the lack of any evidence that purported baselines reflect the actual amount of refining occurring at the Facility ("Marathon recently suspended refining of crude oil in April 2020," DEIR ES-3), the Project

O12-36 cont'd

may contemplate a significant increase in the amount of feedstock and other potential pollutants crossing through the marine terminal. The public can only speculate, but any such increase represents a significant impact to the marine environment around the refinery, in San Francisco Bay, and all along the routes the shipping transportation will take when delivering and distributing products from the proposed Project. These routes and numbers of ships must be provided in to the public, with adequate opportunity to comment given.

O12-36 cont'd

C. The DEIR Failed to Disclose the Operational Duration of the Project, Essential to Describing Impacts that Worsen Over Time

Essential to evaluating environmental impacts of the Project is knowing the period over which the impacts could occur, and could worsen. Thus, the operational duration of the Project is highly relevant to evaluating impacts that may accumulate or otherwise worsen over time.

However, the DEIR fails to disclose the anticipated and technically achievable operational duration of the Project. The necessary data and information could have been obtained from various sources. First, the County should have taken into consideration the declining place of combustion fuel as California moves toward its climate goals, and the County fulfils its own "Diesel Free in '33" pledge (Section VI). Additionally, the County could have requested operational duration data from Marathon as necessary supporting data for its permit application. Such data could also have been accessed from publicly reported sources. For example, process unit-specific operational duration data from Bay Area refineries, including data for some of the same types of process units to be repurposed by the Project, have been compiled, analyzed and reported publicly by Communities for a Better Environment.[21]

O12-37

III. THE DEIR IDENTIFIES AN IMPROPER BASELINE FOR THE PROJECT [22]

The DEIR commits a major error in using an operating crude oil refinery as a baseline for determining impact significance. Marathon made a clear and widely-reported declaration last year that it no longer intends to refine crude oil at this facility.[23] As discussed below, even though crude oil demand rebounded this year after the initial pandemic-related drop in 2020, Marathon did not re-commence refining operations. It is clear that Marathon has no intention of resuming crude oil refining at the Martinez site for reasons pertaining to operational economics.

O12-38

[21] Karras, 2020. *Decommissioning California Refineries: Climate and Health Paths in an Oil State;* A Report for Communities for a Better Environment. Prepared by Greg Karras. Includes Supporting Material Appendix.
[22] Supplemental information in support of this analysis is provided in Karras 2021c accompanying this comment, in the section entitled "The DEIR Obscures the Significance of Project Impacts by Asserting an Inflated Alternative Baseline Without Factual Support."
[23] *See, e.g.*, "Marathon Petroleum to Close its Martinez Refinery and Convert it to an Oil-storage Facility," *The Mercury News* August 1, 2020.

A. CEQA Requires Use of an Accurate Baseline

The CEQA baseline, with a limited exception,[24] must "describe physical environmental conditions as they exist at the time the notice of preparation is published." CEQA Guidelines § 15125. "An approach using hypothetical allowable conditions as the baseline results in 'illusory' comparisons that 'can only mislead the public as to the reality of the impacts and subvert full consideration of the actual environmental impacts,' a result at direct odds with CEQA's intent." *Communities for a Better Environment v. South Coast Air Quality Management District* (2010), 48 Cal4th 310, 322 (*Communities for a Better Environment*). Accordingly, the existence of permits allowing a certain level of operation is not appropriately determinative of baseline "physical environmental conditions." *Id.* at 320-21 ("A long line of Court of Appeal decisions holds, in similar terms, that the impacts of a proposed project are ordinarily to be compared to the actual environmental conditions existing at the time of CEQA analysis, rather than to allowable conditions defined by a plan or regulatory framework."). Certainly, using an operating facility as a baseline where the operator has definitively declared a definitive intention to end operations and carried through with it finds no support in the law. *See Association of Irritated Residents v. Kern County Board of Supervisors* (2017), 17 Cal.App.5th 708, 728 (use of operating crude oil facility as baseline was appropriate where the owner "has consistently stated its intention to continue refining at the site," and had continued operations to the extent possible).

O12-38 cont'd

Thus, as discussed in the section below, the DEIR analysis concerning baseline identification is legally deficient. The issue is not whether the Refinery's emissions fluctuated over time when it was processing crude oil. DEIR at 3-2, citing CEQA Guidelines § 15125(a)(1). It is that the Refinery *is no longer processing crude oil.* The DEIR cites *Communities for a Better Environment* and the CEQA guidelines for the proposition that agencies have leeway in setting a baseline "where an *existing* operation is present," and may look to past years ... "to characterize that *existing* operation,"; but here *there is no existing operation here to characterize.* DEIR at 1-2, 1-3 (emphasis added). That key fact must determine the establishment of a baseline.

B. Available Evidence Makes Clear that Marathon Made and Carried Out a Decision to Permanently Cease Crude Refining Operations at the Refinery

Determining a proper baseline is critical to all aspects of the DEIR, rendering much of its analysis fatally flawed if the baseline is wrong. If, in fact, the Refinery has been forced by current circumstances to cease crude oil production, then baseline conditions (and the no project alternative) would almost certainly have less environmental impact than any Project alternative.

Available evidence demonstrates that the baseline chosen by the County is simply wrong. It is abundantly clear that Marathon does not, in fact, intend to re-commence crude oil processing at the Refinery if the Project application is not approved. This fact renders key portions of the DEIR analysis quite simply fictional. The Project Description states that an objective of the Project is to "Eliminate the refining of crude oil at the Martinez Refinery while preserving high quality jobs" (DEIR at 1-2); yet crude refining has already been eliminated there. The description

[24] A baseline reflecting projected future conditions is appropriate where "use of existing conditions would be either misleading or without informative value to decision makers and the public." CEQA Guidelines § 15125(a)(1) and (2).

of "Existing Refinery Operations," while acknowledging at the end that the Refinery has been idled, is otherwise written as though it were still functioning, describing transport and other operations in the present tense. DEIR at 1-3 – 4.

The most important piece of information that would support this conclusion is simply the fact that the Refinery has closed – long before the reasonable prospect of a Project approval, and before the Application was developed and submitted. Petroleum refining operations ended there on April 28, 2020.[25] In July 2020, Marathon asserted that closure was permanent with no plans to restart the refinery.[26] This Project launched later. Marathon was "evaluating the possibility" of this Project in August,[27] began "detailed engineering" for the Project during October–December 2020,[28] and "approved these plans" on February 24, 2021.[29] The Project Description does not propose restarting oil refining as an alternative to the Project.

O12-38 cont'd

Beyond the fact of the Refinery's current closed state, there is extensive information indicating that the decision to close the Refinery was likely not grounded in plans to pursue the Project, but rather was the result of economic factors and resultant business directions independent of the possibility of re-purposing the refinery to produce biofuels. As discussed in the sections below, available evidence – not disclosed in the DEIR although it was referenced in the Scoping Comments – indicates that the closure of the refinery was based on economic factors unrelated to the Project. Marathon's failure to re-open the Refinery when refined product demand rebounded in 2020 further confirms that the closure decision was permanent. The DEIR should have disclosed that the real question is not whether the Refinery will close – it already has - but whether the Project will enable Marathon to re-purpose its stranded asset, and if so under what conditions and mitigation requirements.

1. Available Evidence, Not Disclosed in the DEIR, Indicates that Marathon Closed the Refinery for Economic Reasons Unrelated to the Project

O12-39

Available evidence strongly indicates that the Refinery closed as part of a consolidation of refining assets. Refining assets follow the rule of returns to scale. Over time, smaller refineries expand or close.[30] Consolidation, in which fewer refineries build to greater capacity, has been the trend for decades across the U.S.[31] The increase in total capacity concentrated in

[25] April 28, 2020 Flare Event Causal Analysis for Tesoro Refining and Marketing Company, subsidiary of Marathon Petroleum, Martinez Refinery Plant #B2758, submitted to the Bay Area Air Quality Management District dated June 29, 2020. Accessed from www.baaqmd.gov/about-air-quality/research-and-data/flare-data/flare-causal-reports.
[26] Workshop Report, Draft Amendments to Regulation 6, Rule 5: Particulate Emissions from Petroleum Refinery Fluidized Catalytic Cracking Units. January 2021. Bay Area Air Quality Management District: San Francisco, CA. *See* p. 14 FN; captions of tables 1, 2, 6, 8–10.
[27] August 25, 2020 email from A. Petroske, Marathon, to L. Guerrero and N. Torres, Contra Costa County.
[28] US Securities and Exchange Commission Form 10-K, Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 2020, by Marathon Petroleum Corporation. Accessed from https://www.marathonpetroleum.com/Investors/ *See* p. 50.
[29] *Id*.
[30] Meyer, D.W., and Taylor, C.T. The Determinants of Plant Exit: The Evolution of the U.S. Refining Industry. Working Paper No 328, November 2015. Bureau of Economics, Federal Trade Commission: Washington, D.C. https://www.ftc.gov/system/files/documents/reports/determinants-plant-exit-evolution-u.s.refining-industry/wp328.pdf
[31] *Id*.

fewer plants[32] further reveals returns to scale as a factor in this consolidation. Access to markets also is a factor. The domestic market for engine fuels refined here is primarily in California and limited almost entirely to the West Coast.[33] In this context, Tesoro, Andeavor, and Marathon expanded refining capacity elsewhere in this market instead of at the Martinez Refinery—investment decisions that created the largest refinery on the West Coast in Los Angeles[34] and left Marathon with *extra* capacity in California, and across the West Coast, even after its Martinez refinery closed. This is shown by federal refining capacity data.[35] *See* Table 1.

O12-39 cont'd

Table 1. Total Operable Atmospheric Crude Distillation Capacity of West Coast Refineries Owned by Marathon Petroleum Corp. / Andeavor / Tesoro Refining and Marketing, 2010–2021. [a]

Capacities in barrels per calendar day (b/cd) from January 1 of each year.

Year	Los Angeles, CA	Martinez, CA	Anacortes, WA	California Subtotal	CA & WA Subtotal
2010	96,860	166,000	120,000	262,860	382,860
2011	94,300	166,000	120,000	260,300	380,300
2012	103,800	166,000	120,000	269,800	389,800
2013	103,800	166,000	120,000	269,800	389,800
2014	355,500	166,000	120,000	521,500	641,500
2015	361,800	166,000	120,000	527,800	647,800
2016	355,170	166,000	120,000	521,170	641,170
2017	364,100	166,000	120,000	530,100	650,100
2018	341,300	166,000	120,000	507,300	627,300
2019	363,000	161,500	119,000	524,500	643,500
2020	363,000	161,000	119,000	524,000	643,000
2021	363,000	—	119,000	363,000	482,000
	Growth in capacity from 2010–2020 in barrels per day:			261,140	260,140
	Growth as a percentage of Martinez capacity on 1/1/20:			162 %	162 %
	Growth in capacity from 2010–2021 in barrels per day:			100,140	99,140

[a] Data from USEIA, 2021. *Capacity Data by Individual Refinery;* U.S. EIA; www.eia.gov/petroleum/refinerycapacity/archive.

Since refineries wear out in the absence of sufficient reinvestment,[36] and run more efficiently when running closer to full capacity, those decisions to invest and expand elsewhere set the stage for refining asset consolidation. And indeed, Marathon informed its investors that it expected to complete the "consolidation" and expansion of its refining facilities in Los Angeles in the first quarter of 2020,[37] just before it finally closed the Refinery in April. In fact, closing the Refinery lets Marathon run its Los Angeles and Anacortes refineries closer to full.

This consolidation should be understood in the context of a declining market, which further reinforces the evidence that the Refinery closure is independent of plans for the Project.

[32] *Id*.
[33] PADD 5 Transportation Fuels Markets, September 2015 (PADD 5 2015), U.S. Energy Information Administration (EIA). https://www.eia.gov/analysis/transportationfuels/padd5/
[34] Marathon Petroleum Corp., 2019 Annual Report, Part I, p. 9 (2019 Annual Report). https://www.annualreports.com/HostedData/AnnualReportArchive/m/NYSE_MPC_2019.pdf.
[35] EIA *Refinery Capacity by Individual Refinery*. Data as of January 1, 2021, and previous years; U.S. Energy Information Administration: Washington, D.C. www.eia.gov/petroleum/refinerycapacity (USEIA 2021).
[36] *See* G. Karras, *Decommissioning California Refineries: Climate and Health Paths in an Oil State* at 20, *available at* https://www.energy-re-source.com/decomm (July 2020) and supporting material (Karras 2020).
[37] 2019 Annual Report. *See* "From the Chairman and CEO" at p. 1.

The Refinery was losing its market. Its domestic market is limited to the West Coast,[38] and West Coast demand for refined products peaked years ago, starting an unprecedented decade-on-decade decline.[39] This decline is accelerating in part because electric vehicles are replacing gasoline demand. Going three times as far per unit energy as gasoline-burning cars, and with fewer moving parts to wear out and fix along the way—e.g., no transmission—battery-electric vehicles will cost less overall.[40] State climate policy is intentionally encouraging the switch to EVs, as part of a policy to phase out most gasoline and diesel vehicles rapidly.[41]

In light of these trends, the COVID-19 pandemic cannot be fingered as the sole cause of the Refinery shutdown, or evidence that it is temporary. Although COVID-19 resulted in an unprecedented temporary curtailment in statewide refining rates, [42] no other California oil refinery closed during the pandemic. COVID further revealed the limits of refineries' increasing reliance on exports to foreign markets, which command lower prices than we pay here, as a way out of this self-inflicted crisis – but again, the impact of that reliance inherently fell harder on the Refinery. Here, the Refinery's setting, landward of a shallow shipping channel that forces tankers to partially unload before calling at Martinez, wait for high tide to sail to and from Martinez, or both,[43] put it in a worse export position than its competitors in Richmond and Los Angeles—and crucially, targeted Martinez rather than Anacordes for closure in the consolidation described above. All available information thus indicates that it was simply more economical – for reasons predating both COVID-19 and the Project – for Marathon to run two refineries closer to full than it was to run three refineries closer to empty. Marathon closed the Refinery in the face of declining fuels demand, when it had more than replaced the capacity of this refinery in Los Angeles, as shown in Table 1. At worst, COVID only accelerated its closure.

Thus, it is highly significant that in the competition between major California refineries over a shrinking, climate-constrained, and electric vehicle-challenged petroleum fuels market, this one closed first; and no other has closed. It lost that competition after Marathon and former owners of this refinery prioritized investments in refining assets elsewhere instead of Martinez. Those investment decisions effectively divested from the competitiveness of this refinery, and were implemented before COVID-19 and before this Project was conceived, engineered, or proposed. These facts must be considered in evaluating the true "no project" baseline that accurate environmental review will depend upon in the DEIR.

O12-39 cont'd

[38] PADD 5 2015.
[39] West Coast (PADD 5) Supply and Disposition, EIA February 26, 2021. http://www.eia.gov/dnav/pet/pet_sum_snd_d_r50_mbbl_m_cur.htm; New Climate Threat: Will Oil Refineries make California the Gas Station of the Pacific Rim? Communities for a Better Environment (CBE). http://www.cbecal.org/resources/our-research
[40] Palmer et al., Total cost of Ownership and Market Share for Hybrid and Electric Vehicles in the UK, US and Japan. *Applied Energy* 209: 108-119 (2018) (Palmer et al. 2018). www.researchgate.net/publication/321642002_Total_cost_of_ownership_and_market_share_for_hybrid_and_electric_vehicles_in_the_UK_US_and_Japan
[41] California Executive Order N-79-20 (September 23, 2020), *available at* https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-text.pdf.
[42] Community Energy reSource. 2021, *COVID and Oil*. https://www.energy-re-source.com/covid-and-oil
[43] Draft Integrated General Reevaluation Report and Environmental Impact Statement, San Francisco Bay to Stockton, California Navigation Study, April 2019. U.S. Army Corps of Engineers: Jacksonville, FL. *See* p. ES-3, maps. https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/11171

Finally, Marathon's evident intent to close the Refinery, and the history of chronic under-investment in the Refinery by its multiple owners, must be evaluated in the context of the overall increasingly poor profit margins of crude oil refining. These declining profit margins have led to the closure, and in some cases conversion to biofuels production, of numerous refineries in California and throughout the country. Refinery profits across the nation have been declining since before the COVID pandemic.[44] Refineries are closing or converting to biofuel production in the United States and throughout the world, and there is significant doubt whether the economics of refining will improve post-pandemic.[45] The International Energy Agency (IEA) reported in November 2020 that roughly a dozen refinery closures had been announced in the previous few months, with the bulk of the capacity closures – over 1 million b/d – happening in the United States. IEA stated in its monthly report, "There were capacity shutdowns planned for 2020-2021 prior to COVID-19, but the bulk of the new announcements reflect pessimism about refining economics in a world suffering from temporary demand collapse and structural refining overcapacity."[46] Specifically in California, growth reversed years ago in both the crude supply and the market that California refineries were first built to tap.[47] The site-specific structural overcapacity that resulted locked in conditions that effectively ended the viability of crude oil processing at the Refinery, as discussed below.

O12-39 cont'd

Thus, the Refinery very likely would have closed—with or without the pandemic—because of chronic under-investment in its competitiveness with other refineries that compete for the same dwindling petroleum fuels market. The DEIR should evaluate all of these facts in establishing the baseline from which Project impacts are measured, and in determining the need for mitigation.

2. <u>The DEIR Improperly Concludes Petroleum Processing Will Recommence Without Basing That Conclusion On Any Relevant Evidence.</u>

A conclusion that Marathon has no intention to re-commence crude refining operations at the Refinery is further supported by the fact that it did not, in fact, do so even when refined fuels demand strongly rebounded in 2021 after early-pandemic declines. That fact should have been disclosed and evaluated as part of the DEIR baseline determination, but was not. The DEIR goes to considerable length scrutinizing production levels *before* the pandemic, and then comparing them to 2019-2020 year, during which demand was much lower. DEIR at 3-3 – 6. However, what it fails to consider is the failure of the Refinery to re-commence crude refining operations *after* 2020, in the demand rebound; and the economic factors that underlie that decision.

O12-40

[44] "Bad News for Oil: Refinery Profits are Sliding," *Oilprice.com* January 13, 2020, *available at* https://oilprice.com/Energy/Oil-Prices/Bad-News-For-Oil-Refinery-Profits-Are-Sliding.html.

[45] *See* "Factbox: Oil Refiners Shut Plants as Demand Losses May Never Return," *Reuters* November 10, 2020, *available at* https://www.reuters.com/article/us-global-oil-refinery-shutdowns-factbox/factbox-oil-refiners-shut-plants-as-demand-losses-may-never-return-idUSKBN27R0AI; "Refinery News Roundup: Refinery Closures Loom," *Platts S&P Global* November 12, 2020, *available at* https://www.spglobal.com/platts/en/market-insights/latest-news/oil/111220-refinery-news-roundup-refinery-closures-loom-across-the-globe.

[46] "Permanent Oil Refinery Closures Accelerate as Pandemic Bites – IEA," *Reuters* November 12, 2020, *available at* https://www.reuters.com/article/oil-refining-shutdowns/permanent-oil-refinery-closures-accelerate-as-pandemic-bites-iea-idUSL1N2HY13P.

[47] G. Karras, *Decommissioning California Refineries: Climate and Health Paths in an Oil State* at 20, *available at* https://www.energy-re-source.com/decomm (July 2020) and supporting material (Karras 2020).

2021 post-vaccine refined fuels demand has rebounded from unprecedented pandemic lows—at least temporarily—to reach or exceed pre-COVID levels, accounting for seasonal and interannual variability. At the same time, global oil prices are driving price spikes at the pump. The Phillips 66 Rodeo refinery, which is on roughly the same timeline for its proposed biofuel conversion, is currently refining and selling into this apparent bonanza. As the DEIR points out (DEIR at 5-4), the Marathon Martinez refinery has all the permits and equipment in place to do so as well. If Marathon was ever going to restart crude refining at Martinez, it would have done so.

Fuels demand data for California and U.S. West Coast—AK, AZ, CA, HI, OR, and WA; also known as Petroleum Administration Defense District 5 (PADD 5)—are summarized in tables 2 and 3.

O12-40 cont'd

Table 2. California Taxable Fuel Sales Data: Return to Pre-COVID Volumes

Fuel volumes in millions of gallons (MM gal.) per month

	Demand in 2021	Pre-COVID range (2012–2019) Minimum	Median	Maximum	Comparison of 2021 data with the same month in 2012–2019
Gasoline (MM gal.)					
Jan	995	1,166	1,219	1,234	Below pre-COVID range
Feb	975	1,098	1,152	1,224	Below pre-COVID range
Mar	1,138	1,237	1,289	1,343	Below pre-COVID range
Apr	1,155	1,184	1,265	1,346	Approaches pre-COVID range
May	1,207	1,259	1,287	1,355	Approaches pre-COVID range
Jun	1,196	1,217	1,272	1,317	Approaches pre-COVID range
Jul	1,231	1,230	1,298	1,514	Within pre-COVID range
Jet fuel (MM gal.)					
Jan	10.74	9.91	11.09	13.69	Within pre-COVID range
Feb	10.80	10.13	11.10	13.58	Within pre-COVID range
Mar	13.21	11.23	11.95	14.53	Exceeds pre-COVID median
Apr	13.84	10.69	11.50	13.58	Exceeds pre-COVID range
May	15.14	4.84	13.07	16.44	Exceeds pre-COVID median
Jun	17.08	8.67	12.75	16.80	Exceeds pre-COVID range
Jul	16.66	11.05	13.34	15.58	Exceeds pre-COVID range
Diesel (MM gal.)					
Jan	203.5	181.0	205.7	217.8	Within pre-COVID range
Feb	204.4	184.1	191.9	212.7	Exceeds pre-COVID median
Mar	305.4	231.2	265.2	300.9	Exceeds pre-COVID range
Apr	257.1	197.6	224.0	259.3	Exceeds pre-COVID median
May	244.5	216.9	231.8	253.0	Exceeds pre-COVID median
Jun	318.3	250.0	265.0	309.0	Exceeds pre-COVID range
Jul	248.6	217.8	241.5	297.0	Exceeds pre-COVID median

Pre-COVID statistics are for the same month in 2012–2019. Multiyear comparison range shown accounts for interannual variability in fuels. Jet fuel totals exclude fueling in California for fuels presumed to be burned outside the state during interstate and international flights. Data from CDTFA, various years. *Fuel Taxes Statistics & Reports;* California Department of Tax and Fee Administration: Sacramento, CA. https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm. *See* Karras, 2021c Attachment 14.

Table 3. West Coast (PADD 5) Fuels Demand Data: Return to Pre-COVID Volumes

Fuel volumes in millions of barrels (MM bbl.) per month

	Demand in 2021	Pre-COVID range (2010–2019) Minimum	Median	Maximum	Comparison of 2021 data with the same month in 2010–2019
Gasoline (MM bbl.)					
Jan	38.59	42.31	45.29	49.73	Below pre-COVID range
Feb	38.54	40.94	42.75	47.01	Below pre-COVID range
Mar	45.14	45.23	48.97	52.53	Approaches pre-COVID range
Apr	44.97	44.99	47.25	50.20	Approaches pre-COVID range
May	48.78	46.79	49.00	52.18	Within pre-COVID range
Jun	48.70	45.61	48.14	51.15	Exceeds pre-COVID median
Jul	50.12	47.33	49.09	52.39	Exceeds pre-COVID median
Jet fuel (MM bbl.)					
Jan	9.97	11.57	13.03	19.07	Below pre-COVID range
Feb	10.35	10.90	11.70	18.33	Below pre-COVID range
Mar	11.08	11.82	13.68	16.68	Below pre-COVID median
Apr	11.71	10.83	13.78	16.57	Within pre-COVID range
May	12.12	12.80	13.92	16.90	Approaches pre-COVID range
Jun	14.47	13.03	14.99	17.64	Within pre-COVID range
Jul	15.31	13.62	15.46	18.41	Within pre-COVID range
Diesel (MM bbl.)					
Jan	15.14	12.78	14.41	15.12	Exceeds pre-COVID range
Feb	15.01	12.49	13.51	15.29	Exceeds pre-COVID median
Mar	17.08	14.12	15.25	16.33	Exceeds pre-COVID range
Apr	15.76	14.14	14.93	16.12	Exceeds pre-COVID median
May	16.94	15.11	15.91	17.27	Exceeds pre-COVID median
Jun	14.65	14.53	16.03	16.84	Within pre-COVID range
Jul	16.94	15.44	16.40	17.78	Exceeds pre-COVID median

Data for "Product Supplied" from *West Coast (PADD 5) Supply and Disposition,* (USEIA, various years). Product Supplied approximately represents demand because it measures the disappearance of these fuels from primary sources, i.e., refineries, natural gas processing plants, blending plants, pipelines, and bulk terminals. PADD 5 includes AK, AZ, CA, HI, NV, OR, and WA. Pre-COVID statistics are for the same month in 2010–2019. This multiyear comparison range accounts for interannual variability in fuels demand.

O12-40 cont'd

In California, from April through June 2021 taxable fuel sales approached the range of interannual variability from 2012–2019 for gasoline and reached the low end of this pre-COVID range in July, while taxable jet fuel and diesel sales exceeded the maximum or median of the 2012–2019 range in each month from April through July of 2021. *See* Table 2. Similarly, West Coast fuels demand in April and May 2021 approached or fell within the 2010–2019 range for gasoline and jet fuel and exceeded that range for diesel. In June and July 2021 demand for gasoline exceeded the 2010–2019 median, jet fuel fell within the 2010–2019 range, and diesel fell within the 2010–2019 range or exceeded the 2010–2019 median. *See* Table 3.

California and West Coast refineries supplied the rebound in fuels demand while running well below capacity, as summarized in tables 4 and 5.

Table 4. Total California Refinery Capacity Utilization in Four-week Periods of 2021.

barrel (oil): 42 U.S. gallons **barrels/calendar day:** see table caption below

Four-week period	Calif. refinery crude input (barrels/day)	Operable crude capacity (barrels/calendar day)	Capacity utilized (%)
12/26/20 through 01/22/21	1,222,679	1,748,171	69.9 %
01/23/21 through 02/19/21	1,199,571	1,748,171	68.6 %
02/20/21 through 03/19/21	1,318,357	1,748,171	75.4 %
03/20/21 through 04/16/21	1,426,000	1,748,171	81.6 %
04/17/21 through 05/14/21	1,487,536	1,748,171	85.1 %
05/15/21 through 06/11/21	1,491,000	1,748,171	85.3 %
06/12/21 through 07/09/21	1,525,750	1,748,171	87.3 %
07/10/21 through 08/06/21	1,442,750	1,748,171	82.5 %
08/07/21 through 09/03/21	1,475,179	1,748,171	84.4 %
09/04/21 through 10/01/21	1,488,571	1,748,171	85.1 %
10/02/21 through 10/29/21	1,442,429	1,748,171	82.5 %

Total California refinery crude inputs from CEC Fuel Watch, various dates. Statewide refinery capacity as of 1/1/21, after the Marathon Martinez refinery closure, from USEIA, 2021a. Capacity in barrels/calendar day accounts for down-stream refinery bottlenecks, types and grades of crude processed, operating permit constraints, and both scheduled and unscheduled downtime for inspection, maintenance, and repairs.

Statewide, four-week average California refinery capacity utilization rates from 20 March through 6 August 2021 ranged from 81.6% to 87.3% (Table 4), similar to those across the West Coast, and well below maximum West Coast capacity utilization rates for the same months in 2010–2019 (Table 5). Moreover, review of Table 4 reveals 222,000 b/d to more than 305,000 b/d of spare California refinery capacity during this period when fuels demand rebounded.

O12-40 cont'd

Table 5. West Coast (PADD 5) Percent Utilization of Operable Refinery Capacity.

Month	Capacity Utilized **in 2021**	Pre-COVID range for same month in 2010–2019		
		Minimum	Median	Maximum
January	73.3 %	76.4 %	83.7 %	90.1 %
February	74.2 %	78.2 %	82.6 %	90.9 %
March	81.2 %	76.9 %	84.8 %	95.7 %
April	82.6 %	77.5 %	82.7 %	91.3 %
May	84.2 %	76.1 %	84.0 %	87.5 %
June	88.3 %	84.3 %	87.2 %	98.4 %
July	85.9 %	83.3 %	90.7 %	97.2 %
August	87.8 %	79.6 %	90.2 %	98.3 %
September	NR	80.4 %	87.2 %	96.9 %
October	NR	76.4 %	86.1 %	91.2 %
November	NR	77.6 %	85.3 %	94.3 %
December	NR	79.5 %	87.5 %	94.4 %

NR: Not reported. Utilization of operable capacity, accounting for downstream refinery bottlenecks, types and grades of crude processed, operating permit constraints, and both scheduled and unscheduled downtime for inspection, maintenance, and repairs, from USEIA, 2021b. PADD 5 includes AK, AZ, CA, HI, NV, OR, and WA. Pre-COVID data for the same month in 2010–2019. 2021 data account for Marathon Martinez closure.

Thus, spare California refining capacity during this period when fuels demand increased to reach pre-COVID levels and crude processing at the Marathon Martinez refinery remained shut down (222,000–305,000 b/d) exceeded the total 161,000 barrel per calendar day crude

capacity of the Refinery.[48] Had the shuttered Refinery restarted, idled capacity elsewhere would have grown to some 383,000–466,000 b/d, a volumetric market impact exceeding the entire capacity of the largest crude refinery in Western North America—the recently consolidated and expanded Marathon Los Angeles refinery (LAR).[49] *See* Table 1. That is, the idled Martinez capacity would have shifted to other refiners in West Coast, and especially the California refining market, including at the LAR. Marathon did not follow this course of action and re-open the Refinery because it would have made no economic sense to do so. The economics that kept the Refinery closed are akin to commercial airline decisions to limit flights to keep seats full. Running refineries closer to empty costs the refiner nearly as much as running closer to full but refinery revenues shrink disproportionately. It became clear in 2021 that the rational economic choice Marathon made was to keep the Refinery closed in order to limit its idled capacity elsewhere. This was the likely reasoning behind the 2020 closure decision, as documented in the previous subsection, and that reasoning did not change with a rebound in demand. The Refinery would almost surely remain closed indefinitely without Project for the same reasons.

O12-40 cont'd

The County's failure to consider any of this market data, and to disclose and evaluation the ongoing refinery consolidation driven by structural overcapacity and the first long sustained statewide and West Coast refined fuels demand decline in the recorded history of the oil industry,[50] was inconsistent with CEQA's requirements, and renders the baseline determination unsupported by substantial evidence.

IV. THE DEIR FAILED TO CONSIDER THE UPSTREAM ENVIRONMENTAL IMPACTS OF FEEDSTOCKS

Commenters' Scoping Comments provided the County with abundant information concerning the potential upstream environmental impact of the Project's proposed feedstocks, including through indirect land use changes.[51] The Scoping Comments offered reliable data that indicates severe shortages in non-food crop sources such as waste oil and animal fats will necessarily require the Project to make use of large amounts of food crop oils, most notably soybean oil.[52] Commenters pointed to studies that have documented the unintended economic, environmental, and climate consequences of using fungible feedstock to produce biofuels. Although the environmental and climate impacts of each may vary in biofuel production, food crop oils share a basic chemical structure that allows them to be used interchangeably or substituted for each other in the market—a characteristic called fungibility. Most notably, Commenters documented the massive spike in demand for biofuel feedstocks that will be induced by the Project.[53]

O12-41

[48] USEIA, 2021.
[49] USEIA, 2021.
[50] USEIA, *Supply and Disposition: West Coast (PADD 5);* U.S. Energy Information Admin-istration: Washington, D.C. www.eia.gov/dnav/pet/pet_sum_snd_d_r50_mbbl_m_cur.htm.

[51] Scoping Comments, pp. 10.
[52] Scoping Comments, pp. 12-14.
[53] Scoping Comments, pp. 13.

The DEIR effectively disregards all this information. None of the extensive scientific research and data provided by Commenters concerning the potential upstream indirect impact of food crop feedstocks is even referenced, much less considered - even though both the environmental analysis for the California 2017 Scoping Plan and the Low-Carbon Fuel Standard (LCFS) expected localities to disclose, analyze, and mitigate the potentially destructive consequences of such food crop and food system-related biofuels. O12-41 cont'd

Ultimately, the DEIR concludes, without any analysis resembling an evaluation of either displacement or induced land use changes, that the Project will have no impact on agricultural or forestry resources, and no significant impact on land use. DEIR at 3.1-1, 5-10. The DEIR's very limited discussion and conclusions concerning upstream impacts suffers from the following deficiencies, addressed at greater length in the sections below: O12-42

- *Misplaced reliance on the LCFS.* Implicitly, the DEIR appears to justify rejecting the Scoping Comments' concerns about the inducement land use changes based on the existence of the State's Low Carbon Fuel Standard (LCFS), which draws on an analysis of upstream impacts. DEIR at 3.8-12 – 15. That reliance is entirely misplaced. O12-43
- *Failure to fully describe feedstocks and their limited availability.* The DEIR fails to fully identify and analyze all potential feedstock the Project will be capable of processing. It merely states what feedstocks the Project's slate is "expected to include" (DEIR at 2-36; *see* Section II), without describing in detail the full suite of feedstocks the Project could potentially refine, and the factors that will determine the feedstock slate. Further, the analysis makes no reference to the data presented in the Scoping Comments concerning the limited availability of biofuel feedstocks, particularly for waste oils and animal fats, and the impact of that limited availability on the likely feedstock mix for the Project.[54] O12-44
- *Failure to address impact of feedstock fungibility with an indirect land use change (ILUC) and displacement analysis.* The DEIR nowhere mentions the multiple uses or the fungibility of HEFA feedstocks. There is no mention of the fact that increasing HEFA feedstock demand has induced land conversions or market substitution, ultimately increasing global and domestic agricultural land use changes. Most notably, this includes the increase of overseas palm oil production as domestic soybean oil is diverted from existing uses for biofuel production. [55] O12-45
- *Failure to address the magnitude of feedstock demand increase.* The Scoping Comments set forth the large percentage increase in demand for food system-related feedstocks of the type proposed to be used for the Project. These enormous spikes receive no mention in the DEIR. O12-46
- *Failure to address environmental impacts from land use changes caused by feedstock demand increases.* There is now broad consensus that increased demand for food crop oil biofuel feedstock has induced land use changes with significant negative environmental and climate consequences. Of particularly great concern are the studies O12-47

[54] *Id.*

[55] Scoping Comments at 14. Ironically, the DEIR for the nearby Phillips 66 biofuel conversion project (Phillips 66 DEIR) – deficient in many other ways – does include a discussion of the fungibility of feedstock commodities, entirely omitted in the Marathon DEIR. Rodeo Renewed Project Draft Environmental Impact Report, 2021, Project Description 3-27. https://www.contracosta.ca.gov/DocumentCenter/View/72880/Rodeo-Renewed-Project-DEIR-October-2021-PDF (accessed Dec 7, 2021) (hereinafter Rodeo Renewed Project 2021 DEIR).

that document a link between increased demand for SBO to a dangerous increase in palm oil production.

- *Failure to meaningfully address mitigation of upstream environmental impacts.* Meaningful mitigation measures, not addressed in the DEIR, would include limiting use of the most harmful types of feedstocks and those likely to induce increased production of such feedstocks. It is likely that the County would need to place caps on the volumes of all feedstocks identified in the DEIR— including SBO and DCO—as a mitigation measure.

O12-47 cont'd

O12-48

A. Existence of Previous LCFS Program-Level CEQA Analysis Does Not Excuse the County from Analyzing Impacts of Project-Induced Land Use Changes and Mitigating Them

The DEIR extensively references the California Low Carbon Fuel Standard (LCFS) crediting system, implicitly (albeit not overtly) suggesting that any land use impacts have already been addressed in the environmental analyses to adopt and amend the LCFS.[56] That approach, if the County means to take it, is entirely unsupportable. While CARB may have evaluated, considered, and hoped to mitigate greenhouse gas emissions from the transportation sector in the design of the LCFS, its land use change modeling was one factor in the quantification of carbon intensity (CI) and associated credits generated for an incremental unit of fuel. It does not purport to assess the impact of an *individual project,* which produces a specific volume of such fuel using a knowable array of feedstocks. That is the County's job in this CEQA review.

The LCFS analysis is not a substitute for CEQA because it does not establish or otherwise imply a significance threshold under CEQA Guidelines § 15064.7. As the DEIR acknowledges,[57] the LCFS is a "scoring system" in that the quantity of LCFS credits available for each barrel of fuel produced is based on the fuel's "score"—its carbon intensity (CI). It calculates the incremental CI per barrel of production of covered fuels by incorporating multiple sources of associated carbon emissions, including those associated with feedstock-based land use changes. The LCFS uses the Global Trade Analysis Project (GTAP), which is mentioned in the DEIR, to incorporate the incremental carbon impact of feedstock-induced indirect land use changes (ILUC) in its incremental CI scoring system. CARB uses GTAP to estimate the amounts and types of land worldwide that are converted to agricultural production to meet fuel demand.[58] DEIR 3.8-13. A closer reading of a key CARB staff report on the LCFS ILUC

O12-49 cont'd

[56] In Section 3.8.12, Greenhouse Gas Emissions Regulatory Setting, the DEIR states, "CARB has previously evaluated, considered and mitigated the environmental impacts associated with increased production and consumption of such fuels at a programmatic level, as part of its adoption, re-adoption and amendment of the LCFS..." DEIR at 3.8-13.

[57] "The LCFS CI [carbon intensity] scoring system therefore reflects CARB's efforts to apply the best available science and economic analyses to mitigate the impacts associated with land use changes occurring both within the U.S. and internationally." DEIR at 3.8-13.

[58] In 2010, the LCFS ILUC analysis updated using GTAP-BIO, which was designed to project the specific effects of one carefully defined policy change—namely the increased production of a biofuel. The methodology behind the change is detailed in Prabhu, A. Staff Report: Calculating Carbon Intensity Values from Indirect Land Use Change of Crop-Based Biofuels, California Environmental Protection Agency & Air Resources Board, 2015; Appendix I-6, I-7, I-19, https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/peerreview/050515staffreport_iluc.pdf (accessed Dec 8, 2021) (hereinafter CARB 2015 LCFS Staff Report ILUC); *see also* Appendix I: Detailed Analysis for Indirect Land Use Change in Low Carbon Fuel Standard Regulation Staff Report: Initial Statement of Reasons for

analysis clarifies, "The GTAP-BIO analysis was designed to isolate the *incremental* contribution… GTAP-BIO is not predicting the overall aggregate market trend—only the *incremental* contribution of a single factor to that trend… GTAP-BIO projections are *incremental* and *relative*" (emphasis added).[59] The ILUC emission factors in the LCFS are calculated by averaging 30 GTAP scenarios with different input parameters per incremental unit increase in fuel demand,[60] disaggregating the land use change estimates by world region and agro-ecological zones (AEZ),[61] and applying annualized emission factors.[62] This incremental adjustment of CI values is useful for augmenting incremental units of biofuel production based on carbon emissions from associated land use changes, but no more.

O12-49 cont'd

As a marginal tool, the LCFS ILUC modeling does not set or have a threshold that could distinguish between significant and insignificant impacts under CEQA. The LCFS can determine the incremental CI of one barrel per day of biofuel production, but it says nothing about what happens when an individual project produces a finite amount of fuel. As a result, the LCFS cannot tell you if 48,000 b/d—and its associated environmental and climate impacts—is a little or a lot, insignificant or significant.

Indeed, the 2018 LCFS Final EA indicates that state regulators did not intend for the LCFS to be a replacement for CEQA review of individual projects. The 2018 LCFS Final EA explicitly explains that the environmental review conducted was only for the LCFS program—*not* for individual projects. It repeatedly states, "the programmatic level of analysis associated with this EA does not attempt to address project-specific details of mitigation…"[63] and defers to local agencies like the County who have the "authority to determine project-level impacts and require project-level mitigation…for individual projects."[64] The County not only has the authority, but also the duty to determine project-level land use impacts and require project-level mitigation.

Finally, the LCFS only addresses carbon emissions, as it is designed to assign a CI score to fuels. It thus does *not* address non-carbon impacts associated with land use change. These impacts, as discussed further below, can be ecologically devastating. LCFS CI calculations are not designed to capture the full range of impacts associated with deforestation and other land use changes that may be wrought by increased production of biofuel feedstock crops.[65] Following the guidance of the 2018 LCFS Final EA, it is up to a project-specific DEIR to analyze the

O12-50

Proposed Rulemaking, California Air Resources Board, Jan 2015, I-1, https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2015/lcfs2015/lcfs15appi.pdf (accessed Dec 8, 2021) [hereinafter CARB 2015 LCFS Staff Report ILUC Appendix].

[59] CARB 2015 LCFS Staff Report ILUC Appendix I-20.

[60] CARB 2015 LCFS Staff Report ILUC Appendix I-8, I-16.

[61] CARB 2015 LCFS Staff Report ILUC Appendix I-13.

[62] CARB 2015 LCFS Staff Report ILUC Appendix Attachment 3-1.

[63] CARB analyzed the Conversion of Agricultural and Forest Resources Related to New Facilities, Agricultural and Forest Resource Impacts Related to Feedstock Cultivation and Long-Term Operational Impacts Related to Feedstock Production. *See* Final Environmental Analysis Prepared For The Proposed Amendments To The Low Carbon Fuel Standard And The Alternative Diesel Fuels Regulation, California Air Resources Board: Sacramento, CA, 2018; https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2018/lcfs18/finalea.pdf (accessed Dec 8, 2021) [hereinafter CARB 2018 LCFS Final EA].

[64] *Id.*

[65] *Id.*

agricultural, forest, soil and water impacts related to land use changes because this analysis is specific to the geographic source of the feedstock crops.

O12-50 cont'd

In sum, the County cannot rely on the LCFS as a basis to abdicate its duty to disclose, analyze, and mitigate Project-induced land use changes in the DEIR. That the LCFS passed through program-level environmental review does not exempt any and all individual fuel production projects from CEQA review simply because they might qualify for LCFS subsidies. It is imperative that the DEIR evaluate all effects of use of potential food-grade feedstocks on upstream land use and agricultural systems, and the environmental impacts associated with those effects.

O12-51

B. The DEIR Should Have Specified That the Project Will Rely Largely on Non-Waste Food System Oils, Primarily Soybean Oil [66]

The Project would convert existing crude oil refining equipment for use in HEFA refining. DEIR at 2-19 *et seq*.[67] The only HEFA feedstocks available in commercially relevant amounts for biofuel refining are from land-based food systems.[68] These include the three feedstocks identified in the DEIR: distillers corn oil (DCO), soybean oil (SBO), and tallow or previously-rendered fats. DEIR at 2-36. However, the proposed refinery technology has the ability to process other oil crops not specifically referenced in the DEIR, such as canola, rapeseed, cottonseed oils, tropical palm oil, and used cooking or other previously used "waste" oils which originate mainly from the oil crops and fats.[69] As noted above in Section II, the DEIR states that the Project is "expected to include" the three identified feedstocks, but reflects no commitment to use these feedstocks exclusively, or in any particular proportion.

O12-52

The law requires more. Even to the extent Marathon is unable to specify the exact amount of each feedstock that will be used in the Project year to year, the County should have evaluated a "reasonable worst case scenario" for feedstock consumption and its impacts. *See Planning and Conservation League v. Castaic Lake Water Agency* (2009), 180 Cal.App.4th 210, 252; *Sierra Club v. Tahoe Regional Planning Agency*, 916 F.Supp.2d 1098, 1151-52 (E.D.Cal. 2013). While the County was not required to address entirely speculative worst case scenarios, neither may it use the mere existence of uncertainty as justification to avoid addressing any feedstock-varying scenarios at all. *Id.* Neither is analysis *only* of the reasonable worst case scenario necessarily sufficient – the County was required to evaluate a reasonable array of scenarios, including but

O12-53

[66] Portner, H.O. et al., Scientific outcome of the IPBES-IPCC co-sponsored workshop on biodiversity and climate change, IPBES Secretariat, June 2021, 18-19, 28-29, 53-58. https://www.ipbes.net/events/launch-ipbes-ipcc-co-sponsored-workshop-report-biodiversity-and-climate-change (accessed Dec 8, 2021).

[67] Although as discussed in Section II the DEIR never specifically mentions HEFA, the description generally references that technology, *i.e.,* briefly noting that the process feeds lipids, and more specifically, lipids from triacylglycerols (TAGs), and fatty acids cleaved from those TAGs, from biomass into the refinery.

[68] While fish oils are commercially available, they are extremely limited in availability. Food and Agriculture Organization of the United Nations (FAO), *The State of World Fisheries and Aquaculture: Sustainability in action*, 2020. http://www.fao.org/documents/card/en/c/ca9229en (accessed Dec 12, 2021); *see also* Yusuff, A., Adeniyi, O., Olutoye M., and Akpan, U. *Waste Frying Oil as a Feedstock for Biodiesel Production*, IntechOpen, 2018. http://dx.doi.org/10.5772/intechopen.79433 (accessed Dec 8, 2021).

[69] *See* Karras, 2021a and 2021b.

not necessarily limited to the worst case scenario, in order to provide full disclosure. *City of Long Beach v. City of Los Angeles* (2018), 19 Cal.App.5th 465, 487-88.

Whether the list is exclusive or not, appropriate DEIR impact analysis should reflect historic, current, and projected feedstock availability that will influence the proportional selection of feedstocks as demand for feedstock increases. While market forces will also influence the selection of feedstocks (as acknowledged in the parallel Rodeo Renewed DEIR[70]), the County cannot ignore this readily available information about feedstock availability. Under CEQA, the County must still identify analyze the significance of the foreseeable feedstock mix scenarios—including a reasonable worst case scenario—accordingly.

Had it done so, the County would have determined that the very large majority of the feedstock the Project will use will almost certainly come from food crop and food system oils—predominantly SBO but also potentially others like DCO —with very little coming from waste oils such as tallow. One indicator for the likely predominant role of SBO and other food crop oils for the Project is the current breakdown of feedstock *demand* for biodiesel (another lipid-based biofuel) production.[71] From 2018 to 2020, 59% of biodiesel in the United States was produced from SBO as feedstock, compared to 11% from yellow grease, 14% from DCO, and only 3% from tallow, or rendered beef fat.[72] Another indicator is the limited domestic *supply* of alternative feedstock sources. Tallow and other waste oil volumes have come nowhere near meeting current biodiesel feedstock demand, with little prospect of expanding soon.[73] The future possible supply for these wastes is substantially constrained by the industries that produce them, and as such are generally nonresponsive to increased levels of demand. As a result, supplies will likely only increase at the natural pace of the industries that produce them.[74] Thus, a large fraction of feedstock likely to be used for the Project will be food crop oils – both purpose-grown food crop oils, such as SBO, canola, rapeseed, and cottonseed oils; and oils currently used in the food system, such as DCO.

O12-53 cont'd

[70] Rodeo Renewed DEIR 3.8.3.5.

[71] *See* Zhou, Y; Baldino, C; Searle, S. *Potential biomass-based diesel production in the United States by 2032*. Working Paper 2020-04. International Council on Clean Transportation, Feb. 2020, https://theicct.org/sites/default/files/publications/Potential_Biomass-Based_Diesel_US_02282020.pdf (accessed Dec 8, 2021).

[72] Uses data from EIA Biodiesel Production Report, Table 3. Feedstock breakdown by fat and oil source based on all data from Jan. 2018–Dec. 2020 from this table. U.S. Energy Information Administration (EIA), Monthly Biodiesel Production Report Table 3, Feb. 26, 2021, https://www.eia.gov/biofuels/biodiesel/production/table3.pdf (accessed Dec. 14, 2021). Data were converted from mass to volume based on a specific gravity relative to water of 0.914 (canola oil), 0.916 (soybean oil), 0.916 (corn oil), 0.90 (tallow), 0.96 (white grease), 0.84 (poultry fat), and 0.91 (used cooking oil). See also Zhou, Baldino, and Searle, 2020-04.

[73] *See* Baldino, C; Searle, S; Zhou, Y, *Alternative uses and substitutes for wastes, residues, and byproducts used in fuel production in the United States*, Working Paper 2020-25, International Council on Clean Transportation, Oct. 2020, https://theicct.org/sites/default/files/publications/Alternative-wastes-biofuels-oct2020.pdf (accessed Dec 8, 2021).

[74] *See* Zhou, Baldino, and Searle, 2020-04.

C. The Project's Use of Feedstocks From Purpose-Grown Crops For Biofuel Production Is Linked to Upstream Land Use Conversion

There is now broad consensus in the scientific literature that increased demand for food crop oil biofuel feedstock has induced or indirect land use changes (ILUC) with significant negative environmental and climate consequences.[75] ILUC is already widely considered in policies to evaluate the environmental benefits of biofuels relative to fossil fuel counterparts, including the California Low-Carbon Fuel Standard, Renewable Fuel Standard (RFS),[76] EU Renewable Energy Directive (RED) and RED II,[77] and ICAO CORSIA[78]. After a decade of studies, soybean oil will likely be designated a high-ILUC risk biofuel that will be phased out of European Union renewable energy targets by 2030. [79] Belgium has already banned soybean oil-based biofuels as of 2022.[80]

O12-54

HEFA biofuels can result in ILUC in several ways. One way is through the additional lands converted for crop production as feedstock demand for that crop increases. In simple economic terms, increased HEFA biofuel production requires increased feedstock crops, resulting in increased prices for that crop. The price increases then cause farmers of existing cultivated agricultural land to devote more of such land to that crop as it becomes more lucrative,[81] and are incentivized to clear new land to meet increased demand.[8283]

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[75] *See* Portner et al., 2021.; *see also* Searchinger, T. et al., *Use of U.S. Croplands for Biofuels Increases Greenhouse Gases Through Emissions from Land Use Change*. Science, 2008, 319, 1238, https://science.sciencemag.org/content/319/5867/1238 (accessed Dec 8, 2021) (This landmark article notes one of the earliest indications that certain biofuel feedstock are counterproductive as climate measures.)

[76] O'Malley, J. *U.S. biofuels policy: Let's not be fit for failure*, International Council on Clean Transportation, Oct. 2021, https://theicct.org/blog/staff/us-biofuels-policy-RFS-oct21 (accessed Dec 11, 2021).

[77] Currently, the European Union is phasing out high ILUC fuels to course correct their biofuel policies based on nearly a decade of data. Adopted in 2019, Regulation (EU) 2019/807 phases out high ILUC-risk biofuels from towards their renewable energy source targets by 2030. ILUC – High and low ILUC-risk fuels, Technical Assistance to the European Commission. https://iluc.guidehouse.com/ (accessed Dec 8, 2021).

[78] International Civil Aviation Organization (ICAO), "CORSIA Supporting Documents: CORSIA Eligible Fuels – Life Cycle Assessment Methodology," 2019. https://www.icao.int/environmental-protection/CORSIA/Documents/CORSIA%20Supporting%20Document_CORSIA%20Eligible%20Fuels_LCA%20Methodology.pdf (accessed Dec 11, 2021).

[79] Malins, C. *Risk Management: Identifying high and low ILUC-risk biofuels under the recast Renewable Energy Directive*; Cerulogy, 2019; 4, 14. http://www.cerulogy.com/wp-content/uploads/2019/01/Cerulogy_Risk-Management_Jan2019.pdf (accessed Dec 8, 2021).

[80] Belgium to ban palm- and soy-based biofuels from 2022. Argus Media, Apr. 14, 2021. https://www.argusmedia.com/en/news/2205046-belgium-to-ban-palm-and-soybased-biofuels-from-2022 (accessed Dec 8, 2021).

[81] *See Appendix I: Detailed Analysis for Indirect Land Use Change in Low Carbon Fuel Standard Regulation Staff Report: Initial Statement of Reasons for Proposed Rulemaking,* California Air Resources Board, Jan 2015, I-1, https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2015/lcfs2015/lcfs15appi.pdf (accessed Dec 8, 2021) [hereinafter CARB 2015 LCFS Staff Report ILUC Appendix].

[82] *Id.*

[83] Lenfert et al., *ZEF Policy Brief No. 28;* Center for Development Research, University of Bonn, 2017. www.zef.de/fileadmin/user_upload/Policy_brief_28_en.pdf; Gatti, L.V., Basso, L.S., Miller, J.B. et al. Amazonia as a carbon source linked to deforestation and climate change. *Nature* 595, 388–393 (2021). https://doi.org/10.1038/s41586-021-03629-6 (accessed Dec 8, 2021); Nepstad, D., and Shimada, J., *Soybeans in the Brazilian Amazon and the Case Study of the Brazilian Soy Moratorium,* International Bank for Reconstruction and Development / The World Bank, Washington, D.C., 2018 (accessed Dec 8, 2021); Rangaraju, S, 10 years of EU fuels policy increased EU's reliance on unsustainable biofuels, Transport & Environment, Jul 2021.

A second way that HEFA biofuels can cause ILUC, most relevant for the feedstocks proposed for the Project, is through displacement and substitution of commodities, leading to the conversion of land use for crops other than that of the feedstock demanded. As mentioned above, oil crops are to a great degree fungible—they are, essentially, interchangeable lipid, triacylglycerol (TAG) or fatty acid inputs to products.[84] Due to their fungibility, their prices are significantly if not wholly linked: when the price of one crop increases, another cheaper crop will be produced in greater volumes to fill the gap as consumers substitute their use of the more expensive crop. This substitution effect is known as displacement.[85] Studies have extensively documented the linkage between rising prices for one biofuel feedstock oil crop and the expanding production of another substitute oil crop.[86] These effects have been demonstrated for each of the three feedstocks identified in the DEIR—SBO, DCO, and tallow.

O12-55

Soybean Oil (SBO): SBO accounts for only about a third of the total market value of whole soybeans, with the majority of the value in the soybean meal. As a result, the livestock feed market is the primary driver of SBO production, with biofuel demand as an important secondary driver. This means that SBO demand will lead to both *direct* and *indirect* economic pressures to convert domestic and overseas lands for soybean crops.[87] For example, increased biofuel demand is a partial contributor to deforestation in South America for production of soybean crops.[88] Meanwhile, the supply of *palm oil* also responds to SBO prices. Historical data show that SBO price increases lead to increased imports of palm oil, as domestic consumers substitute SBO with palm oil. .[89] [90] The price of SBO, which would be the predominant source

O12-56

https://www.transportenvironment.org/wp-content/uploads/2021/08/Biofuels-briefing-072021.pdf (accessed Dec 8, 2021).

[84] The DEIR for the similar Rodeo Renewed biofuel conversion project expressly recognized this fungibility: "The different uses of the commodity and whether or not there are substitutes for those commodities also affect the renewable feedstocks market. For example, soy and corn can both be used for livestock feed or human food production. If one commodity increases in price, farmers may be able to switch to the other commodity to feed their livestock for a cheaper cost (CME Group). This is particularly important for renewable feedstocks given the different uses for oilseeds, including food production and animal feedstocks, and the different vegetable oils that may be used as substitutes (e.g., canola oil may be a substitute for soybean oil)." Rodeo Renewed DEIR 3.8.3.2.

[85] *See generally* Pavlenko, N. and Searle, S. *Assessing the sustainability implications of alternative aviation fuels*. Working Paper 2021-11. International Council on Clean Transportation, Mar 2021. https://theicct.org/sites/default/files/publications/Alt-aviation-fuel-sustainability-mar2021.pdf (accessed Dec 8, 2021).

[86] *See* Malins, C. *Thought for food: A review of the interaction between biofuel consumption and food markets*, Transport & Environment, Sept 2017. https://www.transportenvironment.org/wp-content/uploads/2021/07/Cerulogy_Thought-for-food_September2017.pdf (accessed Dec 8, 2021).

[87] See Martin, J. '*Soybean freakonomics'* in *Everything You Ever Wanted to Know About Biodiesel (Charts and Graphs Included!)* Union of Concerned Scientists, The Equation, Jun 22, 2016. https://blog.ucsusa.org/jeremy-martin/all-about-biodiesel/ (accessed Dec 8, 2021).

[88] Malins, C., *Soy, land use change, and ILUC-risk: a review*, Cerulogy, 2020a, https://www.transportenvironment.org/wp-content/uploads/2021/07/2020_11_Study_Cerulogy_soy_and_deforestation.pdf

[89] *See* Santeramo, F. and Searle, S. *Linking soy oil demand from the US Renewable Fuel Standard to palm oil expansion through an analysis on vegetable oil price elasticities*. Energy Policy 2018, 127, 19 https://www.sciencedirect.com/science/article/abs/pii/S0301421518307924 (accessed Dec 8, 2021).

[90] Searle, S. *How rapeseed and soy biodiesel drive oil palm expansion*, The International Council on Clean Transportation, Jul 2017. https://theicct.org/publications/how-rapeseed-and-soy-biodiesel-drive-oil-palm-expansion (accessed Dec 8, 2021).

of feedstock in this Project, is already skyrocketing, in part in connection with increased biofuel production.[91] Marathon has ostensibly recognized the unacceptable environmental destruction associated with palm oil production, also described in subsection E, in its commitment not to use palm oil. However, by proposing a Project that will heavily rely on SBO, palm oil production and use will nonetheless increase because of SBO feedstock fungibility.

DCO: Distiller's corn oil (DCO) is a co-product produced during ethanol production, alongside another co-product, distiller's grains with solubles (DGS).[92] DCO can be extracted from distiller's grains with solubles (DGS), leading to substitution effects between the two commodities.[93] DGS is a valuable agricultural residue commonly used in animal feed. In response to recently increasing biofuel feedstock demand, ethanol producers have been increasingly extracting DCO from DGS.[94] Yet extracting DCO from DGS feed also removes valuable nutrients, requiring farmers to add even more vegetable oils or grains to replace the lost calories in their livestock feed.[95] In practice, the most economical, and common source for these replacement nutrients has been more DCO, or DGS containing DCO, both of which then require additional corn crops.[96] Thus, while DCO is not an oil from purpose-grown crops, any increase in DCO demand for Project biofuel production will ultimately increase food corn crop demand.[97]

Tallow: Tallow represents a small portion of the total value of cattle, less than 3%, and as a result, increased demand for tallow will only result in marginal increases in tallow supply, even with substantial price increases.[98] Like several other animal fats and DCO, tallow is not truly a waste fat, because it has existing uses. Tallow is currently used for livestock feed; pet food, for which it has no substitute; and predominantly, the production of oleochemicals like wax candles,

O12-56 cont'd

[91] *See* Walljasper, C. GRAINS–Soybeans extend gains for fourth session on veg oil rally; corn mixed. *Reuters*, Mar 24 2021. https://www.reuters.com/article/global-grains-idUSL1N2LM2O8 (accessed Dec 8, 2021).
[92] Malins, C., Searle, S., and Baral, A., *A Guide for the Perplexed to the Indirect Effects of Biofuels Production*, International Council on Clean Transportation 2014, 80 ("Co-products can be broadly placed into two categories: those that directly displace land-based products and have land use implications, such as distillers grains with solubles (DGS) displacing soybean meal, and those that displace non-land-based products such as urea, glycerol, and electricity. Co-products in the second category do not have land use implications but have greenhouse gas (GHG) reduction implications."). https://theicct.org/sites/default/files/publications/ICCT_A-Guide-for-the-Perplexed_Sept2014.pdf (accessed Dec 8, 2021).
[93] *Id*. at 79.
[94] Searle, S. *If we use livestock feed for biofuels, what will the cows eat?* The International Council on Clean Transportation, Jan. 2019. https://theicct.org/blog/staff/if-we-use-livestock-feed-biofuels-what-will-cows-eat (accessed Dec 8, 2021).
[95] *See* Final Rulemaking for Grain Sorghum Oil Pathways. 81 Fed. Reg. 37740-37742 (August 2, 2018), https://www.govinfo.gov/content/pkg/FR-2018-08-02/pdf/2018-16246.pdf (accessed Dec 8, 2021); *see also* EPA sets a first in accurately accounting for GHG emissions from waste biofuel feedstocks, International Council on Clean Transportation Blog (Sept. 2018), https://theicct.org/blog/staff/epa-account-ghg-emissions-from-waste (accessed Dec 8, 2021).
[96] Searle 2019.
[97] Gerber, P.J. et al., *Tackling climate change through livestock—A global assessment of emissions and mitigation opportunities*, Food and Agriculture Organization of the United Nations 2013, 8. https://www.fao.org/3/i3437e/i3437e.pdf (accessed Dec 8, 2021).
[98] Pavlenko, N. and Searle, S. *A comparison of methodologies for estimating displacement emissions from waste, residue, and by-product biofuel feedstocks*, Working Paper 2020-22, International Council on Clean Transportation, Oct 2020, 6. https://theicct.org/sites/default/files/publications/Biofuels-displacement-emissions-oct2020.pdf (accessed Dec 8, 2021).

soaps, and cosmetics.[99] As a result, the dominant impact of increased tallow demand is through diversion of existing uses. Therefore, increased tallow production will likely yield increased palm oil and corn oil production.[100]

O12-56 cont'd

D. The Scale of This Project Would Lead to Significant Domestic and Global Land Use Conversions

As shown above, all of the feedstocks demanded by the Project would lead to either direct or indirect increases in crops, such as soy, oil palm, and corn, which will require land use conversion. These potential land use impacts are of particular concern with respect to a project of the magnitude proposed by Marathon, given its potential to significantly disrupt food crop agricultural patterns.

O12-57

The DEIR failed to address the significant impact of the Project's demand for food crop feedstocks on agricultural markets, and hence on land use. The volume of food crop oil feedstock, namely SBO, likely to be required for the Project represents a disproportionately large share of current markets for such feedstock.[101] The anticipated heavy spike in demand for food crop oils associated with the Project (not to mention the cumulative spike when considered together with other HEFA projects such as Rodeo Renewed, *see* Section VIII) will have significant environmental impacts, as discussed in the next subsection.

To assess the significance the Project's anticipated feedstock use, the County could and should have analyzed the Project's proposal to consume up to 48,000 b/d[102] of lipid feedstocks in the context of both total biofuel demand and total agricultural production data. With respect to biofuel demand, data from the U.S. Energy Information Administration on total biodiesel production in the United States indicates that oil crop and animal fat demand associated with U.S. biodiesel production on average totaled approximately 113,000 barrels per day (b/d) for the time period 2018-2020.[103] The Project would increase this nationwide total by a full 42 percent.[104]

O12-58

With respect to total production, US agricultural yield of the types of oil crops and animal fats that are potentially usable as Project feedstocks was roughly 372,000 b/d on average.[105]

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[99] Baldino, Searle, and Zhou, 2020-25, pp. 6.
[100] Pavlenko and Searle 2020-22, pp. 26.
[101] *See* Karras, G. Biofuels: Burning Food?, Community Energy resource, 2021. https://f61992b4-44f8-48d5-9b9d-aed50019f19b.filesusr.com/ugd/bd8505_a077b74c902c4c4888c81dbd9e8fa933.pdf (accessed Dec 8, 2021).
[102] DEIR 2-2.
[103] Uses EIA data from the Monthly Biodiesel Production Report, Table 3. This 113,000 b/d estimate is based on all data from Jan. 2018–Dec. 2020 from this table. U.S. Energy Information Administration (EIA), Monthly Biodiesel Production Report Table 3, Feb. 26, 2021, https://www.eia.gov/biofuels/biodiesel/production/table3.pdf (accessed Dec. 14, 2021). Data were converted from mass to volume based on a specific gravity relative to water of 0.914 (canola oil), 0.916 (soybean oil), 0.916 (corn oil), 0.90 (tallow), 0.96 (white grease), 0.84 (poultry fat), and 0.91 (used cooking oil).
[104] DEIR 2-2. The Project percentage boost over existing biofuel feedstock consumption is from 48,000 b/d, divided by that 113,000 b/d from existing biodiesel production.
[105] This 372,000 b/d estimate is from two sources. First, data were taken from the U.S. Department of Agriculture (USDA) "Oil Crops Data: Yearbook Tables" data. U.S. Department of Agriculture (USDA), Oil Crops Yearbook Tables 5, 26, and 33, Mar. 26, 2021, https://www.ers.usda.gov/data-products/oil-crops-yearbook/ (accessed Dec. 14,

Thus, the Project alone would consume approximately a 13 percent share[106] of current total US production of lipid feedstocks. With that increase from the Project in place, U.S. biofuel feedstock demand could claim as much as 43 percent of total U.S. farm yield for *all* uses of these oils and fats. The Project alone would thus commit a disproportionate share of US food crop oils to California, with attendant potential climate consequences.[107]

O12-58 cont'd

The projected impact of the Project on the SBO markets is particularly notable. Existing biodiesel production uses approximately 66,000 b/d of SBO out of the total 203,000 b/d of SBO produced domestically for all uses.[108] As a result, the Project alone could use up to 24 percent of total domestic SBO production. This would constitute a rapid increase in domestic SBO consumption, which would dramatically outpace the recent year-on-year increases in domestic SBO production, ranging from 1-7%. This in turn would lead to rapid price spikes and substitution across the oil markets.

O12-59

In order to assess the impacts of a "reasonable worst case" scenario, the County could, and should, have calculated the magnitude of the land use changes attributable to the anticipated feedstock mix. Had the County taken a closer look at the LCFS environmental assessment it cited, it could have readily used the same analysis conducted by CARB for the LCFS, as previously discussed in subsection A in order to quantify the upstream land use impacts of the Project's use of SBO feedstock. For example, under a hypothetical "shock" increase of 0.812 billion gallons / year of soy biodiesel, the GTAP-BIO model identified an average of over 2 million acres of forest, pasture, and cropland-pasture land would be converted to cropland. The

O12-60

2021). Specifically, from Oct. 2016 through Sep. 2020 average total U.S. yields were: 65.1 million pounds per day (MM lb/d), or 202,672 b/d at a specific gravity (SG) of 0.916 for soybean oil (*see* i below), 4.62 MM lb/d or 14,425 b/d at 0.915 SG for canola oil (ii), and 15.8 MM lb/d or 49,201 b/d at 0.923 SG for corn oil (iii).. *See* USDA Oil Crops Yearbook (OCY) data tables (i) OCY Table 5, (ii) OCY Table 26, (iii) OCY Table 33, (iv) OCY Table 20), (v) OCY Table 32. Second, we estimated total U.S. production of other animal fats and waste oils from the U.S. Department of Agriculture (USDA) "Fats and Oils: Oilseed Crushings, Production, Consumption and Stocks" Annual Summaries. National Agricultural Statistics Service, "Fats and Oils: Oilseed Crushings, Production, Consumption and Stocks Annual Summary", 2017 through 2020, https://usda.library.cornell.edu/concern/publications/mp48sc77c (accessed Dec. 14, 2021)., Specifically, from 2017 to 2020, average total U.S. yields were: 16.2 MM lb/d or 51,386 b/d for edible, inedible, and technical tallow production, 6.65 MM lb/d or 22,573 b/d for poultry fat production, 4.52 MM lb/d or 13,420 b/d for lard and choice white grease production, and 5.83 MM lb/d or 18,272 b/d for yellow grease production.

[106] This figure represents Project feedstock demand of 48,000 b/d over the estimated 372,000 b/d total lipid production in the U.S. calculated in the previous footnote.

[107] Importing biofuel feedstock from another state or nation which is needed there to help decarbonize its economy could make overreliance on biofuels to help decarbonize California's economy counterproductive as a climate protection measure. Accordingly, expert advice commissioned by state agencies suggests limiting the role of biofuels within the state's decarbonization mix to the state's per capita share of low-carbon biofuel feedstocks. *See* Mahone et al. 2020 and 2018. On this basis, given California and U.S. populations of 39.5 and 330 million, respectively, California's total share of U.S. farm production (for all uses) of plant oils and animal fats which also are used for biofuels would be approximately 12%. As described in the note above, however, the Project could commit 13% of that total U.S. yield (for all uses) to biofuels produced at the Refinery alone.

[108] U.S. Department of Agriculture (USDA) "Oil Crops Data: Yearbook Tables." Table 5 https://www.ers.usda.gov/data-products/oil-crops-yearbook/oil-crops-yearbook/#All%20Tables.xlsx?v=7477.4 (accessed Dec 12, 2021); U.S. Energy Information Administration (EIA). Monthly Biodiesel Production Report, Table 3. Inputs to biodiesel production; www.eia.gov/biofuels/biodiesel/production/table3.xls (accessed Dec 12, 2021). Soybean oil consumed for biodiesel production is an average of 2018 through 2020 data, while total U.S. production is an average from Oct. 2016 through Sept. 2020.

majority of this land use change would be overseas, with 1.2 million acres of the converted land use outside of the U.S.[109] While land use impacts will not necessarily be linear with the feedstock demand increases, this finding can be extrapolated to estimate the land use converted as a result of the Project. This finding, if scaled to the 0.74 billion gallons of feedstock consumed by the Project and if 100% of that feedstock was SBO, would mean 1.8 million acres of land would need to be converted for this Project.

O12-60 cont'd

E. Land Use Conversions Caused By the Project Will Have Significant Non-Climate Environmental Impacts

The land use changes incurred by increased use of feedstock supplies risk an array of environmental impacts related to habitats, human health, and indigenous populations.[110] Conversion of more natural habitat to cropland is often accompanied by efforts to boost short-term yields by applying more fertilizers and pesticides, thereby destroying habitat needed to reverse biodiversity loss. Indeed, authoritative international bodies have warned explicitly about the potential future severity of these impacts.[111] One path for creating additional crop lands is by burning non-agricultural forests and grasslands. This destructive process not only releases sequestered carbon, but also causes non-carbon related environmental impacts due to use of nitrogen-based fertilizers and petroleum-derived pesticides on the newly cleared lands; and use petroleum-fueled machinery to cultivate and harvest feedstock crops from newly converted land to meet crop-based biofuel demand.[112]

O12-61

These non-climate environmental impacts were even identified by the 2018 LCFS Final EA as significant negative environmental impacts. CARB concluded that the agricultural, forest, and water resources related to land use changes related to feedstock cultivated would likely have significant negative effects, which are extraneous to the LCFS CI calculation. Adverse effects associated with the conversion or modification of natural land or existing agriculture include impacts on sensitive species populations; soil carbon content; annual carbon sequestration losses, depending on the land use; long-term erosion effects; adverse effects on local or regional water resources; and long-term water quality deterioration associated with intensified fertilizer use, pesticide or herbicide run-off; energy crops and short rotation forestry on marginal land, and intensive forest harvest could both have long-term effects on hydrology; agricultural activities may cause pollution from poorly located or managed animal feeding operations; pollutants that

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[109] 2018 CARB LCFS Staff Report Appendix I-8, I-29, I-30.
[110] Malins, C., *Soy, land use change, and ILUC-risk: a review*, Cerulogy, 2020a, https://www.transportenvironment.org/wp-content/uploads/2021/07/2020_11_Study_Cerulogy_soy_and_deforestation.pdf; Malins, C. *Biofuel to the fire – The impact of continued expansion of palm and soy oil demand through biofuel policy*. Report commissioned by Rainforest Foundation Norway, 2020b. https://d5i6is0eze552.cloudfront.net/documents/RF_report_biofuel_0320_eng_SP.pdf (accessed Dec 8, 2021); Garr, R. and Karpf, S., BURNED: Deception, Deforestation and America's Biodiesel Policy, Action Aid USA, 2018. https://www.actionaidusa.org/publications/americas-biodiesel-policy/ (accessed Dec 8, 2021).
[111] IPBES Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. IPBES: Bonn, DE, 2019, pp. 12, 18, 28. https://ipbes.net/global-assessment (accessed Dec 8, 2021);.
[112] CARB 2018 LCFS Final EA, pp. 120, 172-173.

result from farming and ranching may include sediment, nutrients, pathogens, pesticides, metals, and salts; increased use of pesticides could increase greenhouse gas emissions.[113]

O12-61 cont'd

The expansion of palm oil production, due to SBO consumption as described above, will have a particularly severe environmental impact.[114] The palm oil industry is a source of pollutants and greenhouse gas emissions in two ways: deforestation and the processing of palm oil. Fires clearing the way for a palm oil plantation are a major source of air pollution that adversely affect human health; agrochemicals associated with biofuels are dangerous for terrestrial and aquatic ecosystems.[115] Palm oil production happens in biodiversity hotspots like Indonesia and the Brazilian Amazon, where massive deforestation and attendant species loss can dramatically affect both global biodiversity and the climate.[116]

O12-62

F. Land Use Conversions Caused By the Project Will Have Significant Climate Impacts

The County failed to address evidence that increased use of food crop or food system feedstocks like palm and soybean oil have resulted in net increases in greenhouse gas emissions. As noted above, while the LCFS takes into account climate impacts resulting from land use change in its CI calculations, those calculations are expressly not intended to substitute for project-level analysis of impacts.

As described in the previous subsection, when the increased consumption of palm and soybean oil results in the clearing of more land or deforestation to grow more of those crops, it leads to the counterproductive destruction of natural carbon sinks. This expansion of soy production not only results in carbon loss from the destruction of vegetation and upheaval of high carbon stock soil, but also the loss of future sequestration capabilities. Available analysis suggests that a significant fraction of cropland expansion in general, and soy expansion in particular, continues to occur at the expense of carbon-sequestering forests, especially in South America.[117] Greenhouse gas emissions induced by land use changes from increased demand for food crop or food system-based feedstock also occur in the United States. One recent study concluded "perhaps surprisingly—that despite the dominance of grassland conversion in the US, emissions from domestic [land use change] are greater than previously thought."[118] More than 90% of emissions from grassland conversions came from soil organic carbon stocks (SOC).[119] Due to the longtime accumulation time of the SOCs, those emissions may be impossible to mitigate on a time scale relevant to humans.[120.]

O12-63

[113] CARB 2018 LCFS Final EA, pp. 110 – 120.
[114] *See* Petrenko, C., Paltseva, J., and Searle, S. *Ecological Impacts of Palm Oil Expansion in Indonesia*, International Council on Clean Transportation, Jul 2016. https://theicct.org/sites/default/files/publications/Indonesia-palm-oil-expansion_ICCT_july2016.pdf (accessed Dec 8, 2021);.
[115] *Id.,* pp. 7-11.
[116] *Id.*
[117] Malins 2019, pp. 5.
[118] Spawn, S. et al. Carbon emissions from cropland expansion in the United States Environ. Res. Lett. 14 045009, 2019. https://iopscience.iop.org/article/10.1088/1748-9326/ab0399 (accessed Dec 11, 2021).
[119] Spawn 2019, pp. 5.
[120] Spawn 2019, pp. 7, 9.

Domestic and global climate impacts from land use changes are interconnected because the feedstock are tied to a global food system. For example, even if the feedstock source is domestic, the increase in soybean oil demand will result in increases in palm oil production expansion as described above—ultimately resulting in substantial increases in GHG emissions.[121] As a result, modeled soy-based biofuel net carbon emissions are , at best, virtually the same as those from fossil diesel, with even worse climate impacts for greater quantities of soy-based biofuel produced.[122] These estimates suggest the DEIR has dramatically overstated the potential GHG benefits of the Project.

O12-64

G. The County Should Have Taken Steps to Mitigate ILUC Associated with the Project by Capping Feedstock Use

O12-65

The County should have considered a feedstock cap as a mitigation measure for land use impacts, but did not.[123] The one mitigating measure it did mention, best management practices (BMPs), has no meaningful application here.

Best Management Practices: Section 6.2 of the DEIR, concerning significant irreversible environmental changes, contains a brief high-level mention of Best Management Practices (BMPs) that can reduce agricultural impacts when used properly. DEIR at 6-3 *et seq.* However, the DEIR nowhere proposes BMPs as a mitigation measure. Indeed, without further specificity about the type and origins of potential feedstock, it is also impossible to know what types of BMPs are possible.

O12-66

BMPs should, however, have been specifically included as a mitigation measure. The 2018 LCFS EA indicates that CARB anticipated local governments like the County to use their land use authority to mitigate projects by requiring feedstock sources to be developed under Best Management Practices specific to the ecological needs of feedstock origins. In particular, CARB left localities with land use authority to consider BMPs to mitigate long-term effects on hydrology and water quality related to changes in land use and long-term operational impacts to geology and soil associated with land use changes. [124]

O12-67

Feedstock Cap: To guard against the severe environmental and climate impacts associated with the inevitably induced land use changes, the County should set capped feedstock volume, at a level that would prevent significant ILUC impacts, as already recommended by environmental advocates for California climate policy.[125] The DEIR should have considered

O12-68

[121] Malins, C. Driving deforestation: The impact of expanding palm oil demand through biofuel policy, 2018. http://www.cerulogy.com/wp-content/uploads/2018/02/Cerulogy_Driving-deforestation_Jan2018.pdf (accessed Dec 12, 2021); *see also* Malins 2020, pp. 57; *see* generally Searle 2018.

[122] Malins 2020a, pp. 57.

[123] *See e.g.*, Mitigation B.2.b: Agricultural and Forest Resource Impacts Related to Feedstock Cultivation; Mitigation Measure B.7.b Long-Term Operational Impacts to Geology and Soil Associated with Land Use Changes; Mitigation B.10.b: Long-Term Effects on Hydrology and Water Quality Related to Changes in Land Use, Mitigation B.11.b: Long-Term Operational Impacts on Land Use Related to Feedstock Production.

[124] *See* Mitigation Measure B.7.b Long-Term Operational Impacts to Geology and Soil Associated with Land Use Changes; Mitigation B.10.b: Long-Term Effects on Hydrology and Water Quality Related to Changes in Land Use.

[125] *See e.g.,* Martin et al., Union of Concerned Scientists Letter Re: 2022 Scoping Plan - Scenario Inputs Technical Workshop, Nov 10, 2021, pp. 3 ("...CARB should ensure that future growth comes primarily from [non-lipid]

both caps on individual feedstocks, and an overall cap on feedstock volume. Such limits would be based on an ILUC assessment of each potential feedstock and total combinations of feedstock. In particular, the County should take steps to ensure that California does not consume a disproportionate share of available feedstock, in exceedance of its per capita share, in accordance with the prudent assumptions in CARB's climate modeling.[126]

O12-68 cont'd

V. THE DEIR FAILS TO ASSESS AND MITIGATE PROCESS SAFETY RISKS ASSOCIATED WITH RUNNING BIOFUEL FEEDSTOCKS[127]

The Scoping Comments described how processing vegetable or animal-derived biofuel feedstocks in a hydrotreater or hydrocracker creates significant refinery-wide process hazards beyond those that attend crude oil refining. That information was disregarded and not addressed in the DEIR. It is essential that the DEIR address the process safety risks described in the subsections below, and evaluate their potential impact on human health.

A. The Project Could Worsen Process Hazards Related to Exothermic Hydrogen Reactions

O12-69

Running biofuel feedstocks risks additional process safety hazards even beyond those associated with processing crude oil. This is because the extra hydrogen that must be added to convert the new biofuel feedstock to hydrocarbon fuels generates more heat in process reactions that occur under high pressure and are prone to runaway reactions. The reaction is exothermic: it generates heat. When it creates more heat, the reaction can feed on itself, creating more heat even faster.[128]

The reason for the increased heat, and hence risk, is that the removal of oxygen from fatty acids in the biofuel feed, and saturating the carbon atoms in that feed to remove that oxygen without creating unwanted carbon byproducts that cannot be made into biodiesel and foul the process catalyst, require bonding that oxygen and carbon with a lot more hydrogen. The Project would use roughly nine times more hydrogen per barrel biorefinery feed than the average petroleum refinery needs from hydrogen plants per barrel crude.[129] Reacting more hydrogen

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feedstocks and directly constrain the consumption of lipid-based fuels at a level commensurate to the available feedstocks. In addition to an immediate constraint on the scale of lipid diversion to fuel markets, CARB should monitor the use of corn grain, various categories of biomass, electricity and hydrogen and ensure the scale of their use for fuel, energy or carbon removal uses does not exceed a sustainable level.")

[126] California Air Resources Board, PATHWAYS Biofuel Supply Module, Technical Documentation for Version 0.91 Beta, Jan 2017, pp. 9 https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/bfsm_tech_doc.pdf (accessed Dec 12, 2021).

[127] Supplemental information in support of this analysis is provided in Karras 2021c accompanying this comment, in the section entitled "The Deir Does Not Provide A Complete or Accurate Analysis of Process Hazards and Does Not Identify, Evaluate, or Mitigate Significant Potential Project Hazard Impacts."

[128] Robinson and Dolbear, "Commercial Hydrotreating and Hydrocracking. *In* Hydroprocessing of heavy oils and residua," 2007. Ancheyta and Speight, eds. CRC Press, Taylor and Francis Group: Boca Raton, FL, pp. 308, 309.

[129] The Project could consume 2,220–3,020 standard cubic feet of H_2 per barrel of biomass feed processed. Karras, 2021a. *Changing Hydrocarbons Midstream* (attached hereto). Operating data from U.S. petroleum refineries during 1999–2008 show that nationwide petroleum refinery usage of hydrogen production plant capacity averaged 272 cubic feet of H_2 per barrel crude processed. Karras, 2010. *Environ. Sci. Technol.* 44(24): 9584 and Supporting Information. (*See* data in Supporting Information Table S-1.) https://pubs.acs.org/doi/10.1021/es1019965.

over the catalyst in the hydrotreating or hydrocracking reactor generates more heat faster.[130] This is a well-known hazard in petroleum processing, that manifests frequently in flaring hazards[131] when the contents of high-pressure reactor vessels must be depressurized[132] to flares in order to avoid worse consequences that can and sometimes have included destruction of process catalyst or equipment, dumping gases to the air from pressure relief valves, fires and explosions. The extra hydrogen reactants in processing the new feedstocks increase these risks.[133]

O12-69 cont'd

B. The Project could Worsen Process Hazards Related to Damage Mechanisms Such as Corrosion, Gumming, and Fouling

The severe processing environment created by the processing of new feedstocks for the Project also can be highly corrosive and prone to side reactions that gum or plug process flows, leading to frequent or even catastrophic equipment failures. Furthermore, depending on the contaminants and processing byproducts of the particular Project feedstock chosen, it could create new damage mechanism hazards or exacerbate existing hazards to a greater degree. As one researcher notes:

> Feedstock that is high in free fatty acids, for example, has the potential to create a corrosive environment. Another special consideration for renewable feedstocks is the potential for polymerization ... which causes gumming and fouling in the equipment ... hydrogen could make the equipment susceptible to high temperature hydrogen attack ... [and drop-in biodiesel process] reactions produce water and carbon dioxide in much larger quantities than petroleum hydrotreaters, creating potential carbonic acid corrosion concerns downstream of the reactor.[134]

O12-70

C. Significant Hazard Impacts Appear Likely Based on Both Site-Specific and Global Evidence

Site-specific evidence shows that despite current safeguards, hydrogen-related hazards frequently contributed to significant flaring incidents, even before the worsening of hydro-conversion intensity and hydrogen-related process safety hazards which could result from the Project. Causal analysis reports for significant flaring from unplanned incidents indicate that at least 49 hydrogen-related process safety hazard incidents occurred at the Refinery from January

O12-71

[130] van Dyk et al., 2019. *Biofuels Bioproducts & Biorefining* 13: 760–775. *See* p. 765 ("exothermic reaction, with heat release proportional to the consumption of hydrogen"). https://onlinelibrary.wiley.com/doi/10.1002/bbb.1974.
[131] Flaring causal analyses, various dates. Reports required by Bay Area Air Quality Management District Regulation 12, Rule 12, including reports posted at https://www.baaqmd.gov/about-air-quality/research-and-data/flare-data/flare-causal-reports and reports for incidents predating those posted at that link.
[132] 22 Chan, E., 2020. Converting a Petroleum Diesel Refinery for Renewable Diesel; White Paper /- Renewable Diesel. Burns McDonnell. www.burnsmcd.com/insightsnews/tech/converting-petroleum-refinery-for-renewable-diesel. (Chan, 2020) *See* p. 2 ("emergency depressurization" capacity required).
[133] van Dyk et al., 2019 ("heat release proportional to the consumption of hydrogen"); and Chan, 2020 at 2 ("significantly more exothermic than petroleum diesel desulfurization reactions").
[134] Chan, 2020.

2010 until it closed on 28 April 2020.[135] This is a conservative estimate, since incidents can cause significant impacts without environmentally significant flaring, but still represents, on average, another hydrogen-related hazard incident at the Refinery every 77 days. Considering both the Refinery and the Phillips 66 rodeo facility data together during this period, sudden unplanned or emergency shutdowns of major hydro-conversion or hydrogen production plants occurred in 84 of these reported incidents.[136] Such sudden forced shutdowns of *both* hydro-conversion and hydrogen production plants occurred in 22 of these incidents.[137] In other words, incidents escalated to refinery-level systems involving multiple plants frequently—a foreseeable consequence since both hydro-conversion and hydrogen production plants are susceptible to upset when the critical balance of hydrogen production supply and hydrogen demand between them is disrupted suddenly. In three of these incidents, consequences of underlying hazards included fires at the Refinery.[138]

O12-71 cont'd

Catastrophic consequences of hydrogen-related hazards are foreseeable based on industry-wide reports as well as site-specific evidence. For example:

- Eight workers are injured and a nearby town is evacuated in a 2018 hydrotreater reactor rupture, explosion and fire;[139]
- A worker is seriously injured in a 2017 hydrotreater fire that burns for two days and causes an estimated $220 million in property damage;[140]
- A reactor hydrogen leak ignites in a 2017 hydrocracker fire that causes extensive damage to the main reactor;[141]
- A 2015 hydrogen conduit explosion throws workers against a refinery structure;[142]
- Fifteen workers die, and 180 others are injured, in a series of 2005 explosions when hydrocarbons flood a distillation tower during an isomerization unit restart;[143]
- A vapor release from a valve bonnet failure in a high-pressure hydrocracker section ignites in a major 1999 explosion and fire at the Chevron Richmond refinery;[144]
- A worker dies, 46 others are injured, and the surrounding community is forced to shelter in place when a release of hydrogen and hydrocarbons under high temperature and pressure ignites in a 1997 hydrocracker explosion and fire at this Refinery;[145]

O12-72

[135] Flaring causal analyses, various dates. Reports required by Bay Area Air Quality Management District Regulation 12, Rule 12, including reports posted at https://www.baaqmd.gov/about-air-quality/research-and-data/flare-data/flare-causal-reports and reports for incidents predating those posted at that link.
[136] Flaring causal analyses as cited above. Hydro-conversion includes hydrotreating and hydrocracking.
[137] *Id.*
[138] Flaring causal analyses as cited above. *See* reports for incidents starting 13 May 2010, 17 February 2011 and 17 April 2015.
[139] Process Safety Integrity, *Refining incidents;* https://processsafetyintegrity.com/incidents/industry/refining ; *see* Bayernoil Refinery Explosion, January 2018.
[140] Process Safety Integrity as cited above; *see* Syncrude Fort McMurray Refinery Fire, March 2017.
[141] Process Safety Integrity as cited above; *see* Sir Refinery Fire, January 2017.
[142] Process Safety Integrity as cited above; *see* Petrobras (RLAM) Explosion, January 2015.
[143] Process Safety Integrity as cited above; *see* BP Texas City Refinery Explosion, March 2005.
[144] Process Safety Integrity as cited above; *see* Chevron (Richmond) Refinery Explosion, March 1999.
[145] Process Safety Integrity as cited above; *see* Tosco Avon (Hydrocracker) Explosion, January 1997.

- A Los Angeles refinery hydrogen processing unit pipe rupture releases hydrogen and hydrocarbons that ignite in a 1992 explosion and fires that burn for three days;[146]
- A high-pressure hydrogen line fails in a 1989 fire which buckles the seven-inch-thick steel of a hydrocracker reactor that falls on nearby Richmond refinery equipment;[147]
- An undetected vessel overpressure causes a 1987 hydrocracker explosion and fire.[148]

O12-72 cont'd

Since the Project's new feedstock and process system are thus known to worsen the underlying conditions that can become (and have become) root causes of hazardous incidents, the DEIR should have disclosed, thoroughly evaluated, and mitigated these risks. The DEIR should have analyzed, *inter alia,* the impact of the proposed new feedstock and production process on worker safety, community safety, and upset frequency and impacts (including increased flaring – *see* Section VII).

D. Process Operation Mitigation Measures Can Reduce but Not Eliminate Process Safety Hazard Impacts

There are procedures to control the reaction heat, pressure – including through process operation measures such as quenching between catalyst beds in the reactor and careful control of how hot the reactor components get, how much hydrogen is added, how much feed is added, and how long the materials remain in the reactor, preventing hot spots from forming inside of it, and intensive monitoring for equipment damage and catalyst fouling. These measures should have been considered in the DEIR as mitigation for process safety impacts, but were not.

O12-73

However, such analysis would also need to account for the fact that these measures they are imperfect at best, and rely on both detailed understanding of complex process chemistry and monitoring of conditions in multiple parts of the process environment. Both those conditions are difficult to attain in current petroleum processing, and even more difficult with new feedstocks with which there is less current knowledge about the complex reactions and how to monitor them when the operator cannot "see" into the reactor very well during actual operation; and cannot meet production objectives if production is repeatedly shut down in order to do so.

In fact, the measures described above are "procedural safeguards,"[149] the least effective type of safety measure in the "Hierarchy of Hazard Control"[150] set forth in California process safety management policy for petroleum refineries.[151] Marathon itself added automated

[146] Process Safety Integrity as cited above; *see* Carson Refinery Explosion, October 1992.
[147] Process Safety Integrity as cited above; *see* Chevron (Richmond) Refinery Fire, April 1989.
[148] Process Safety Integrity as cited above; *see* BP (Grangemouth) Hydrocracker Explosion, March 1987.
[149] Procedural safeguards are policies, operating procedures, training, administrative checks, emergency response and other management approaches used to prevent incidents or to minimize the effects of an incident. Examples include hot work procedures and emergency response procedures. California Code of Regulations (CCR) § 5189.1 (c).
[150] This Hierarchy of Hazard Control ranks hazard prevention and control measures "from most effective to least effective [as:] First Order Inherent Safety, Second Order Inherent Safety, and passive, active and procedural protection layers." CCR § 5189.1 (c).
[151] We note that to the extent this state policy, the County Industrial Safety Ordinance, or both may be deemed unenforceable with respect to biorefineries which do not process petroleum, that only further emphasizes the need for full analysis of Project hazard impacts and measures to lessen or avoid them in the DEIR.

shutdown control logic systems to these procedural safeguards before it closed the refinery, but these are "active safeguards,"[152] the next least effect type of safety measure in the Hierarchy of Hazard Control. Marathon now proposes to replace some of the vessel and piping linings of its old Refinery equipment, which would be repurposed for the Project, with more corrosion-resistant metallurgy—an added layer of protection in those parts of the biorefinery where this proposal might be implemented, and a tacit admission that potential hazards of processing its proposed feedstock are a real concern. This type of measure is a "passive safeguard,"[153] the next least effective type of measure in the Hierarchy of Hazard Control, after procedural and active safeguards. Marathon has not proposed more effective first or second order inherent safety measures for the specific Project hazards identified above.

O12-73 cont'd

Importantly, and perhaps most telling, Marathon proposes to repurpose and continue to use the flare system of its closed refinery for this Project. DEIR at 2-22. Rather than eliminating underlying causes of safety hazard incidents or otherwise preventing them, refinery flare systems are designed to be used in procedures that minimize the effects of such incidents.[154] This is a procedural safeguard, again the least effective type of safety measure.[155] The flares would partially mitigate incidents that, in fact, are expected to occur if the Project is implemented, but flaring itself causes acute exposure hazards. And as incidents caused by underlying hazards that have not been eliminated continue to recur, they can eventually escalate to result in catastrophic consequences.

O12-74

E. The DEIR Should Have Evaluated the Potential for Deferred Mitigation of Process Hazards

The DEIR should have considered available means to address the Project design, and impose appropriate conditions and limitations, to mitigate process safety hazards. Examples of potential mitigation measures that should have been considered (in addition to the process measures referenced above of limited effectiveness) include the following:

- *Feedstock processing hazard condition.* The County could adopt a project condition to forgo or minimize the use of particularly high process hydrogen demand feedstocks. Since increased process hydrogen demand would be a causal factor for the significant process hazard impacts and some HEFA feedstocks increase process hydrogen demand significantly more than other others, avoiding feedstocks with that more hazardous processing characteristic would lessen or avoid the hazard impact.
- *Product slate processing hazard condition.* The County could adopt a project condition to forgo or minimize particularly high-process hydrogen demand product slates. Minimizing or avoiding HEFA refining to boost jet fuel yield, which significantly increases hydrogen demand, would thereby lessen or avoid further intensified hydrogen reaction hazard impacts.

O12-75

[152] Active safeguards are controls, alarms, safety instrumented systems and mitigation systems that are used to detect and respond to deviations from normal process operations; for example, a pump that is shut off by a high-level switch. CCR § 5189.1 (c).
[153] See CCR § 5189.1 (c).
[154] *See* BAAQMD regulations, § 12-12-301. Bay Area Air Quality Management District: San Francisco, CA.
[155] *See* Procedural Measure and Hierarchy of Hazard Control definitions under CCR § 5189.1 (c) in the notes above.

- *Hydrogen input processing hazard condition.* The County could adopt a project condition to limit hydrogen input per barrel, which could lessen or avoid the process hazard impacts from particularly high-process hydrogen demand feedstocks, product slates, or both.
- *Hydrogen backup storage processing hazard condition.* The County could adopt a project condition to store hydrogen onsite for emergency backup use. This would lessen or avoid hydro-conversion plant incident impacts caused by the sudden loss of hydrogen inputs when hydrogen plants malfunction, a significant factor in escalating incidents.

O12-75 cont'd

Commenters are not necessarily recommending these particular measures. However, these and any other options for mitigating process hazards through design or other conditions should have been considered, and were not.

VI. THE DEIR INADEQUATELY DISCLOSES AND ADDRESSES PROJECT GREENHOUSE GAS AND CLIMATE IMPACTS

The DEIR analysis of greenhouse gas (GHG) emissions and climate impacts suffers from the same baseline-related flaw as numerous other subjects in the document, *i.e.*, it determines emission impacts from a baseline of continuing crude oil production as opposed to actual current shutdown conditions. Based on the flaw alone, the DEIR analysis of GHG emissions impacts must be revised to incorporate the correct baseline.

O12-76

However, even aside from this major flaw, the DEIR's analysis of GHG and climate impacts is deficient. The document identifies as significance criteria both (1) whether the Project would generate significant GHG emissions, and (2) whether it would "conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG." DEIR at 3.8-19. The DEIR fails to adequately evaluate the first significance criterion because it fails to account for potentially increased GHG emissions associated with the processing of varying biofuel feedstocks. It also fails to adequately evaluate the second significance criterion, because it ignores the potential downstream impact of a significant increase in biofuel production on state and local climate goals. As noted in the Scoping Comments but not addressed in the DEIR at all, those goals include an increase in use of battery electric vehicles to electrify the state's transportation sector and decrease use of combustion fuels[156]; as well as a "Diesel Free by '33" pledge promoted by BAAQMD and entered into by Contra Costa County, which commits the County to, *inter alia,* "[u]se policies and incentives that assist the private sector as it moves to diesel-free fleets and buildings."[157] The DEIR further fails to identify the significant shifting of GHG emissions from California to other jurisdictions that would likely occur as a consequence of the Project.

O12-77

O12-78

The following sections address the various potential conflicts between the Project and state and local plans, policies, and regulations adopted for the purpose of reducing GHG

[156] Executive Order N-79-20 dated September 23, 2020, *available at* https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-text.pdf.

[157] *See* https://dieselfree33.baaqmd.gov/ (landing page), https://dieselfree33.baaqmd.gov/statement-of-purpose (text of the pledge), https://dieselfree33.baaqmd.gov/signatories (signatories).

emissions that render the Project's impacts potentially significant, but which the DEIR nonetheless failed to consider.

A. The DEIR Air Impacts Analysis Fails to Take Into Account Varying GHG Emissions from Different Feedstocks and Crude Slates

The following subsections discuss ways in which project GHG emissions vary widely with feedstock choice, as well as reasons why those emissions may increase rather than decrease over the comparable crude oil refining emissions.

1. Processing Biofuel Feedstock Instead of Crude Oil Can Increase Carbon Emission Intensity of the Refining Process

The DEIR did not address the fact that the process of refining biofuel feedstocks is significantly more carbon intense than crude oil refining. This increased carbon intensity has primarily to do with the fact that HEFA feedstocks have vastly more oxygen in them than crude oil – and hence require more hydrogen production to remove that oxygen. The oxygen content of the various proposed Project feedstocks is approximately 11 wt. % (Table 6), compared with refining petroleum crude, which has virtually no oxygen. Oxygen would be forced out of the HEFA feedstock molecules by bonding them with hydrogen to make water (H_2O), which then leaves the hydrocarbon stream. This process consumes vast amounts of hydrogen, which must be manufactured in amounts that processing requires. The deoxygenation process chemistry further boosts HEFA process hydrogen demand by requiring saturation of carbon double bonds.

O12-79

These "hydrodeoxygenation" (HDO) reactions are a fundamental change from petroleum refining chemistry. This new chemistry is the main reason why—despite the "renewable" label Marathon has chosen—its biorefinery could emit more carbon per barrel processed than petroleum refining. That increase in the carbon intensity of fuels processing would be directly connected to the proposed change in feedstock.

Table 6. Impact of Project Feedstock Choice on CO_2 Emissions from Hydrogen Production for Marathon Project Targeting Diesel: Estimates based on readily available data.

t/y: metric tons/year **kg:** kilogram **b:** barrel, 42 U.S. gallons

	Feedstock			Difference	
	Tallow	**Soy oil**	**Fish oil**	**Soy oil–tallow**	**Fish oil–tallow**
Processing characteristics [a]					
Oxygen content (wt. %)	11.8	11.5	11.5	– 0.3	– 0.3
H_2 for saturation (kg H_2/b)	0.60	1.58	2.08	+ 0.98	+ 1.48
H_2 for deoxygenation (kg H_2/b)	4.11	4.11	4.13	0.00	+ 0.02
Other H_2 consumption (kg H_2/b)	0.26	0.26	0.26	0.00	0.00
Process H_2 demand (kg H_2/b)	4.97	5.95	6.47	0.98	1.50
Hydrogen plant emission factor					
HEFA mixed feed (g CO_2/g H_2) [a]	9.82	9.82	9.82		
Methane feed (g CO_2/g H_2) [b]	9.15	9.15	9.15		
Hydrogen plant CO_2 emitted					
HEFA mixed feed (t/y) [a]	855,000	1,020,000	1,110,000	165,000	255,000
Methane feed (t/y) [b]	797,000	954,000	1,040,000	157,000	243,000

a. Data from HEFA feedstock-specific composition analysis based on multiple feed measurements, process analysis for HEFA hydro-conversion process hydrogen demand, and emission factor based on median SF Bay Area hydrogen plant verified design performance and typical expected HEFA process hydrogen plant feed mix. From Karras, 2021b. *See* also Karras, 2021a.
b. Data from Sun et al. for median California merchant steam methane reforming hydrogen plant performance. Sun et al., 2019. Criteria Air Pollutants and Greenhouse Gas Emissions from Hydrogen Production in U.S. Steam Methane Reforming Facilities. Environ. Sci. Technol. 53: 7103–7113. https://pubs.acs.org/doi/10.1021/acs.est.8b06197 Note that these steam methane reforming plant data are shown for context. Steam reforming of HEFA byproduct propane can be expected to increase direct emissions from the steam reforming and shift reactions. Karras, 2021a. Mass emissions based on 48,000 b/d project capacity. Fish oil values shown are based on menhaden.

O12-79 cont'd

Hydrogen must be added to bond with oxygen in HEFA feeds and thereby remove the oxygen in them, and to bond with carbon atoms in fatty acids in order to facilitate this deoxygenation of the feed carbon chains converted to hydrocarbons. This increases the hydrogen needed for the proposed HEFA[158] processing over and above the hydrogen that was needed for the crude refining that formerly took place at the Refinery. Deoxygenation is the major driver of this high process hydrogen demand, but HEFA feeds are consistently high in hydrogen, while some have more carbon double bonds that must be "saturated" first, and thus higher saturation hydrogen demand, than other feeds. Table 6 shows both of these things.

The DEIR – to the extent it considers past petroleum refining emissions in its analysis – must consider the air emissions impact of increased hydrogen use. Oxygen-rich HEFA feedstocks force increased hydrogen production – and attendant hydrogen production emissions -- by a proportional amount. These emissions are significant, because Marathon proposes to make that hydrogen in existing fossil fuel hydrogen plants. This hydrogen steam reforming technology is extremely carbon intensive. It burns a lot of fuel to make superheated high-pressure steam mixed with hydrocarbons at temperatures up to 1,400–1,900 ºF. And on top of those combustion emissions, its "reforming" and "shift" reactions produce hydrogen by taking it

O12-80

[158] As noted in previous sections, the type of drop-in biofuel technology proposed is called "Hydrotreating Esters and Fatty Acids" (HEFA).

from the carbon in its hydrocarbon feed. That carbon then bonds with oxygen to form carbon dioxide (CO_2) that emits as well. Making the vast amounts of hydrogen needed for project processing could cause CO_2 emissions from project hydrogen plants alone to exceed a million tons each year.

The resulting carbon intensity difference between crude oil refining and biofuel refining is striking. CO_2 emissions from U.S. petroleum refineries averaged 41.8 kg per barrel crude feed from 2015-2017 (the most recent data available).[1] By contrast, HEFA production emits 55-80 kg per barrel biomass feed associated with increased hydrogen production *alone* – such exceeding petroleum refining carbon intensity by 32-91 percent. Beyond the hydrogen-production driver of increased carbon intensity, additional CO_2 would emit from fuel combustion for energy to heat and pressure up HEFA hydro-conversion reactors, precondition and pump their feeds, and distill, then blend their hydrocarbon products.[159]

O12-80 cont'd

2. GHG Emissions Impacts Vary With Different Potential Feedstocks

Crucially, feeds that the project targets, such as tallow and SBO - and some that it does not but may nonetheless potentially use such as fish oil - require hydrogen for processing to significantly different degrees. Table 6 shows this difference in weight percent, a common measure of oil feed composition. The 0.98 kilograms per barrel feed difference in hydrogen saturation between soy oil and tallow is why processing soy oil requires that much more hydrogen per barrel of project feed (0.98 kg H_2/barrel). Table 6. Similarly, the 1.48 kg/b difference between saturating fish oil and tallow requires 1.48 more kilograms of hydrogen per barrel to make so-called "renewable" diesel from fish oil than to make it from tallow. *Id.*

Thus, feedstock choice would drive the magnitude of carbon emissions to a significant degree. *Id.* For instance, to the extent Marathon runs SBO, Project hydrogen plants could emit approximately 165,000 metric tons more CO_2 each year than if it runs tallow. *Id.* This 165,000 t/y excess would exceed the emissions significance threshold for greenhouse gases in the DEIR, 10,000 metric tons/year CO_2e (DEIR at 3.8-16) by *15 times.* And if Marathon were to run fish oil, another potential feedstock not specifically targeted but also not excluded, the estimates in Table 6 suggest that Project hydrogen plants could emit 255,000 tons/year more CO_2 than if it runs tallow, or *24 times* that significance threshold. Thus, available evidence indicates that the choice among project feedstocks itself could result in significant emission impacts. Therefore, emissions from each potential feedstock should be estimated in the EIR.

O12-81

The CO_2 emissions estimates in Table 6 are relatively robust and conservative, though the lack of project specific-details disclosed in the DEIR described in Section II still raises questions a revised County analysis should answer. The carbon intensity estimate for HEFA hydrogen production is remarkably close that for steam methane reforming, as expected since hydrocarbon byproducts of HEFA refining, when mixed with methane in project hydrogen plants, would form

O12-82

[159] Karras, 2021. Unverified potential to emit calculations provided by one refiner[1] suggest that these factors could add ~21 kg/b to the 55-80 kg/b from HEFA steam reforming. This ~76–101 kg/b HEFA processing total would exceed the 41.8 kg/b carbon intensity of the average U.S. petroleum refinery by ~82-142 percent. Repurposing refineries for HEFA biofuels production using steam reforming would thus increase the carbon intensity of hydrocarbon fuels processing. *See* supporting material for Karras, 2021a.

more CO_2 per pound of hydrogen produced than making that hydrogen from methane alone. The estimate may indeed turn out to be too low, given the variability in hydrogen plant emissions generally,[160] the tendency of older plant designs to be less efficient and higher-emitting, and since the Marathon No. 1 Hydrogen Plant design is a 1963 vintage.[161] The DEIR should have evaluated this part of Project processing emissions using data for the Marathon and Air Products hydrogen plants that would be used by the Project; and Marathon should have been required to provide detailed data on those plants to support this estimate.

O12-82 cont'd

Feedstock choices can impact other greenhouse gases as well through varying hydrogen demand. In addition to the potential for feedstock-driven increases in emissions of CO_2, the proposed hydrogen production would emit methane, a potent greenhouse gas that also contributes to ozone formation, via "fugitive" leaks or vents. Aerial measurements and investigations triggered by those recent measurements suggest, further, that methane emissions from hydrogen production have been underestimated dramatically.[162]

O12-83

Crucially as well, making a different product slate can increase GHG emissions from the same feedstock. This is why, for example, the California Air Resources Board estimates a different carbon intensity for refining gasoline, diesel, or jet fuel from the same crude feed. It is relevant because, although Marathon originally said that the project would target drop-in biodiesel, it could switch to target jet fuel production. Indeed, Marathon hinted recently that it may do so.[163] Available evidence suggests that targeting jet fuel instead of drop-in diesel production from the same vegetable oil or animal fat feed could increase processing emissions significantly.[164] Thus, since differences between potential project feedstocks and project products could each increase emissions independently or in combination, the DEIR should have estimated emissions for each potential project feedstock for product slates targeting both diesel and jet fuel.

O12-84

Thus, processing emissions of GHGs should have been estimated in the DEIR for each potential project feedstock and product slate, or range of product slates, proposed to be manufactured from it, including a reasonable worst case scenario.

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[160] Sun et al., 2019. Criteria Air Pollutants and Greenhouse Gas Emissions from Hydrogen Production in U.S. Steam Methane Reforming Facilities. Environ. Sci. Technol. 53: 7103–7113. https://pubs.acs.org/doi/10.1021/acs.est.8b06197 .

[161] BAAQMD Source S-1005. *See* Application 28789 File, submitted to the Bay Area Air Quality Management District (BAAQMD) by Tosco Corp. on 9 Sep 1982 for permits regarding this refinery now owned by Marathon. *See* esp. Form G for Source S-1005 as submitted by M. M. De Leon, Tosco Corp., on 11/12/82.

[162] Guha et al., 2020. *Environ. Sci. Technol.* 54: 9254–9264 and Supporting Information. https://dx.doi.org/10.1021/acs.est.0c01212

[163] Compare January 29, 2021 draft Project Description at 1-1 ("including renewable diesel, renewable propane, renewable naphtha, *and potentially renewable jet*") (emphasis added) with October 2020 Project Description at 1-1 ("including renewable diesel, renewable propane, and renewable naphtha"). We note in this regard that as stated in its title, the preliminary estimates in Table 2 are based on the conversion of Project feedstocks into diesel, not jet fuel. Emissions from jet fuel production could be significantly higher.

[164] Seber et al., 2014. *Biomass and Bioenergy* 67: 108–118. http://dx.doi.org/10.1016/j.biombioe.2014.04.024. *See* also Karatzos et al., 2014. Report T39-T1, IEA Bioenergy Task 39. IEA ISBN: 978-1-910154-07-6. (*See* esp. p. 57; extra processing and hydrogen required for jet fuel over diesel.) https://task39.sites.olt.ubc.ca/files/2014/01/Task-39-Drop-in-Biofuels-Report-FINAL-2-Oct-2014-ecopy.pdf. *See also* Karras, 2021b.

B. The DEIR Failed to Consider the Impact of Biofuel Oversupply on Climate Goals

California has implemented a series of legislative and executive actions to reduce greenhouse gas emissions (GHGs) and address climate change. Two flagship bills were aimed at directly reducing GHG emissions economy wide: AB32, which called for reductions in GHG emissions to 1990 levels by 2020;[165] and SB32, which calls for reductions in GHG emissions to 40% below 1990 levels by 2030.[166] Following this, California Executive Order S-3-05 calls for a reduction in GHG emissions to 80% below 1990 levels by 2050.[167] Finally, Executive Order B-55-18 calls for the state "to achieve carbon neutrality as soon as possible, but no later than 2045, and achieve and maintain net negative emissions thereafter."[168]

In order to meet these legislative and executive imperatives, numerous goals have been set to directly target the state's GHG emissions just in the last two years: for 100% of light-duty vehicle (LDV) sales to be zero-emission vehicles (ZEVs) by 2035; for 100% of medium- and heavy-duty vehicle (MDV and HDV) sales to be ZEVs by 2045;[169] for a ban on hydraulic fracturing by 2024; and for an end to all state oil drilling by 2045.

O12-85

Such goals, both the ZEV sales mandates that target liquid combustion fuel demand and the proposed bans on petroleum extraction that target supply, point to the need to transition from petroleum-based transportation fuels to sustainable alternatives. The DEIR frames biofuels as a means to reduce reliance on "traditional" transportation fuels, the original purpose of the LCFS. DEIR at 3.8-13. It insists that this Project is a necessary fulfillment of the 2017 Scoping Plan and LCFS. DEIR at 3.8-22. However, the 2017 Scoping Plan targets do not distinguish between fuel technologies (e.g. HEFA v. Fischer-Tropsch) or feedstock (crop-based lipid v. cellulosic). Yet feedstock and technology make a significant difference on GHG emissions. If anything, the environmental analysis of the 2017 Scoping Plan, like that of the LCFS, predicted that crop-based biofuels would need additional project-specific environmental analysis and mitigation.[170] This cursory invocation of the LCFS fails to address the problem of biofuel volume: too much biofuel production risks interfering with the ZEV goals most recently established by Governor Newsom. The overproduction problem is related in part to the higher carbon intensity of biofuel refining as compared to oil refining, and in part to its volume effects on the types, amounts, and locations of both zero-emission and petroleum fuels production and use. This problem of overproduction is not addressed in the LCFS. The LCFS, designed to establish incremental per-

[165] Legislative Information, AB-32, California Global Warming Solutions Act of 2006 (Accessed November 29, 2021), http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.html
[166] Legislative Information, SB-32 California Global Warming Solutions Act of 2006: Emissions Limit, (Accessed November 29, 2021), from https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32
[167] Executive Order S-3-05. Executive Department, State of California, Arnold Schwarzenegger, Governor, State of California; https://www.library.ca.gov/wp-content/uploads/GovernmentPublications/executive-order-proclamation/5129-5130.pdf.
[168] Executive Order B-55-18. Executive Department, State of California, Edmund Brown, Governor, State of California; https://www.ca.gov/archive/gov39/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf.
[169] Executive Order N-79-20. Executive Department, State of California, Gavin Newsom, Governor, State of California; https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf
[170] California Air Resources Board. Appendix F: Final Environmental Analysis for The Strategy for Achieving California's 2030 Greenhouse Gas Target, pp. 56, https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/2030sp_appf_finalea.pdf. .

barrel impacts, is not set up to address the macro impact of overproduction of combustion fuels on California climate goals.

O12-85 cont'd

In numerous state-sponsored studies, there is acknowledgment of the need to limit our biofuel dependence. These studies consistently demonstrate that California's climate goals require a dramatic reduction in the use of *all* combustion fuels in the state's transportation sector, not just petroleum-based fuels. They indicate the need for biofuel use to remain limited. Specifically, pathway scenarios developed by Mahone et al. for the California Energy Commission (CEC),[171] Air Resources Board (CARB)[172] and Public Utilities Commission,[173] Austin et al. for the University of California,[174] and Reed et al. for UC Irvine and the CEC[58] add semi-quantitative benchmarks to the 2050 emission target for assessing refinery conversions to biofuels. They join other work in showing the need to decarbonize electricity and electrify transportation.[175] Their work evaluates a range of paths to state climate goals,[176] analyzes the roles of liquid hydrocarbon combustion fuels and hydrogen in this context,[177] and addresses potential biomass fuel chain effects on climate pathways.[178]

O12-86

[171] Mahone et al., 2018. *Deep Decarbonization in a High Renewables Future: Updated results from the California PATHWAYS Model;* Report CEC-500-2018-012. Contract No. EPC-14-069. Prepared for California Energy Commission. Final Project Report. Energy and Environmental Economics, Inc.: San Francisco, CA. https://ww2.energy.ca.gov/2018publications/CEC-500-2018-012/CEC-500-2018-012.pdf

[172] Mahone et al., 2020. Achieving Carbon Neutrality in California: Pathways Scenarios Developed for the California Air Resources Board, California Air Resources Board, Energy and Environmental Economics, Inc. https://ww2.arb.ca.gov/sites/default/files/2020-10/e3_cn_final_report_oct2020_0.pdf.

[173] Mahone et al., 2020b. *Hydrogen Opportunities in a Low-Carbon Future: An Assessment of Long-Term Market Potential in the Western United States;* Energy and Environmental Economics, Inc.: San Francisco, CA. Report prepared for ACES, a joint development project between Mitsubishi Hitachi Power Systems Americas, Inc. and Magnum Development, LLC. Submitted to the California Public Utilities Commission June 2020. https://www.ethree.com/?s=hydrogen+opportunities+in+a+low-carbon+future

[174] Austin et al., 2021. *Driving California's Transportation Emissions to Zero;* Report No.: UC-ITS-2020-65. Institute of Transportation Studies, University of California. DOI: 10.7922/G2MC8X9X. https://escholarship.org/uc/item/3np3p2t0

[175] Mahone et al 2018; Mahone et al. 2020a; Mahone et al. 2020b; Austin et al. 2021; Reed et al., 2020. *Roadmap for the Deployment and Buildout of Renewable Hydrogen Production Plants in California;* Final Project Report CEC-600-2020-002. Prepared for the California Energy Commission by U.C. Irvine Advanced Power and Energy Program. Clean Transportation Program, California Energy Commission: Sacramento, CA. https://efiling.energy.ca.gov/getdocument.aspx?tn=233292; Williams et al., 2012. The Technology Path to Deep Greenhouse Gas Emissions Cuts by 2050: The Pivotal Role of Electricity. *Science* 53–59. https://doi.org/DOI: 10.1126/science.1208365; Williams et al., 2015. Pathways to Deep Decarbonization in the United States; The U.S. report of the Deep Decarbonization Pathways Project of the Sustainable Development Solutions Network and the Institute of Sustainable Development and International Relations. Revision with technical supp. Energy and Environmental Economics, Inc., in collaboration with Lawrence Berkeley National Laboratory and Pacific Northwest National Laboratory. https://usddpp.org/downloads/2014-technical-report.pdf; Williams et al., 2021. Carbon-Neutral Pathways for the United States. *AGU Advances* 2, e2020AV000284. https://doi.org/10.1029/2020AV000284.

[176] Mahone et al. 2020a.

[177] Mahone et al. 2018; Mahone et al. 2020a; Mahone et al. 2020b; Austin et al. 2020; Reed et al. 2020.

[178] Mahone et al. 2018; Mahone et al. 2020a; Reed et al. 2020.

Mahone's study prepared for CARB explored three scenarios for achieving carbon neutrality by 2045.[179] The scenarios include "The Zero Carbon Energy scenario" which would achieve zero-fossil fuel emission by 2045 with minimal use of carbon dioxide removal (CDR) strategies, "The High CDR scenario" which would achieve an 80% reduction in gross GHG emissions by 2045 but relies heavily on CDR, and "The Balanced scenario" which serves as a midpoint between the other two scenarios. Notably, all three of these pathways cut liquid petroleum fuel use dramatically, with biofuels replacing only a portion of that petroleum. Chart 1 illustrates the transportation fuel mix for these three pathways:

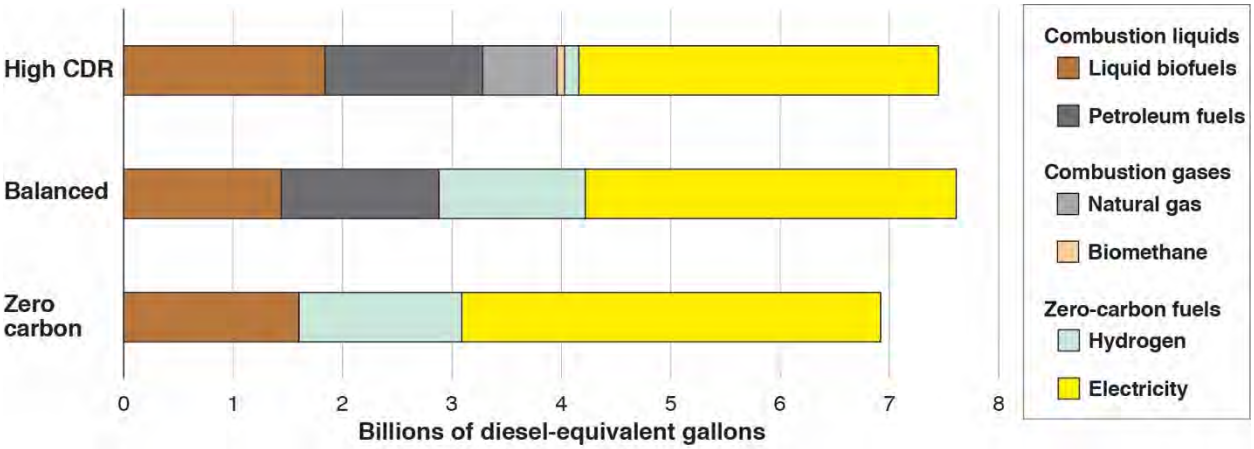


Chart 1: California Transportation Fuels Mix in 2045: Balanced and "bookend" pathways to the California net-zero carbon emissions goal.
Adapted from Figure 8 in Mahone et al. (2020).[180] Fuel shares converted to diesel energy-equivalent gallons based on Air Resources Board LCFS energy density conversion factors. **CDR:** carbon dioxide removal (sequestration).

Total liquid hydrocarbon combustion fuels for transportation in 2045, including both petroleum and biofuels, range among the pathways from approximately 1.6 to 3.3 billion gallons/year, with the lower end of the range corresponding to "The Zero Carbon Energy scenario," and the higher end of the range corresponding to "The High CDR scenario." The range represents roughly 9% to 18% of statewide annual petroleum transportation fuels use from 2013-2017, indicating the planned reduction in liquid hydrocarbon combustion fuels reliance by 2045.[181] Liquid biofuels account for approximately 1.4 to 1.8 billion gallons/year by 2045, which is roughly 40% to 100% of liquid transportation fuels use in 2045 depending on scenario, with 100% corresponding to "The Zero Carbon Energy Scenario." So, in "The Zero Carbon Energy Scenario," the most ambitious of the three, though biofuels constitute the entirety of liquid transportation fuel use, liquid transportation fuel use overall is greatly reduced.

O12-87

These State-commissioned studies put limits on the use of biofuels by specifically excluding or limiting the production of HEFA ("lipid") fuels. PATHWAYS, the primary

O12-88

[179] Mahone et al., 2020. Achieving Carbon Neutrality in California: Pathways Scenarios Developed for the California Air Resources Board, California Air Resources Board, Energy and Environmental Economics, Inc. https://ww2.arb.ca.gov/sites/default/files/2020-10/e3_cn_final_report_oct2020_0.pdf .
[180] Mahone et al., 2020.
[181] Mahone et al., 2020.

modeling tool for the AB 32 Scoping Plan, now run a biofuels module to determine a least-cost portfolio of the biofuel products ultimately produced (e.g. liquid biofuel, biomethane, etc.) based on biomass availability.[182] Mahone et al. chose to exclude purpose-grown crops, as explained in prior similar studies, because of its harmful environmental impacts and climate risks and further limitied the biomass used to in-state production in addition to California's population-weighted share of total national waste biomass supply.[183] Consequently, it was assumed that all California biofuel feedstock should be cellulosic residues as opposed to the typical vegetable oil and animal fat HEFA feedstocks. A study by Austin et al. meanwhile, in considering pathways to reduce California's transportation emissions, placed a cap on HEFA jet fuel and diesel use to a maximum of 0.5–0.6 and 0.8–0.9 billion gallons/year, respectively.[184] Yet new in-state HEFA distillate (diesel and jet fuel) production proposed statewide, with a large share to come from the Martinez Refinery, would total approximately 2.1 billion gallons/year when fully operational.[185] If fully implemented, HEFA fuel production could exceed caps of 0.0–1.5 billion gallons/year prescribed by the aforementioned state climate pathways.

O12-88 cont'd

In both studies, the reason given for limiting HEFA fuel reliance is the difficult-to-predict land use emissions associated with HEFA feedstocks. As discussed in the previous subsection, HEFA fuels can be associated with significant greenhouse gas emissions, on par with emissions from conventional oil production in some cases. Additionally, the refining emissions associated with HEFA production, impact HEFA fuel cycle emissions—an impact that the DEIR did not consider. The carbon intensity of HEFA refining is roughly 180% to 240% of the carbon

[182] E3 introduced a new biofuels module in the model that, unlike previous iterations of the PATHWAYS model, endogenously selects least-cost biofuel portfolios given the assumed available biomass. Mahone et al., 2020, footnote 2 at 19-20.

[183] *See e.g.,* Mahone et al., 2018. *Deep Decarbonization in a High Renewables Future: Updated results from the California PATHWAYS Model;* Report CEC-500-2018-012. Contract No. EPC-14-069. Prepared for California Energy Commission. Final Project Report. Energy and Environmental Economics, Inc.: San Francisco, CA. https://ww2.energy.ca.gov/2018publications/CEC-500-2018-012/CEC-500-2018-012.pdf ("most scenarios apply this more restrictive biomass screen to avoid the risk that the cultivation of biomass for biofuels could result in increased GHG emissions from natural or working lands.", pp. 10)

[184] Austin et al., 2021. *Driving California's Transportation Emissions to Zero;* Report No.: UC-ITS-2020-65. Institute of Transportation Studies, University of California. DOI: 10.7922/G2MC8X9X. https://escholarship.org/uc/item/3np3p2t0

[185] Supporting Material Appendix for *Changing Hydrocarbons Midstream: Fuel chain carbon lock-in potential of crude-to-biofuel petroleum refinery repurposing;* prepared for the Natural Resources Defense Council (NRDC) by Greg Karras, G. Karras Consulting, www.energy-re-source.com; *Application for Authority to Construct Permit and Title V Operating Permit Revision for Rodeo Renewed Project: Phillips 66 Company San Francisco Refinery (District Plant No. 21359 and Title V Facility # A0016);* Prepared for Phillips 66 by Ramboll US Consulting, San Francisco, CA. May 2021; *Initial Study for: Tesoro Refining & Marketing Company LLC—Marathon Martinez Refinery Renewable Fuels Project;* received by Contra Costa County Dept. of Conservation and Development 1 Oct 2020; *April 28, 2020 Flare Event Causal Analysis; Tesoro Refining and Marketing Company, subsidiary of Marathon Petroleum, Martinez Refinery Plant #B2758;* report dated 29 June, 2020 submitted by Marathon to the Bay Area Air Quality Management District: San Francisco, CA. https://www.baaqmd.gov/about-air-quality/research-and-data/flare-data/flare-causal-reports; *Paramount Petroleum, AltAir Renewable Fuels Project Initial Study;* submitted to City of Paramount Planning Division, 16400 Colorado Ave., Paramount, CA. Prepared by MRS Environmental, 1306 Santa Barbara St., Santa Barbara, CA; Brelsford, R. Global Clean Energy lets contract for Bakersfield refinery conversion project. *Oil & Gas Journal.* 2020. Jan. 9, 2020.

intensity of refining at the average U.S. crude refinery.[186] Those refining emission increments would then add to the potentially larger effect of overuse of biofuels instead of ZEVs.

Repurposing refineries for HEFA biofuels production using steam reforming would thus increase the carbon intensity of hydrocarbon fuels processing when climate goals demand that carbon intensities decrease. . That could contribute significantly to emissions in excess of the needed climate protection and state policy trajectory. California's goal of 2050 goal of emissions 80% below 1990 levels by 2050[187] is equivalent to 86.2 million tons (MT) CO_2eq emissions in 2050. Given future projections of transportation fuel demand, HEFA diesel and jet fuel CO_2eq emissions could reach 66.9 Mt per year in 2050. [188] Adding in emissions from remaining petroleum fuel production could push emissions to 91 Mt in 2050.[189] Total 2050 emissions would thus be larger than the state target.

O12-88 cont'd

Similarly, the goal of carbon neutrality by 2045 either requires no emissions in 2045, or for emissions that do occur to be offset by negative emissions technologies such as carbon capture and storage (CCS). Relying on HEFA fuels in the future means that there will be emissions, so without CCS, carbon neutrality will not be reached. Yet carbon capture and storage has not been proven at scale, so it cannot be relied upon to offset HEFA fuel-associated emissions to meet mid-century emissions goals. Existing CCS facilities capture less than 1 percent of global carbon emissions, while CCS pilot projects have repeatedly overpromised and underdelivered in providing meaningful emissions reductions.[190] Therefore, repurposing idled petroleum refinery assets for HEFA biofuels will cause us to miss key state climate benchmarks.

The DEIR's conclusion that the Project is consistent with state climate directives without the analysis described above is a fatal flaw in that conclusion. A recirculated DEIR must evaluate all of the pathway studies and analysis described in this section, and make a determination regarding the Project's consistency with the state's climate law and policy based on all of the factors described in this comment.

C. The DEIR Failed to Consider a Significant Potential GHG Emission Shifting Impact Likely to Result from the Project

O12-89

Despite claims that biofuels have a carbon benefit, the data thus far show that increased biofuel production has actually had the effect of *increasing* total GHG emissions, by simply pushing them overseas. Instead of replacing fossil fuels, adding renewable diesel to the liquid combustion fuel chain in California resulted in refiners increasing exports of petroleum distillates

[186] The difference between the upper and lower bounds of that range is driven by the (here undisclosed in the DEIR) difference between choices by the refinery to be made by Marathon: among HEFA feeds, and between diesel versus jet fuel production targets. Karras, 2021a.
[187] The 80% is required as a direct emission reduction, not a net reduction that may take into consideration negative emission measures such as CCS. Executive Order S-3-05.
[188] Karras, 2021a. For context, HEFA hydrogen steam reforming emissions alone could account for some 20 Mt/yr or more of this projected 66.9 Mt/yr.
[189] *Id.*
[190] Center for International Environmental Law, Confronting the Myth of Carbon-Free Fossil Fuels, Why Carbon Capture Is Not a Climate Solution (2021), https://www.ciel.org/wp-content/uploads/2021/07/Confronting-the-Myth-of-Carbon-Free-Fossil-Fuels.pdf.

burned elsewhere, causing a worldwide net increase in GHG emissions. The DEIR improperly concludes the project would decrease net GHG emissions[191] without disclosing this emission-shifting (leakage) effect. A series of errors and omissions in the DEIR further obscures causal factors in the emission shifting by which the project would cause and contribute to this significant potential impact.

O12-89 cont'd

1. The DEIR Fails to disclose or Evaluate Available Data That Contradict Its Conclusion That the Project Would Result in a Net Decrease in GHG Emissions.

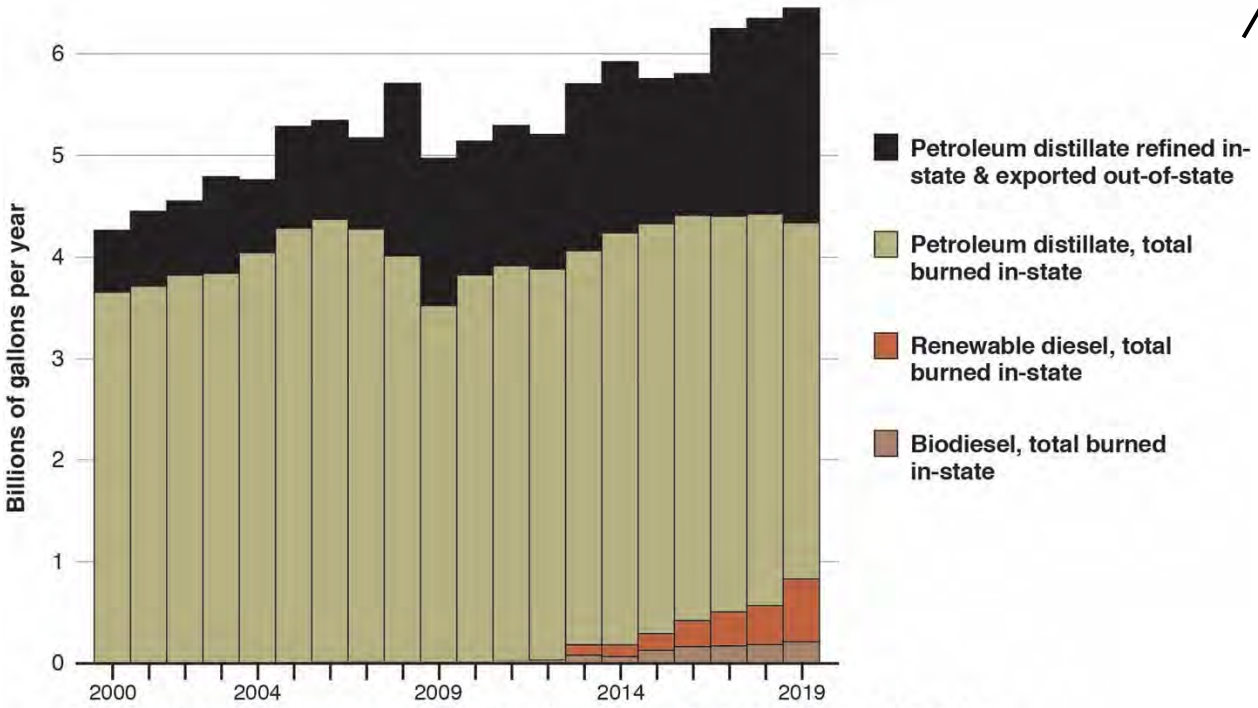
State climate law warns against "a reduction in emissions of greenhouse gases within the state that is offset by an increase in emissions of greenhouse gases outside the state."[192] However, the DEIR fails to evaluate this emission-shifting impact of the project. Relevant state data that the DEIR failed to disclose or evaluate include volumes of petroleum distillates refined in California[193] and total distillates—petroleum distillates and diesel biofuels—burned in California.[194] Had the DEIR evaluated these data the County could have found that its conclusion regarding net GHG emissions resulting from the project was wholly unsupported.

O12-90

As shown in Chart 2, petroleum distillate fuels refining for export continued to expand in California in the last two decades even as biofuel production ramped up in recent years. It is clear from this data that renewable diesel production since 2012 - originally expected to replace fossil fuels - actually merely added a new source of carbon to the global liquid combustion fuel chain. Total distillate volumes, including diesel biofuels burned in-state, petroleum distillates burned in-state, and petroleum distillates refined in-state and exported to other states and nations, increased from approximately 4.3 billion gallons per year to approximately 6.4 billion gallons per year between 2000 and 2019.[195] [196]

Specifically, crude refining for export (black in the chart) expanded after in-state burning of petroleum distillate (olive) peaked in 2006, and the exports expanded again from 2012 to 2019 with more in-state use of diesel biofuels (dark red and brown). From 2000 to 2012 petroleum-related factors alone drove an increase in total distillates production and use associated with all activities in California of nearly one billion gallons per year. Then total distillates production and use associated with activities in California increased again, by more than a billion gallons per year from 2012 to 2019, with biofuels accounting for more than half that increment. These state data show that diesel biofuels did not, in fact, replace petroleum distillates refined in California during the eight years before the project was proposed. Instead, producing and burning more renewable diesel *along with* the petroleum fuel it was supposed to replace emitted more carbon.

[191] "Project would result in an overall decrease in emissions ... [including] indirect GHG emissions" (DEIR p. 3.8-20) and "GHG emissions from stationary and mobile sources" DEIR at 3.8-22.
[192] CCR §§ 38505 (j), 38562 (b) (8).
[193] CEC Fuel Watch data, various dates.
[194] CARB GHG Inventory Fuel Activity data, 2019 update.
[195] *Id.*
[196] CEC *Fuel Watch*. Weekly Refinery Production. California Energy Commission: Sacramento, CA. https://ww2.energy.ca.gov/almanac/petroleum_data/fuels_watch/output.php



Distillate fuel shares associated with all activities in California, 2000–2019.
Growth in total distillates excluding jet fuel and kerosene from State data.

CHART 2. Data from CEC Fuel Watch and CARB GHG Inventory Fuel Activity Data, 2019 update.

O12-90 cont'd

2. <u>The DEIR Fails to Consider Exports in Evaluating the Project's Climate Impact</u>

The DEIR describes potential GHG emissions resulting from imports[197] while ignoring fuels exports from California refineries and conditions under which these exports occur – a key factor in assessing the Project's global climate impact, as discussed in the previous subsection. As a result, the DEIR fails to disclose that crude refineries here are net fuels exporters, that their exports have grown as in-state and West Coast demand for petroleum fuels declined, and that the structural overcapacity resulting in this export emissions impact would not be resolved and could be worsened by the project.

O12-91

Due to the concentration of petroleum refining infrastructure in California and on the U.S. West Coast, including California and Puget Sound, WA, these markets were net exporters of transportation fuels before renewable diesel flooded into the California market.[198] Importantly, before diesel biofuel addition further increased refining of petroleum distillates for export, the structural over-capacity of California refining infrastructure was evident from the increase in their exports after in-state demand peaked in 2006. *See* Chart 2. California refining capacity, especially, is overbuilt.[199] Industry reactions -- seeking to protect those otherwise stranded refining assets through increased refined fuels exports as domestic markets for petroleum fuels declined -- resulted in California refiners exporting fully 20% to 33% of

[197] DEIR p. 4-12
[198] USEAI, 2015.
[199] Karras, 2020. *Decommissioning California Refineries.*

statewide refinery production to other states and nations from 2013–2017.[200] West Coast data further demonstrate the strong effect of changes in domestic demand on foreign exports from this over-built refining center.[201] *See* Table 7.

Table 7. West Coast (PADD 5) Finished Petroleum Products: Decadal Changes in Domestic Demand and Foreign Exports, 1990–2019.

Total volumes reported for ten-year periods

	Volume (billions of gallons)		Decadal Change (%)	
Period	Demand	Exports	Demand	Exports
1 Jan 1990 to 31 Dec 1999	406	44.2	—	—
1 Jan 2000 to 31 Dec 2009	457	35.1	+13 %	–21 %
1 Jan 2010 to 31 Dec 2019	442	50.9	–3.3 %	+45 %

Data from USEIA, West Coast (PADD 5) *Supply and Disposition*; www.eia.gov/dnav/pet/pet_sum_snd_d_r50_mbbl_m_cur.htm

O12-91 cont'd

Current California and West Coast data demonstrate that this crude refining overcapacity for domestic petroleum fuels demand that drives the emission-shifting impact is unresolved and would not be resolved by the proposed Project and related Contra Costa County crude-to-biofuel conversion project. Accordingly, the project can be expected to worsen in-state petroleum refining overcapacity, and thus the emission shift, by adding a very large volume of renewable diesel to the California liquid combustion fuels mix.

Despite the project objective to provide renewable fuels to the California market, which could further shift petroleum fuels from this market, the DEIR fails to disclose or evaluate this causal factor in the observed emission shifting impact of recent renewable fuel additions.

3. The DEIR Fails to Describe or Evaluate Project Design Specifications That Would Cause and Contribute to Significant Emission-Shifting Impacts

By failing to disclose and consider refinery export patterns, the DEIR fails to address the essential question of how fully integrating renewable diesel into petroleum fuels refining, distribution, and combustion infrastructure could worsen GHG emission shifting by more directly tethering biofuel addition here to petroleum fuel refining for export. Compounding its error, the DEIR fails to evaluate the degree to which the Project's HEFA diesel production capacity could add to the existing statewide distillates production oversupply, and how much that could worsen the emission shifting impact. Had it done so, using readily available state default factors for the carbon intensities of these fuels, the County could have found that the project would likely cause and contribute to significant climate impacts. *See* Table 8.

O12-92

[200] *Id.*
[201] USEIA, West Coast (PADD 5) *Supply and Disposition;* www.eia.gov/dnav/pet/pet_sum_snd_d_r50_mbbl_m_cur.htm

Table 8. Potential GHG Emission Impacts from Project-induced Emission Shifting: Estimates Based on Low Carbon Fuel Standard Default Emission Factors.

RD: renewable diesel **PD:** petroleum distillate **CO_2e:** carbon dioxide equivalents **Mt:** million metric tons

Estimate Scope	Marathon Project	Phillips 66 Project	Both Projects
Fuel Shift (millions of gallons per day) [a]			
RD for in-state use	1.623	1.860	3.482
PD equivalent exported	1.623	1.860	3.482
Emission factor (kg CO_2e/galllon) [b]			
RD from residue biomass feedstock	5.834	5.834	5.834
RD from crop biomass feedstock	8.427	8.427	8.427
PD (petroleum distillate [ULSD factor])	13.508	13.508	13.508
Fuel-specific emissions (Mt/year) [c]			
RD from residue biomass feedstock	3.46	3.96	7.42
RD from crop biomass feedstock	4.99	5.72	10.7
PD (petroleum distillate)	8.00	9.17	17.2
Net emission shift impact [d]			
Annual minimum (Mt/year)	3.46	3.96	7.42
Annual maximum (Mt/year)	4.99	5.72	10.7
Ten-year minimum (Mt)	34.6	39.6	74.2
Ten-year maximum (Mt)	49.9	57.2	107

a. Calculated based on DEIR project feedstock processing capacities, yield reported for refining targeting HEFA diesel by Pearlson et al., 2013, and feed and fuel specific gravities of 0.916 and 0.775 respectively. . Pearlson, M., Wollersheim, C., and Hileman, J., A techno-economic review of hydroprocessed renewable esters and fatty acids for jet fuel production, Biofuels, Bioprod. Bioref. 7:89-96 (2013). DOI: 10.1002/bbb.1378. **b.** CARB default emission factors from tables 2, 4, 7-1, 8 and 9, Low Carbon Fuel Standard Regulation, CCR §§ 95484–95488. **c.** Fuel-specific emissions are the products of the fuel volumes and emission factors shown. **d.** The emission shift impact is the net emissions calculated as the sum of the fuel-specific emissions minus the incremental emission from the petroleum fuel *v.* the same volume of the biofuel. Net emissions are thus equivalent to emissions from the production and use of renewable diesel that *does not* replace petroleum distillates, as shown. Annual values compare with the DEIR significance threshold (0.01 Mt/year); ten-year values provide a conservative estimate of cumulative impact assuming expeditious implementation of State goals to replace all diesel fuels.

* Phillips 66 Rodeo project calculated at 55,000 b/d feed rate, less than the 80,000 b/d Rodeo project capacity.

O12-92 cont'd

Accounting for fuel yields on refining targeting renewable diesel[202] and typical feed and fuel densities shown noted in Table 8, at its 48,000 b/d capacity the project could produce approximately 1.62 million gallons per day of renewable diesel, potentially resulting in crude refining for export of the equivalent petroleum distillates volume if current patterns continue. State default emission factors for full fuel chain "life cycle" emissions associated with the type of renewable diesel proposed[203] account for a range of potential emissions from lower ("residue") to higher ("crop biomass") emission feeds, also shown in the table. The net emission shifting impact of the project based on this range of state emission factors could thus be approximately 3.46 to 4.99 million metric tons (Mt) of CO_2e emitted per year. Table 8. Those potential Project emissions would exceed the 10,000 metric tons per year (0.01 Mt/year) significance threshold in the DEIR by 345 to 498 *times*.

[202] Pearlson et al., 2013.

[203] Low Carbon Fuel Standard Regulation, CCR §§ 95484–95488, tables 2, 4, 7-1, 8 and 9.

VII. THE DEIR FAILS TO ADEQUATELY DISCLOSE AND ANALYZE THE PROJECT'S AIR QUALITY IMPACTS

As discussed in Section III above, the DEIR is fatally flawed for having chosen a baseline that assumes an operating crude oil refinery rather than actual current conditions, in which the refinery is shut down with no plan or intention to continue processing crude oil. That flaw renders the entire analysis of air emissions in the DEIR inadequate, because the conclusion that "[t]he Project would result in emission reductions of all criteria air pollutants from both stationary and mobile sources" (DEIR at 3.3-38) is based on a faulty premise and must be revisited; as must all air quality health impacts analysis and cumulative impacts analysis that is grounded in this conclusion. Starting from a zero baseline, the analysis should determine the increase in pollutants associated with operating the Project over current shutdown conditions. Since the calculations in the DEIR indicate that such emissions will be significant and unavoidable using the BAAQMD thresholds of significance, and the DEIR should further identify mitigation measures to address those emissions. O12-93

Even aside from the faulty baseline, however, the DEIR analysis of air quality impacts suffers from three major flaws described in the subsections below- the first of which was addressed extensively in the Scoping Comments but ignored by the County. First, for reasons discussed in Section VI concerning GHG emissions, the analysis fails to take into account the widely differing air emissions impact associated with both different feedstocks and different product slates. Those differences should have been factored in the reasonable worst case scenario analysis to address uncertainty as to the feedstocks that will be used, *see* Sections II and IV, as well as any other feedstock scenarios appropriate to the analysis. Second, the DEIR air quality analysis systematically excludes acute exposures to short-term episodic facility emissions in nearby communities from consideration, even though the Project risks increasing acute exposures associated with flaring. And third, the DEIR odor analysis of new malodorous feedstock in new and repurposed facilities adjacent to vulnerable populations is too cursory and incomplete to approach sufficiency. O12-94

A. The DEIR Air Impacts Analysis Fails to Take Into Account Varying Air Emissions from Different Feedstocks and Crude Slates

Section VI demonstrates that GHG emissions vary significantly with differing feedstocks and product slates. For these same reasons and others, emissions of multiple air pollutants vary with feedstock and product slate as well. Processing a different type of oil – including crude feedstock oils – can increase processing emissions in several ways. It can introduce contaminants that escape the new feed and pass through the refinery into the local environment. It can require more severe, more energy-intensive processing that burns more fuel per barrel, increasing combustion emissions from the refinery. At the same time, processing the new feed can change the chemistry of processing to create new pollutants as byproducts or create polluting byproducts in greater amounts. O12-95

There are also potential increases in emissions of air pollutant emissions – including nitrogen oxides, particulate matter, sulfur dioxide, and polycyclic aromatic hydrocarbons, among others – associated with fossil fuel combustion and energy demand in proposed Project

processes. The emissions result not only from the more intense hydrogen demands associated with certain feedstocks (*see* Section VI), but from the higher energy demands in addition to hydrogen reforming associated with processing certain types of feedstocks. More contaminated or difficult to pretreat feeds may require more energy in the proposed new feed pretreatment plant. Feeds that are more difficult to process may require more recycling in the same hydrotreater or hydrocracker, such that processing each barrel of fresh feed twice, for example, may double the load on pumps, compressors, and fractionators at that process unit, increasing the energy needed for processing. As another example further downstream in the Refinery, feeds that yield more difficult to treat combinations of acids and sour water as processing byproducts may need additional energy for pretreatment to prevent upsets in the main wastewater treatment system. Feeds that require more energy-intensive processing of this nature may increase combustion emissions of an array of toxic and smog-forming pollutants, including but not limited to those noted above.

O12-95 cont'd

Additionally, contaminants in the feedstocks themselves can be released during processing, adding to the air emissions burden. Fish oils can be contaminated with bio-accumulative lipophilic toxins such as polychlorinated biphenyls, dioxins, and polybrominated diphenyl ethers, which could be released from processing at 48,000 barrels per day in cumulatively significant amounts. So-called "brown grease" collected from sewage treatment plants – another potential feedstock whose use has not been ruled out - can adsorb and concentrate lipophilic toxic chemicals from across the industrial, commercial and residential sewerage collection systems—disposal and chemical fate mechanisms similar to those that have made such greases notoriously malodorous.

B. The DEIR Fails to Assess the Likelihood of Increased Air Pollution Associated With the Increased Likelihood of Process Upsets[204]

O12-96

As discussed in Section V, running biofuel feedstocks risks increasing the likelihood of process upsets and flaring incidents at the Refinery. Any such incident will result release of in a significant volume of uncontrolled air emissions. Accordingly, the DEIR should have addressed those emissions, and ways to mitigate them,as part of its air quality impacts analysis. Specifically, the DEIR should have determined whether increased flaring is likely as a result of HEFA processes (per Section V); described the air impacts associated with flaring (which are acute rather than chronic); and evaluated the possibility of limits on certain feedstocks prone to cause flaring as a mitigation measure.

1. <u>The DEIR Did Not Describe the Air Quality Impacts of Flaring</u>

O12-97

Although the inclusion of repurposed refinery flare systems in the project clearly anticipates their use, and serious local air impacts have long been known to occur as a result of refinery flares, the DEIR simply does not describe those impacts. This is a fatal flaw in the DEIR independently from its flawed baseline analysissince, as discussed in Section V, the Project is likely to increase process upset incidents at the Refinery.

[204] Supplemental information in support of this analysis is provided in Karras 2021c accompanying this comment, in the section entitled "Air Quality and Hazard Release Impacts of Project Flaring that Available Evidence Indicates Would be Significant are Not Identified, Evaluated, or Mitigated in ihe DEIR."

The County cannot argue that data for this essential impact description were not available. As described in a recent technical report:

> Causal analysis reports for significant flaring show that hydrogen-related hazard incidents occurred at the Phillips 66 Rodeo and Marathon Martinez refineries a combined total of 100 times from January 2010 through December 2020 ... on average, and accounting for the Marathon plant closure since April 2020, another hydrogen-related incident at one of those refineries every 39 days.
>
> ... Sudden unplanned or emergency shutdowns of major hydro-conversion of hydrogen production plants occurred in 84 of these 100 reported safety hazard incidents. Such sudden forced shutdowns of *both* hydro-conversion and hydrogen production plants occurred in22 of these incidents. ... In four of these incidents, consequences of underlying hazards included fires in the refinery.
>
> ... Refinery flares are episodic air polluters. Every time the depressurization-to-flare safeguard dumps process gases in attempts to avoid even worse consequences, that flaring is uncontrolled open-air combustion. Flaring emits a mix of toxic and smog forming air pollutants—particulate matter, hydrocarbons ranging from polycyclic aromatics to methane, sulfur dioxide, hydrogen sulfide, and others—from partially burning off enormous gas flows. Most of the 100 incidents described above flared more than two million cubic feet of vent gas each, and many flared more than ten million.
>
> ... In 2005, flaring was linked to episodically elevated local air pollution by analyses of a continuous, flare activity-paired, four-year series of hourly measurements of the ambient air near the fence lines of four Bay Area refineries. By 2006, the regional air quality management district independently confirmed the link, assessed community-level impacts, and set environmental significance thresholds for refinery flares. These same significance thresholds were used to require [Phillips 66 and Marathon and previous owners of the Rodeo and Martinez refineries] to report the hazard data described above.
>
> ... Thus, each of the hundred hydrogen-related flaring incidents since 2010 at the P66 Rodeo and MPC Martinez refineries discussed above *individually* exceeded a relevant environmental significance threshold for air quality. [205]

O12-97 cont'd

2. <u>The DEIR Failed to Describe the Impact of Feedstock Switching on Flaring</u>

With regard to causal factors for flaring, the allusion in the DEIR to reduced process hazards because the Project would result in fewer onsite equipment units where incidents could occur is specious. The hundred incidents described above include only those in which the type of process units to be repurposed for the Project *and* hydrogen-related hazards were causal factors in an environmentally significant flaring incident.[206] Had the DEIR evaluated the same

O12-98

[205] Karras, 2021a.
[206] Karras, 2021a.

data source,[207] [208] the County could have found that the same refining processes that would be repurposed for the project dominate the historic refinery flaring pattern.

All of the uniquely pronounced inherent process hazards resulting from converting crude refineries to HEFA refineries—which is what the Project proposes—result in *designing* HEFA conversions to dump process gas to flares when such hazards arise. The increased exothermic runaway reaction hazard due to more hydrogen-intensive processing of HEFA refining than crude refining, and associated need for upgraded capacity for rapid depressurization to flares, are noted industry-wide.[209] [210] Failure to evaluate this potential for Project HEFA refining to increase the frequency of refinery flaring compared with historic crude refining at the site is a major deficiency in the DEIR flaring analysis. Had the DEIR performed this essential evaluation, the County could have found that:

O12-98 cont'd

> [D]espite current safeguards, hydro-conversion and hydrogen-related process safety hazards which their HEFA conversion projects could worsen contribute to significant flaring incidents at the P66 Rodeo and MPC Martinez refineries frequently. ... [S]witching to HEFA refining is likely to further increase the frequency and magnitude of these already-frequent significant process hazard incidents ...
>
> ... The increased risk of process upsets associated with HEFA processing concomitantly creates increased risk to the community of acute exposures to air pollutants ... Therefore, by prolonging the time over which the frequent incidents continue, and likely increasing the frequency of this significant flaring, repurposing refineries for HEFA processing can be expected to cause significant episodic air pollution."[211]

3. <u>The DEIR Fails to Evaluate the Likelihood of Increased Flaring</u>

O12-99

Refinery flare incidents can be prevented by the same measures that can prevent the catastrophic explosion and fire incidents which flares are designed to (partially) mitigate; removing the underlying causes of those hazards. From and an environmental health and safety perspective, this is the crucial fact about flaring. In this regard, its incomplete and misleading allusion to flaring as merely a way to make refining safer, which incidentally emits some pollutants, obscures a third fatal flaw in the DEIR flaring analysis: it failed to address the elective processing of feedstock types that would cause preventable flaring.

Refinery flares are designed and permitted for use only in emergencies, the only exception being limited to when unsafe conditions are both foreseeable *and* unavoidable.[212] Here in the Bay Area, preventable refinery flaring is an unpermitted activity that contravenes air

[207] BAAQMD Regulation 12-12-406 Causal Reports; reports relevant to the Project accompany this Comment; recent reports available at https://www.baaqmd.gov/about-air-quality/research-and-data/flare-data/flare-causal-reports

[208] BAAQMD Regulation 12 Rule 12. Bay Area Air Quality Management District Regulation 12, Miscellaneous Standards of Performance, Rule 12. BAAQMD: San Francisco, CA. Amended 3 November 2021.

[209] van Dyk et al., 2019.

[210] Chan, 2020.

[211] Karras, 2021a.

[212] The limited exception does not apply where, as here, known measures to avoid flaring can be taken before unsafe conditions that result in flaring become locked into place, e.g., the inherently safer processing systems and designs are identified and can be implemented during construction or implementation.

quality policy and law.[213] The DEIR fails to address this fact. The DEIR declines to expressly define or limit the feedstocks that will be used, without addressing the issue that electing to process some of those feeds rather than others could result in more frequent environmentally significant flaring impacts, contrary to air quality policy and law.

Had the DEIR addressed this issue, the County could have found that:

- A portion of the range of potential HEFA feedstocks, including soybean oil, distillers corn oil and most other crop oils, have relatively higher process hydrogen requirements than other potential feedstocks for Project biofuel refining;[214]
- Electing to process feedstocks in that high process hydrogen demand category would release more heat during processing, thereby increasing the frequency of process temperature rise hazard incidents and hence environmentally significant flaring;[215] and
- The resultant more frequent flaring from electing a feedstock which unnecessarily intensified underlying flaring would be preventable since another feedstock would reduce flaring frequency in accordance with air quality policy and law, and consequently, the proposed Project flaring could result in significant impacts.

O12-99 cont'd

C. The DEIR Fails to Address Acute Episodic Air Pollution Exposures

Although as described in the previous subsection flaring causes acute episodic air pollution exposure and will increase in frequency with the Project, the DEIR systematically excludes acute exposures to short-term episodic facility emissions from consideration. Overwhelming evidence based on scientific data, information, and the long history of environmental, toxicological, and environmental justice experience and practice demonstrate the necessity to address acute as well as chronic and local as well as regional exposures to air pollutants. For example, the facility air permit itself specifies hourly and daily as well as annual emission limits.[216] Yet throughout the DEIR it erroneously conflates these acute and chronic exposure impacts, drawing numerous conclusions that facility emission impacts of the Project are "beneficial" or "less than significant" based on average rates of emission from continuous sources alone.

O12-100

Potential air quality impacts associated with acute exposures to short-term episodic emissions from the refining facilities are systematically excluded from DEIR consideration.[217] The DEIR fails to evaluate or address episodic emissions from flaring, as discussed directly above in subsection B. The DEIR Health Risk Analysis (HRA) is based solely on average long-term exposure data. Additionally, the DEIR calculations and estimates fail to account for combined effects of site-specific source, geographic, demographic, and climatic factors that worsen episodic air pollutant exposures locally. The DEIR further relies upon incomplete local

[213] BAAQMD Regulation 12, Rule 12.
[214] Karras, 2021a.
[215] Karras, 2021a.
[216] Major Facility Review Permit Issued To: Tesoro Refining & Marketing Company LLC, Facility #B2758 & Facility #B2759; Jan. 11, 2016.
[217] Karras, 2021c

air monitoring, which could not and did not measure incident plumes. Local air monitoring also excludes from measurement many air pollutants associated with upsets and flaring. The DEIR's error of conflating impacts of acute and chronic air pollutant exposures obscures its failure to consider acute exposure to short-term episodic emissions. In most cases, its comparisons underlying those conclusions appear to be grounded in no acute exposure or episodic emission data at all.[218]

O12-100 cont'd

Additionally, the DEIR failed to consider potential means of mitigating the impact of flaring associated with HEFA processes by limiting uses of the feedstocks most prone to causing excess flaring. As discussed in Section VI, a portion of the range of potential HEFA feedstocks, including soybean oil, distillers corn oil and most other crop oils, have relatively higher process hydrogen requirements than other potential feedstocks for Project biofuel refining;[219]Processing feedstocks with higher hydrogen demand releases more heat during processing, thereby increasing the frequency of process temperature rise hazard incidents -- and hence environmentally significant flaring.[220] The DEIR should therefore have considered the possibility of capping or prohibiting the use of feedstocks with higher risk of causing flaring incidents.

O12-101

The DEIR must therefore be revised to include an disclosure and assessment of the likelihood of increased flaring associated with the proposed HEFA process, including reasonable worst case scenario analysis taking into account variation in flaring associated with different feedstocks. It must then calculate the increased acute air pollution associated with such flaring, and identify potential mitigation measures to diminish the likelihood of flaring associated with the HEFA process, including feedstock limitations.

D. The DEIR fails to Adequately Address Potential Odors from the Project

The DEIR concludes that the Project would result in a significant odor impact despite the engineered measures, but concludes that odor impacts could be reduced to less than significant through use of an "Odor Management Plan" -- to be developed, implemented, maintained, monitored and updated as necessary *after* Project approval. DEIR at 3.3-41. The DEIR does not discuss the effectiveness or pitfalls observed from prior or existing use of odor management plans at the Refinery.

O12-102

The DEIR's reliance on a not-yet-developed odor management plan is misplaced. In the first instance, such a plan runs afoul of the CEQA requirement that "Formulation of mitigation measures shall not be deferred until some future time." CEQA Guidelines § 15126.4(a)(1)(B); and that "Mitigation measures must be fully enforceable through permit conditions, agreements, or other legally-binding instruments." *Id.* at § 15126.4(a)(2).

Additionally, as a substantive matter, the DEIR does not adequately describe how the proposed mitigation would be effectively at reducing impacts to non-significance – specifically, how odors would be eliminated in the context of an open-plan petroleum refinery surrounded by

[218] Karras, 2021c.
[219] Karras, 2021a.
[220] Karras, 2021a.

densely packed communities. Moreover, any proposed mitigation – and description of its effectiveness – must account for the fact that the DEIR does not preclude use of any type of feedstock – meaning that a reasonable worst case scenario analysis must account for the possibility that highly odorous feedstocks will be used. These could, in principle, include "FOG" (fats, oils and grease) – a category of feedstock includes a particular type of "brown grease."Brown grease is a highly malodorous oil and grease extracted from the grease traps, "mixed liquor" (microbial cultures with their decomposition products) and "biosolids" (sewage sludge) in publicly owned treatment works, commonly known as sewage plants, originating in the broad mix of residential, commercial and industrial waste water connections to sewage plants across urban and suburban landscapes.

O12-102 cont'd

The DEIR further fails to provide a sufficiently detailed description and analysis of the infrastructure from which the odors may be emitted – including the transport system, the storage system, and the pre-processing system – including design specifications, potential points of atmospheric contact, and the proximity to adjacent populations. Such analysis is crucial to supporting the DEIR conclusions that an odor management plan will reduce the impact to less than significant.

VIII. THE DEIR'S ASSESSMENT OF ALTERNATIVES TO THE PROJECT IS INADEQUATE

Analysis of project alternatives, together with identification of mitigation, form the "core of the EIR." *Jones v, Regents of University of California* (2010), 183 Cal.App.4th 818, 824-25. That core is deeply flawed here. First, the document fails to consider a "no project" alternative that realistically represents conditions without the Project, since those conditions do not include an operating refinery. Second, the alternatives analysis artificially conflates numerous alternatives that can and should have been considered collectively as a means to reduce Project impacts. Third, while the analysis appropriately includes an electrolytic hydrogen alternative, the analysis of that alternative omits important criteria that should have been considered.

O12-103

A. The DEIR Does Not Evaluate A Legally Sufficient No-Project Alternative

In examining a range of alternatives, an EIR is required to include a "no project" alternative to facilitate assessment of the impact of the remaining alternatives. "The purpose of describing and analyzing a no project alternative is to allow decisionmakers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. ..." CEQA Guidelines § 15126.6(e)(1). "The 'no project' analysis shall discuss the existing conditions ... as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. ..." CEQA Guidelines, § 15126.6, subd. (e)(2). It is essential that the "no project" alternative accurately reflect the status quo absent the project, to ensure that the baseline for measuring project impacts is not set too high, which would artificially diminish the magnitude of Project impacts. *See Ctr. for Biological Diversity v. Dep't of Fish & Wildlife* (2014), 234 Cal.App.4th 214, 253 (citation omitted) (emphasis in original) ("a no project alternative in an EIR 'provides the decision makers and the public with specific information about the environment if the project is not approved. It is a factually based forecast

O12-104

of the environmental impacts of *preserving the status quo*. It thus provides the decision makers with a base line against which they can measure the environmental advantages and disadvantages of the project and alternatives to the project.'").

For reasons explained in Section II, concerning the Project baseline, the DEIR incorrectly identified the no project alternative as the scenario where crude oil operations would resume, continuing crude oil processing operations indefinitely at historic levels. DEIR at 5-4. Yet the document provides no evidence whatsoever to support this conclusion. It is an unsubstantiated assumption contradicted by mountains of evidence – much of it provided in the Scoping Comments and even more provided in these Comments – that Marathon has no plans to restart crude oil processing at the Refinery if its application to convert to biofuel production is denied. It is imperative, to ensure a rational alternatives analysis, that the County include a no project alternative that is grounded in reality.

O12-104 cont'd

A no project alternative reflecting the reality of the Refinery's closure would have found multiple significant impacts where the DEIR currently finds no significant impact or, in some cases, reduced impact. Additionally, a no project alternative reflecting that reality would need to address the need to decommission the refinery and address any hazardous waste issues, as discussed in Section X. The DEIR needs to confront the reality that if the Project is not approved, a massive – and environmentally impactful – cleanup effort will be required to address the decades of hazardous contamination fouling the idled site.

O12-105

B. The DEIR Alternatives Analysis Artificially Separates Alternatives that are Not Mutually Exclusive

In addition to the (inappropriately characterized) no project alternative, the DEIR considered two additional alternatives in addition to the Project: the "reduced renewable feedstock throughput" alternative and the "green hydrogen" alternative. DEIR at 5-4 – 5. These alternatives were appropriate for consideration, as both are feasible means to reduce Project impacts. However, the DEIR presents no reason why these two alternatives were evaluated as separate options rather than collectively. Nothing about them is mutually exclusive: electrolytic "green" hydrogen could supply a refinery with reduced throughput in the same way it could supply the Project. Nothing in the DEIR suggests to the contrary. Indeed, to the extent the scale of required electrolytic hydrogen may be a concern – e.g., with respect to the reference in the DEIR concerning the Refinery's footprint with the addition of solar panels – implementing the two alternatives together would mitigate that concern. The DEIR should therefore have either considered the two non-project alternatives collectively in addition to separately, or else provided sufficient evidence and reasoning as to why this combined approach would not be feasible.

O12-106

C. The Analysis of the Green Hydrogen Alternative Fails to Consider Essential Information Concerning its Benefits

Commentors raised in the Scoping Comments the need for reasonable analysis of renewable powered electrolytic zero emission hydrogen (ZEH) . The DEIR acknowledges that ZEH is feasible.

O12-107

However, the DEIR did not present a reasonable analysis ZEH. Its analysis was unreasonbly biased by a combination of overly narrow interpretation of Project objectives,

incomplete description of ZEH, and failure to consider significant impacts ZEH could lessen or avoid. The DEIR states that alternatives were considered based on three criteria (in addition to the no project alternative requirement): achievement of Project goals, lessening of impacts, and feasibility. While these criteria were not inappropriate, the analysis was skewed and deficient in several ways, all potentially to the detriment of fair consideration of the green hydrogen alternative. Indeed, it is clear from information the County has provided to Commenters that its site-specific analysis of the feasibility of the green hydrogen alternative was exceedingly limited.[221]

O12-107 cont'd

These flaws are significant. The Project's fossil gas "gray" hydrogen production that ZEH could replace will emit roughly one million metric tons of carbon dioxide annually. Failing to consider elimating that million annual tons as mitigation for significant Project GHG impacts is not a reasonable DEIR analysis.

1. Overly Narrow Interpretation of Project Objectives

First, the Project objectives are drawn in an overly narrow fashion that may unfairly bias consideration of the green hydrogen alternative (as well as alternative technologies more generally, per Section II). The list of Project objectives in the DEIR twice references a goal of "repurposing" Refinery infrastructure. DEIR at 1-1. However, framing the Objectives in this manner by nature weighs against any alternatives – such as the green hydrogen alternative – that would upgrade and replace heavily polluting refinery infrastructure while still allowing biofuel production to proceed. The fundamental goal of the Project is to manufacture biofuels; "repurposing" is merely a strategy by which Marathon seeks to hold costs down. Why the company may for that reason consider repurposing economically advantageous, allowing every strategy to economize to rise to the level of a fundamental Project objective would bias the CEQA process in favor of the cheapest and most polluting alternatives, and against alternatives that are costlier but more environmentally sound. Defining project objectives in such an "artificially narrow" fashion violates CEQA. *North Coast Rivers Alliance v. Kawamura* (2015), 243 Cal.App.4th 647, 654. [222]

O12-108

2. The DEIR's Incomplete description of ZEH Skewed DEIR Environmental Analysis

The DEIR concludes without sufficient basis that ZEH would result in certain impacts to a greater extent than the Project or other alternatives due to an increased onsite solar generation footprint. However this unsupported impact conclusion assumed onsite solar power would be the only source electricity for splitting water to create zero emission hydrogen, This impact conclusion relied on the size of the onsite solar footprint. But that was false reliance. Despite abundant well documented evidence that grid-supported as well as onsite power is a standard

O12-109

[221] Commenter NRDC submitted a Public Records Act request to the County for "Records concerning electrolysis or "green" hydrogen at the Marathon/Tesoro Martinez refinery in connection with the DEIR for the Renewable Fuels Project, County File No. CDKP20-02046, SCH No. 2021020289." Letter dated November 9, 2021 from Ann Alexander to Lauwrence Huang. In response, via the email from Lawrence Huang to Ann Alexander also dated November 9, 2021, the County provided only a single one-paragraph document from Marathon concerning the site-specific aspects of an electrolytic hydrogen alternative.

[222] Moreover, if ZEH were used, the hydrogen contained in project-produced "renewable" fuels would be renewable, such that that ZEH would better achieve the renewable fuels production project objective.e.*See* Karras, 2021a. *Changing Hydrocarbons Midstream*

option for ZEH* neither grid-only nor grid-plus-onsite power was disclosed or evaluated in the DEIR, further skewing its analysis. O12-109

3. The DEIR Fails to Consider Significant Project Impacts ZEH Could Lessen or Avoid

The DEIR analysis fails to sufficiently consider the ways in which ZEH would mitigate the Project's significant climate impacts - identified in this Comment, but not the DEIR, per Sections II and VIAs discussed in those sections, while the DEIR determines the Project's GHG impacts to be non-significant, DEIR at 3.8-21, that determination was incorrect – both due to the inappropriately inflated Project baseline as described in Section II, and the DEIR's failure to account for the hydrogen intensity and emission-shifting impacts of biofuel production, as described in Section VI.

As discussed in Section VI, California's climate policy includes a commitment to zero-emission transportationConstruction of ZEH at the Project site could be critical for achieving this goal, to the extent it sets of the possibility of re-purposing the ZEH in the future for direct transportation use once the commercial life of the repurposed Refinery ends in the reasonably foreseeable future (*see* Section II). Fuel cell electric vehicles (FCEVs) can decarbonize transportation uses of energy where battery-electric vehicles (BEVs) might be more costly, such as long-haul freight and shipping, in which the size and mass of BEV batteries needed to haul large loads long distances reduce the load-hauling capacity of BEVs. In state climate pathways, renewable hydrogen use in transportation grows from an average of 1.24 million standard cubic feet per day (MMSCFD) in 2019[i] to roughly 1,020–1,080 MMSCFD by 2045.[56–58] This 2045 range reflects different scenarios for the mix of BEVs and FCEVs in different vehicle classes. The low end excludes FCEV use in LDVs[58] while the high end is a "central scenario" that includes both BEV and FCEV use in all vehicle classes.[57] O12-110

Additionally, the ability of ZEH technology to utilize peak solar and wind power and store that zero emission energy as hydrogen, enabling its return to grid at night and, perhaps more importantly, during longer calm periods of reduced wind resource power, may give ZEH a crucial role in the array of "grid balancing" measures essential to fully decarbonizing electricity.[223]

ZEH is thus critical to achieving the vehicle electrification goal, because it can fuel FCEVs without the carbon footprint of the fossil gas steam methane reforming hydrogen currently used at the Refinery, and can additionally help support the growth of renewable power for both battery and fuel cell electric vehicles growth. If ZEH has been constructed as part of the Project, that infrastructure would be poised to transition to facilitating the deployment of FCEVs contemplated by California's climate pathways. However, if the Refinery's existing hydrogen infrastructure has been repurposed for the Project and hence locked in, that infrastructure will be unable to support California's zero-carbon transportation goals.

4. The ZEH Analysis Should Have Considered Economic and Social Benefit

The DEIR does not consider the net costs (costs minus benefits) for the ZEH. In view of the very high GHG emissions and other air pollution from the legacy gray hydrogen facility, the O12-111

[223] *See* Karras, 2021a.

mitigation is a major economic and social benefit. For this reason, the costs and benefits of the alternatives examined should have been evaluated not only in the context of project economics, but also the larger context of social costs. For example, the County can estimate the public health costs of the $PM_{2.5}$ emissions from the hydrogen operations on people living nearby.[224] Because the Refinery is situated in a densely populated urban area, the health costs from the pollution caused by the hydrogen operation are very high, and the comparable health costs from ZEH are zero.

O12-111 cont'd

Thus, the DEIR should have not only found the GHG impacts from the Project to be significant in view of the analysis in Sections II and VI above, but specifically taken into consideration the ability of the green hydrogen alternative to mitigate that impact.

IX. THE DEIR'S ANALYSIS OF CUMULATIVE IMPACTS WAS DEFICIENT

CEQA requires a cumulative project impacts analysis because "the full environmental impact of a proposed ... action cannot be gauged in a vacuum." *Whitman v. Board of Supervisors* (1979) 88 Cal.App.3d 397, 408. Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. Guidelines §15355. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the Project when added to other closely related past, present, and reasonably foreseeable probable future projects. *Id.* The discussion of each type of cumulative impact in an EIR need only be proportional to the severity of the impact and the likelihood of its occurrence, Guidelines § 15130(b), but even an insignificant impact must be justified as such, Guidelines § §15130(a). For each cumulative impact, its geographic scope must be supported by a reasonable explanation. Guidelines § 15130(b)(3). Otherwise, an underinclusive cumulative impacts analysis "impedes meaningful public discussion and skews the decision maker's perspective concerning the environmental consequences of a project, the necessity for mitigation measures, and the appropriateness of project approval." *Citizens to Preserve the Ojai v. County of Ventura* (1985) 176 Cal.App.3d 421, 431. *See also Friends of the Eel River v. Sonoma County Water Agency* (2003) 108 Cal.App.4th 859.

O12-112

The cumulative impacts analysis in the DEIR falls far short of these requirements, and fails to meet basic criteria for rationality. The DEIR largely confined its cumulative impacts analysis to projects located within 2 miles of the Project site or the associated marine oil terminals. No rationale or evidentiary support is provided for use of this particular geographic limitation; or, indeed, for selecting the evaluated projects based on a geographic limitation at all. The suite of projects swept up in this 2-mile radius are random and highly disparate, most being radically different in type from the Project and having few if any correlative impacts. These

[224] Each 1 µg/m3 of PM2.5 that reaches 100,000 people living nearby causes 2.3 premature deaths annually. With a Value of a Statistical Life of $10,000,000 estimated by the EPA in 2019, then causing each additional 2.3 deaths leads to a social cost of $25M annually. Burnett R, Chen H, Szyszkowicz M et al. 2018; Global estimated of mortality associated with long-term exposure to outdoor fine particulate matter, PNAS 115 (38):9592-9597.

"cumulative" projects include, *inter alia,* a wetlands restoration project, a housing development, conversion of a billboard to digital format, and a self-storage unit development. DEIR at 4-3 – 7.

O12-112 cont'd

The very similar Phillips 66 Rodeo biofuel conversion project, lost in this strange mix, receives barely a mention in the analysis. The Rodeo project is referenced and described in a single paragraph, but "discussion" of its cumulative impacts consists of exactly two passing sentences: one referencing its purported reduction in emissions (a false conclusion, for reasons addressed in the comments being submitted by Commenters on that project's DEIR showing similar issues with a faulty baseline) (DEIR 4-8); and the other referencing, entirely non-quantitatively, the cumulative impact of the two projects on marine impacts. DEIR at 4-10.

O12-113

This approach is deficient in multiple respects. First, the DEIR failed to specify a rational basis for the universe of projects considered in the cumulative impacts analysis – with respect to either the 2 mile radius or the particular array of projects evaluated within that radius. In particular, it failed to explain why projects were included in the cumulative impacts analysis whose impacts are clearly unrelated in type to the impacts of the Project. Second, the analysis is almost entirely non-quantitative, even though the Project's impacts are quantified with respect to key issues, including criteria air pollutant emissions and GHG emissions. And third, the document contains functionally zero cumulative impacts analysis of the Project as considered together with the closely related Phillips 66 Rodeo project, even though the two projects will necessarily have very similar impacts, and will cumulatively impact regional air quality, upstream agricultural land use, and the State's climate goals to a significantly greater degree than the impact of each project individually.

Rather than taking the unreasoned approach it did, the DEIR should have identified a universe of projects to include in its analysis based on information concerning those projects' impacts, and the likelihood that they will intersect with the impacts of the Project. Including a compliment of local projects in that universe would be appropriate when analyzing cumulative impacts that are local in scale; but confining the analysis entirely to local projects does not make sense with respect to project impacts that are regional (e.g., air quality impacts), statewide (impact on the state's climate policy), or national and international (climate, upstream indirect land use impacts).

O12-114

Using these criteria, it is clear that, at minimum, comparable refinery biofuel conversion projects – including but not limited to the Phillips 66 project – needed to be included in the cumulative impacts analysis. The refinery feedstock market is national, and even global, in scale. Both biodiesel and renewable diesel projects in the United States compete for the same, limited supply of crop oils and animal fats. As a result, a cumulative impacts analysis should have included existing HEFA biofuel projects currently under construction and proposed in

California, such as the AltAir Paramount[225] and Alon Bakersfield[226] refinery projects as well as anticipated future conversion projects nationwide that are likely to produce similar large-scale impacts – e.g., due to anticipated use of similar feedstocks because of similar processing technology or transportation routes. O12-114 cont'd

The following sections discuss particular categories of cumulative impacts that should have received scrutiny in the DEIR but did not.

A. The DEIR Should Have Analyzed the Cumulative Impact of California and Other US Biofuel Projects on Upstream Agricultural Land Use

As discussed in Section VI.D above, the Project alone has the potential to consume an enormous portion of the entire US production of the agricultural products it proposes to use as feedstocks. Project feedstock demand could boost demand for biofuel feedstock oils, currently 113,000 b/d nationwide total, by 42 percent (48,000 b/d). The Project could in principle, standing alone, consume up to 24 percent of the total U.S. supply of soybean oil production for all uses. O12-115

The larger 80,000 barrel per day Phillips 66 conversion project would have an even greater impact on feedstock consumption levels, and hence on agricultural resources and their availability. As Commenters described in separate comments concerning the DEIR for that project,[227] the Rodeo project could increase demand for feedstock oils itself by 71% and could alone consume up to 39 percent of the nation's total supply of soybean oil. Yet the overall limitation on HEFA feedstock availability is well documented within the scientific community,[228] the financial industry,[229] the environmental justice community,[230] as well as

[225] *See* Lillian, Betsy. "World Energy Acquires AltAir Renewable Fuel Assets in California." March 22 2018. https://ngtnews.com/world-energy-acquires-altair-renewable-fuel-assets-in-california; Alt/Air World Energy Paramount, CEQAnet Web Portal, Governor's Office of Planning and Research (June 2020), https://ceqanet.opr.ca.gov/2020069013/2.

[226] Delek US Holdings, Inc, Delek US Holdings Announces Closing of Bakersfield Refinery Sale, Global Newswire (May 07, 2020). https://www.globenewswire.com/news-release/2020/05/07/2029947/0/en/Delek-US-Holdings-Announces-Closing-of-Bakersfield-Refinery-Sale.html (accessed Dec 8, 2021).

[227] Comments by Biofuelwatch et al dated December 17, 2021 concerning Rodeo Renewed project.

[228] Portner 2021, pp. 18-19, 28-29, 53-58.; Searchinger, 2008.

[229] Kelly, S., U.S. renewable fuels market could face feedstock deficit, *Reuters* (Apr. 8, 2021), https://www.reuters.com/article/us-usa-energy-feedstocks-graphic/us-renewable-fuels-market-could-face-feedstock-deficit-idUSKBN2BW0EO (accessed Dec 8, 2021).

[230] *See e.g.*, Press Release, California Environmental Justice Alliance, IPCC Report Shows Urgent Need to Zero Out Fossil Fuels, Reduce Direct Emissions (Aug. 17, 2021), https://caleja.org/wp.content/uploads/2021/08/CEJA_IPCC_2021-3.pdf; Rachel Smolker, *Bioenergy* in Hoodwinked in the Hothouse: Resist False Solutions to Climate Change, Biofuelwatch, Energy Justice network, Global Alliance for Incinerator Alternatives, ETC Group, Global Justice Ecology Project, Indigenous Climate Action, Indigenous Environmental Network, Just Transition Alliance, La Via Campesino, Movement Generation Justice and Ecology Project, Mt. Diablo Rising Tide, Mutual Aid Disaster Relief, North American Megadam Resistance Alliance, Nuclear Information and Resource Service, Rising Tide North America, Shaping Change Collaborative 19-20 (3d ed. Apr. 2021), https://d5i6is0eze552.cloudfront.net/documents/Destination-deforestation_Oct2019.pdf.

within the biofuel industry[231] itself. Currently planning a biofuel refinery conversion in Bakersfield, Global Clean Energy Holdings, Inc. remarked in its SEC 10-K filing, "[t]he greatest challenge to the wide adoption of [HEFA] renewable fuels is the limited availability of the plant oils and animal fats that are the feedstock of [HEFA] renewable fuels."[232] Given these constraints, a single biofuel conversion project of this magnitude could dramatically induce land use changes and makes the need for a cumulative analysis all the more dire.

O12-115 cont'd

The U.S. biofuel industry already consumes a significant portion of existing farm production of oils and animal fats. As shown in Table 10, as of fall 2021, there are eight operating renewable biofuel facilities and 75 biodiesel facilities, with a combined potential capacity of 235,000 barrels per day, or 3.6 billion gallons per year of lipid feedstocks. Meanwhile, the U.S. currently produces 372,000 barrels per day of oils and animal fats for all uses. Thus, at full capacity, these existing projects could consume up to 63% of existing U.S. production. Meanwhile, between these projects, the feedstock actually consumed (which is less than the amount theoretically possible under full production capacity) represented 31% of total U.S. production. *See* Table 9.

[231] Nickle et al., 2021. Renewable diesel boom highlights challenges in clean-energy transition (Mar 3, 2021), Reuters. https://www.reuters.com/article/us-global-oil-biofuels-insight-idUSKBN2AV1BS.
[232] Global Clean Energy Holdings, Inc., Annual Report (Form 10-K) April 13, 2021, https://www.sec.gov/Archives/edgar/data/748790/000152013821000195/gceh-20201231_10k.htm#a003_v1.

Table 9: US Biofuel Source-Specific Feedstock Production & Consumption

MM t/y: Million Metric tons per year **b/d**: barrel, 42 U.S. gallons, per day

Lipid Type	All-Use US Production		Consumed in US As Biofuel Feedstock		
	Volume (b/d)[a b]	Mass (MM t/y)[a b]	Volume (b/d)[c]	Mass (MM t/y)[c]	As Percentage of US Production (%)
Poultry Fat	22,573	1.1	1,455	0.07	6%
Tallow	51,386	2.68	3,312	0.17	6%
White Grease	13,420	0.75	4,793	0.27	36%
Yellow Grease	18,272	0.96	11,928	0.63	65%
Canola oil	14,425	0.77	10,604	0.56	74%
Corn oil	49,201	2.62	15,249	0.81	31%
Soybean oil	202,672	10.77	66,113	3.51	33%
All Lipids	**371,948**	**19.65**	**112,544**	**6.03**	**31%**

a. US production for poultry fat, tallow (specifically inedible tallow, edible tallow, and technical tallow), white grease (specifically lard and choice white grease), and yellow grease taken from USDA estimates for 2017 through 2020. USDA National Agricultural Statistics Service "Fats and Oils: Oilseed Crushings, Production, Consumption and Stocks" Annual Summaries for 2017 through 2020. National Agricultural Statistics Service, "Fats and Oils: Oilseed Crushings, Production, Consumption and Stocks Annual Summary", 2017 through 2020, https://usda.library.cornell.edu/concern/publications/mp48sc77c. (accessed Dec. 14, 2021). Volume to mass conversions use specific gravities of 0.84, 0.96, and 0.91 for poultry fat, white grease, and yellow grease, respectively. **b.** Production for canola oil, corn oil (which includes distillers' corn oil), and soybean oil taken from USDA Oil Crops Yearbook Tables 5, 26, and 33, averaged from Oct. 2016 to Sept. 2020. USDA, Oil Crops Yearbook Tables 5, 26, and 33, Mar. 26, 2021, https://www.ers.usda.gov/data-products/oil-crops-yearbook/ (accessed Dec. 14, 2021). Volume to mass conversions use specific gravities of 0.914, 0.916, and 0.916 for canola oil, corn oil, and soybean oil, respectively. **c.** Lipid feedstocks consumed for biodiesel production are averages of 2018 through 2020 taken from EIA Monthly Biodiesel Production Report, Table 3. EIA, Monthly Biodiesel Production Report Table 3, Feb. 26, 2021, https://www.eia.gov/biofuels/biodiesel/production/table3.pdf (accessed Dec. 14, 2021). Biofuel feedstock estimates for canola oil are an average of 2019 and 2020 data because 2018 data were suppressed. Volume to mass conversions use specific gravities identified in a. and b.

O12-115 cont'd

In recent years, numerous additional biofuel projects have been proposed, with several already under construction. A review of news publications and other reports found 16 future projects either proposed, under construction, or under active consideration by refineries, in addition to the Marathon proposal. In total, these projects could triple the total amount of lipids consumed to a total capacity of 693,000 barrels per day,[233] which would drastically exceed current, total U.S. lipid production. At full production these past and future projects would represent nearly double the entire nation's output. As a result, it is foreseeable that cumulatively, these projects will require massive increases in domestic oil crop production or foreign imports, either of which will be associated with massive environmental and climate impacts from land use changes.

[233] *See also* findings by EIA that by 2024, U.S. renewable diesel production could total 5.1 billion gal/yr (330,000 b/d) from all projects either under construction, proposed, or announced. Note that this total does not include existing or future lipid-consuming biodiesel projects. Hill et al., U.S. renewable diesel capacity could increase due to announced and developing projects, July 29, 2021. https://www.eia.gov/todayinenergy/detail.php?id=48916 (accessed Dec. 13, 2021).

Table 10: Current and Future Lipid-Based US Biofuel Projects

b/d: barrel, 42 U.S. gallons, per day

Refinery	Site Location	Status	Lipid Feedstock	
			Capacity (b/d)	Capacity As Percentage of US Lipid Yield (%)
East Kansas Agri-Energy Renewable Diesel	Garnett, KS	Operational	206	0.1%
Dakota Prairie Refining LLC	Dickinson, ND	Operational	13,183	3.5%
Diamond Green Diesel LLC	Norco, LA	Operational	23,139	6.2%
REG-Geismar LLC	Geismar, LA	Operational	6,866	1.8%
Wyoming Renewable Diesel CO	Sinclair, WY	Operational	8,033	2.2%
Altair Paramount LLC	Paramount, CA	Operational	2,884	0.8%
American GreenFuels	Encinitas, CT	Operational	2,403	0.6%
Down To Earth Energy LLC	Monroe, GA	Operational	137	0.0%
World Energy Rome	Rome, GA	Operational	1,373	0.4%
Cape Cod Biofuels Inc	Sandwich, MA	Operational	69	0.0%
Maine Bio-Fuel Inc	Portland, ME	Operational	69	0.0%
Blue Ridge Biofuels LLC	Newton, NC	Operational	137	0.0%
Renewable Fuels by Peterson	North Haverhill, NH	Operational	549	0.1%
World Energy Harrisburg LLC	Camp Hill, PA	Operational	1,305	0.4%
Lake Erie Biofuels LLC	Erie, PA	Operational	3,090	0.8%
Newport Biodiesel Inc	Newport, RI	Operational	481	0.1%
Southeast Biodiesel/South Carolina LLC	Charleston, SC	Operational	343	0.1%
Reco Biodiesel LLC	Reco Biodiesel, VA	Operational	137	0.0%
Virginia Biodiesel Refinery LLC	Kilmarnock, VA	Operational	343	0.1%
AG Processing - Algona	Algona, IA	Operational	5,218	1.4%
AG Processing - Sgt Bluff	Sgt Bluff, IA	Operational	5,218	1.4%
REG - Newton	Newton, IA	Operational	2,609	0.7%
REG - Ralston	Ralston, IA	Operational	3,364	0.9%
Lva Crawfordsville Biofuel LLC	Crawfordsville, IA	Operational	687	0.2%
Cargill Inc	Iowa Falls, IA	Operational	3,845	1.0%
Iowa Renewable Energy LLC	Washington, IA	Operational	2,472	0.7%
Reg - Mason City	Mason City, IA	Operational	2,609	0.7%
Western Dubuque Biodiesel LLC	Farley, IA	Operational	2,472	0.7%
Western Iowa Energy LLC	Wall Lake, IA	Operational	3,090	0.8%
Adkins Energy LLC	Lena, IL	Operational	275	0.1%
REG - Danville	Danville, IL	Operational	3,433	0.9%
REG - Seneca	Seneca, IL	Operational	5,218	1.4%

O12-115 cont'd

Incobrasa Industries Ltd	Gilman, IL	Operational	3,021	0.8%
Alternative Fuel Solutions LLC	Huntington, IN	Operational	206	0.1%
Integrity Bio-Fuels LLC	Morristown, IN	Operational	343	0.1%
Louis Dreyfus Agricultural Industries LLC	Claypool, IN	Operational	6,797	1.8%
Cargill Inc	Wichita, KS	Operational	4,120	1.1%
Darling Ingredients Inc	Butler, KY	Operational	137	0.0%
Owensboro Grain Biodiesel LLC	Owensboro, KY	Operational	3,708	1.0%
Adrian Lva Biofuel LLC	Adrian, MI	Operational	1,030	0.3%
Thumb Bioenergy LLC	Sandusky, MI	Operational	-	-
Ever Cat Fuels LLC	Isanti, MN	Operational	206	0.1%
Minnesota Soybean Processors	Brewster, MN	Operational	2,472	0.7%
Reg - Albert Lea	Albert Lea, MN	Operational	3,158	0.8%
AG Processing - St. Joseph	St. Joseph, MO	Operational	2,884	0.8%
Deerfield Energy LLC	Deerfield, MO	Operational	3,433	0.9%
Ethos Alternative Energy of Missouri LLC	Lilborne, MO	Operational	343	0.1%
Seaboard Energy Marketing St Joseph	St. Joseph, MO	Operational	2,403	0.6%
Mid-America Biofuels, LLC	Mexico, MO	Operational	3,433	0.9%
Natural Biodiesel Plant LLC	Hayti, MO	Operational	343	0.1%
Paseo Cargill Energy LLC	Kansas City, MO	Operational	3,845	1.0%
Archer-Daniels-Midland Company	Velva, ND	Operational	5,836	1.6%
Cincinnati Renewable Fuels LLC	Cincinnati, OH	Operational	6,248	1.7%
Seaboard Energy Marketing Inc	Guymon, OK	Operational	2,609	0.7%
Bioenergy Development Group LLC	Memphis, TN	Operational	2,472	0.7%
REG - Madison	De Forest, WI	Operational	1,923	0.5%
Walsh Bio Fuels LLC	Mauston, WI	Operational	343	0.1%
Hero Bx Alabama LLC	Moundville, AL	Operational	1,373	0.4%
Delek Renewables Corp	Crossett, AR	Operational	1,030	0.3%
Futurefuel Chemical Company	Batesville, AR	Operational	4,120	1.1%
Solfuels USA LLC	Helena, AR	Operational	2,746	0.7%
Delek US	New Albany, MS	Operational	824	0.2%
Scott Petroleum Corporation	Greenville, MS	Operational	1,167	0.3%
World Energy Natchez LLC	Natchez, MS	Operational	4,944	1.3%
REG - Houston	Seabrook, TX	Operational	3,639	1.0%
World Energy Biox Biofuels LLC	Galena Park, TX	Operational	6,179	1.7%
Delek Renewables LLC	Clerburne, TX	Operational	824	0.2%
Eberle Biodiesel LLC	Liverpool, TX	Operational	-	-
Global Alternative Fuels LLC	El Paso, TX	Operational	1,030	0.3%
Rbf Port Neches LLC	Houston, TX	Operational	9,887	2.7%

O12-115 cont'd

Sabine Biofuels II LLC	Houston, TX	Operational	2,060	0.6%
Alaska Green Waste Solutions LLC	Anchorage, AK	Operational	-	-
Grecycle Arizona LLC	Tucson, AZ	Operational	137	0.0%
Crimson Renewable Energy LP	Bakersfield, CA	Operational	1,923	0.5%
American Biodiesel Inc	Encinitas, CA	Operational	1,373	0.4%
Imperial Western Products Inc	Coachella, CA	Operational	824	0.2%
New Leaf Biofuel LLC	San Diego, CA	Operational	412	0.1%
Simple Fuels Biodiesel	Chilcoot, CA	Operational	69	0.0%
Big Island Biodiesel LLC	Keaau, HI	Operational	412	0.1%
Sequential-Pacific Biodiesel LLC	Salem, OR	Operational	824	0.2%
REG - Grays Harbor	Hoquiam, WA	Operational	7,347	2.0%
Marathon[a]	Dickinson, ND	Operational	12,631	3.4%
Camber Energy[b]	Reno, NV	Operational	2,952	0.8%
All Operational Projects			**235,298**	**63.3%**
Global Clean Energy Holdings[c]	Bakersfield	Under Construction	15,000	4.0%
HollyFrontier Corp[d]	Artesia, NM	Under Construction	8,583	2.3%
HollyFrontier Corp[e]	Cheyenne, WY	Under Construction	6,179	1.7%
Diamond Green Diesel[f]	Port Arthur, TX	Under Construction	36,390	9.8%
Diamond Green Diesel[g]	Norco, LA	Under Construction	27,464	7.4%
CVR[h]	Wynnewood, OK	Proposed	6,866	1.8%
Ryze Renewables[i]	Las Vegas, NV	Under Construction	7,894	2.1%
NEXT Renewable Fuels Oregon[j]	Clatskanie, OR	Proposed	50,000	13.4%
Renewable Energy Group[k]	Geismar, LA	Under Construction	17,165	4.6%
World Energy[l]	Paramount, CA	Proposed	21,500	5.8%
Grön Fuels LLC[m]	Baton Rouge, LA	Proposed	66,312	17.8%
PBF[n]	Chalmette, LA	Proposed	24,722	6.6%
Calumet[o]	Great Falls, MT	Proposed	12,631	3.4%
Seaboard Energy[p]	Hugoton, KS	Under Construction	6,842	1.8%
Chevron[q]	El Segundo, CA	Under Construction	10,526	2.8%
CVR Energy[r]	Coffeyville, KS	Under Consideration	11,578	3.1%
Phillips 66[s]	Rodeo, CA	Proposed	80,000	21.5%
Marathon[t]	Martinez, CA	Proposed	48,000	12.9%
All Future Projects			**457,652**	**123.0%**

O12-115 cont'd

All Operational & Future Projects	**692,950**	**186.3%**

All projects from EIA 2021 "U.S. Renewable Diesel Fuel and Other Biofuels Plant Production Capacity" and "U.S. Biodiesel Plant Production Capacity" reports unless otherwise noted. "-" indicates that capacity data was suppressed in the EIA data. EIA, U.S. Renewable Diesel Fuel and Other Biofuels Plant Production Capacity, Petroleum Reports, Sept. 3, 2021, https://www.eia.gov/biofuels/renewable/capacity/ (accessed Dec. 14, 2021).; EIA, U.S. Biodiesel Plant Production Capacity, Petroleum Reports, September 3, 2021, https://www.eia.gov/biofuels/biodiesel/capacity/ (accessed Dec. 14, 2021). **a.** Frohlke, U. Haldor Topsoe HydroFlex technology results in successful test run at Marathon Petroleum Corp facility producing 100% renewable diesel, Haldor Topsoe, Aug 5. 2021, https://blog.topsoe.com/marathon-petroleum-corporation-confirms-successful-test-run-for-us-refinery-producing-100-renewable-diesel-based-on-topsoes-hydroflex-technology (accessed Dec 14, 2021). **b.** Viking Energy Group, Inc. Viking Energy Signs Agreement to Acquire Renewable Diesel Facility, Globe Newswire, Dec. 1, 2021, ttps://www.globenewswire.com/news-release/2021/12/01/2344429/0/en/Viking-Energy-Signs-Agreement-to-Acquire-Renewable-Diesel-Facility.html (accessed Dec 14, 2021). **c.** Cox, J. Refinery on Rosedale makes final changes for switch to cleaner fuel, Bakersfield.com, Nov. 6, 2021, https://www.bakersfield.com/news/refinery-on-rosedale-makes-final-changes-for-switch-to-cleaner-fuel/article_36271b12-3e94-11ec-b8ac-df50c6c90b95.html (accessed Dec 14, 2021). **d.** Brelsford, R. 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Letter to Todd Cornett, pp. 2, Oct. 30, 2020, https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2020-11-9-PWB-Request-for-Exemption.pdf (accessed Dec. 14, 2021). **k.** Voegele, E. REG discusses Geismar expansion, Houston shutdown in Q3 results, Biodiesel Magazine, Nov. 8, 2021, http://www.biodieselmagazine.com/articles/2517837/reg-discusses-geismar-expansion-houston-shutdown-in-q3-results (accessed Dec. 14, 2021). **l.** City of Paramount, Notice of Preparation of a Draft Subsequent Environmental Impact Report, Paramount Petroleum AltAir Renewable Fuels Project, CUP 757 Amendment, pp. 12, Jun. 4, 2020, https://www.paramountcity.com/home/showpublisheddocument/5764/637268681923030000 (accessed Dec. 14, 2021). **m.** Boone, T., Grön Fuels gets air quality permit for proposed $9.2 billion plant, The Advocate, Apr. 22, 2021, https://www.theadvocate.com/baton_rouge/news/business/article_9e4a0144-a378-11eb-bc32-6362f7d3744c.html (accessed Dec. 14, 2021). **n.** Brelsford, R. 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O12-115 cont'd

Thus, while the impacts of either project standing alone on agricultural resources and land use would be large, the combined impact of the two projects together could be catastrophic in scale – even more so when other existing and planned projects are considered in the cumulative impacts mix. Among other things, this level of market disruption would greatly increase that likelihood that other types of fungible food crop oils – including palm oil – would start to replace the dwindling supply of soy and other food crop oils, with attendant destructive impacts. The sheer amount the land required to grow food crop oils for existing and projected

biofuel projects domestically indicates dramatic land use changes will inevitably occur at a global scale. Despite the novelty of this type of refinery conversion in California, even just the national data shows the Project is entering a large biodiesel market which has already contributed to the significant indirect land use changes documented in Section VI above.

O12-115 cont'd

B. The DEIR Should Have Analyzed the Cumulative Impact of California Biofuel Production on the State's Climate Goals[234]

As discussed in Section VI, large-scale biofuel production is incompatible with California's climate goals, which contemplate large-scale electrification via BEVs, and a phase-out of combustion fuel. That impact cannot be fully disclosed, measured, and analyzed, however, without looking at the cumulative impact of all of the biofuel production existing or contemplated in the state. The DEIR erred in not undertaking that analysis.

O12-116

Within the fuel market, "renewable" diesel production targeting the California fuels market has already been growing at an increasingly rapid rate since 2011.[235] Growing by a factor of 65 times to 2.79 million barrels per year (MM b/y) as of 2013, by 142 times to 6.09 MM b/y as of 2016, and 244 times to 10.5 MM b/ya as of the end of 2019.[236] Planned new HEFA capacity targeting the California fuels market and planned for production by 2025 totals approximately 124 MM b/y, another potential increase of more than tenfold from 2019-2025. [237]

Current proposals to repurpose in-state crude refining assets for HEFA biofuels could exceed the biofuel caps in state climate pathways by 2025. New in-state HEFA distillate (diesel and jet fuel) production proposed by this Project, the Marathon, AltAir, and the Global Clean Energy (GCE) projects for the California fuels market would, in combination, total ~2.1 billion gal./y and is planned to be fully operational by 2025.[238] If fully implemented, these current plans alone would exceed the HEFA diesel and jet fuel caps of 0.0-1.5 billion gal./y in state climate pathways.

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[234] Additional support for this section is provided in Karras, 2021a.

[235] Data from Share of Liquid Biofuels Produced In State by Volume; Figure 10 in Low Carbon Fuel Standard Data Dashboard, California Air Resources Board, https://ww3.arb.ca.gov/fuels/lcfs/dashboard/dashboard.htm.

[236] *Id.*

[237] *See* CEC 2021 Schremp Presentation.

[238] Supporting Material Appendix for Changing Hydrocarbons Midstream: Fuel chain carbon lock-in potential of crude-to-biofuel petroleum refinery repurposing; prepared for the Natural Resources Defense Council (NRDC) by Greg Karras, G. Karras Consulting, www.energy-re-source.com; Application for Authority to Construct Permit and Title V Operating Permit Revision for Rodeo Renewed Project: Phillips 66 Company San Francisco Refinery (District Plant No. 21359 and Title V Facility # A0016); Prepared for Phillips 66 by Ramboll US Consulting, San Francisco, CA. May 2021; Initial Study for: Tesoro Refining & Marketing Company LLC—Marathon Martinez Refinery Renewable Fuels Project; received by Contra Costa County Dept. of Conservation and Development 1 Oct 2020; April 28, 2020 Flare Event Causal Analysis; Tesoro Refining and Marketing Company, subsidiary of Marathon Petroleum, Martinez Refinery Plant #B2758; report dated 29 June, 2020 submitted by Marathon to the Bay Area Air Quality Management District: San Francisco, CA. https://www.baaqmd.gov/about-air-quality/research-and-data/flare-data/flare-causal-reports ; Paramount Petroleum, AltAir Renewable Fuels Project Initial Study; submitted to City of Paramount Planning Division, 16400 Colorado Ave., Paramount, CA. Prepared by MRS Environmental, 1306 Santa Barbara St., Santa Barbara, CA; Brelsford, R. Global Clean Energy lets contract for Bakersfield refinery conversion project. Oil & Gas Journal. 2020. Jan.9, 2020.

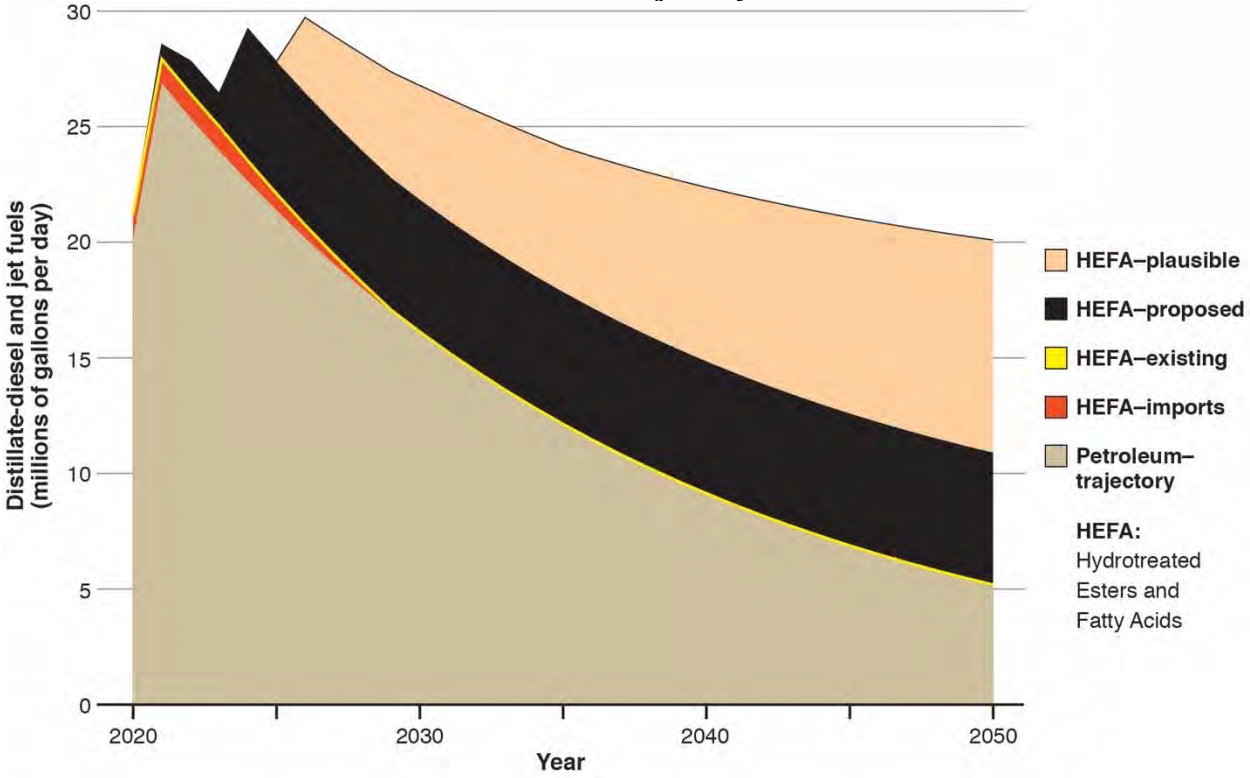
Further HEFA biofuels growth could also exceed total liquid fuels combustion benchmarks for 2045 in state climate pathways. As BEVs replace petroleum distillates along with gasoline, crude refiners could repurpose idled petroleum assets for HEFA distillates before FCEVs ramp up, and refiners would be highly incentivized to protect those otherwise stranded assets.

O12-116 cont'd

Chart 3 illustrates a plausible future HEFA biofuel growth trajectory in this scenario. Declining petroleum diesel and jet fuel production forced by gasoline replacement with BEVs (gray-green, bottom) could no longer be fully replaced by currently proposed HEFA production (black) by 2025–2026. Meanwhile the idled crude refinery hydrogen production and processing assets repurpose for HEFA production (light brown, top). As more petroleum refining assets are stranded, more existing refinery hydrogen production is repurposed for HEFA fuels, increasing the additional HEFA production from left to right in Chart 3.

O12-117

Chart 3: Future HEFA Biofuel Growth Trajectory



Combustion fuels additive potential of HEFA diesel and jet production in California. As electric vehicles replace gasoline, stranding petroleum refining assets, continuing HEFA biorefining expansion could add as much as 15 million gallons per day (290%) to the remaining petroleum distillate-diesel and jet fuel refined in California by 2050. Locking in this combustion fuels additive could further entrench the incumbent combustion fuels technology in a negative competition with cleaner and lower-carbon technologies, such as renewable-powered hydrogen fuel cell electric vehicles (FCEVs). That could result in continued diesel combustion for long-haul freight and shipping which might otherwise be decarbonized by zero emission hydrogen-fueled FCEVs. **Petroleum-trajectory** for cuts in petroleum refining of distillate (D) and jet (J) fuels that will be driven by gasoline replacement with lower-cost electric vehicles, since petroleum refineries cannot produce as much D+J when cutting gasoline (G) production. It is based on 5.56%/yr light duty vehicle stock turnover and a D+J:G refining ratio of 0.615. This ratio is the median from the fourth quarter of 2010–2019, when refinery gasoline production is often down for maintenance, and is thus relatively conservative. Similarly, state policy targets a 100% zero-emission LDV fleet by 2045 and could drive more than 5.56%/yr stock turnover. Values for 2020-2021 reflect the expected partial rebound from COVID-19. **HEFA-imports** and **HEFA-existing** are the mean D+J "renewable" volumes imported, and refined in the state, respectively, from 2017-2019. The potential in-state expansion shown could squeeze out imports. **HEFA-proposed** is currently proposed new in-state capacity based on 80.9% D+J yield on HEFA feed including the Phillips 66 Rodeo, Marathon Martinez, Altair Paramount, and GCE Bakersfield projects, which represent 47.6%, 28.6%, 12.8%, and 11.0% of this proposed 5.71 MM gal/day total, respectively. **HEFA-plausible:** as it is idled along the petroleum-based trajectory shown, refinery hydrogen capacity is repurposed for HEFA biofuel projects, starting in 2026. This scenario assumes feedstock and permits are acquired, less petroleum replacement than state climate pathways, and slower HEFA growth than new global HEFA capacity expansion plans targeting the California fuels market[ii] anticipate. Fuel volumes supported by repurposed hydrogen capacity are based on H_2 demand for processing yield-weighted feedstock blends with fish oil growing from 0% to 25%, and a J : D product slate ratio growing from 1: 5.3 to 1: 2, during 2025–2035. For conceptual analysis *see* Karras, 2021a; for data and methodological details see Karras, 2021a Table A7. [239]

O12-117 cont'd

[239] Supporting Material Appendix for Changing Hydrocarbons Midstream: Fuel chain carbon lock-in potential of crude-to-biofuel petroleum refinery repurposing; prepared for the Natural Resources Defense Council (NRDC) by Greg Karras, G. Karras Consulting.

Refining and combustion of HEFA distillates in California could thus reach ~15.0 million gal./d (5.47 billion gal./y), ~290% of the remaining petroleum distillates production, by 2050.[240] HEFA distillate production in this scenario (5.47 billion gal./y) would exceed the 1.6-3.3 billion gal./y range of state climate pathways for combustion of *all* liquid transportation fuels, including petroleum and biofuel liquids, in 2045.[241] This excess combustion fuel would squeeze out cleaner fuels, and emit future carbon, from a substantial share of the emergent petroleum distillate fuels replacement market — a fuel share that HEFA refiners would then be motivated to retain.

The scenario shown in Chart 3 is an illustration, not a worst case. It assumes slower growth of HEFA biofuel combustion in California than global investors anticipate, less petroleum fuels replacement than state climate pathways, and no growth in distillates demand. Worldwide, the currently planned HEFA refining projects targeting California fuel sales total ~5.2 billion gal./y by 2025.[242] HEFA growth by 2025 in the Chart 3 scenario is less than half of those plans. Had the DEIR considered that 5.2 billion gallon/year estimate by California Energy Commission staff,[243] for example, the County could have found that the Project would contribute to exceeding the state climate pathway constraint discussed in Section V of 0.5–0.6 and 0.8–0.9 billion gallons/year total HEFA jet fuel, and HEFA diesel combustion, respectively, based on that fact alone. Additionally, State climate pathways reported by Mahone et al. replace ~92% of current petroleum use by 2045, which would lower the petroleum distillate curve in Chart 3, increasing the potential volume of petroleum replacement by HEFA biofuel. Further, in all foreseeable pathways, refiners would be incentivized to protect their assets and fuel markets.

O12-117 cont'd

The cumulative emission shifting associated with biofuel production (Section VI) is also highly significant. A *conservative* estimate of cumulative emissions from currently proposed refinery biofuel projects in the County, *if* state goals to replace all diesel fuels were to be achieved more quickly than anticipated, is in the range of approximately 74 Mt to 107 Mt over ten years. *See* Table 8.

C. The DEIR Did Not Adequately Disclose and Analyze Cumulative Marine Resources Impacts

There is currently a boom in proposals for biofuel conversions. Unlike existing fossil fuel refining, there is little existing transportation infrastructure for biofuel feedstocks, so, as with the Project, much of that transportation will take place via ship. This means that there will be cumulative impacts to marine resources that have not been adequately evaluated in the DEIR.

O12-118

[240] *Id.*
[241] Mahone et al., 2020a. Achieving Carbon Neutrality in California: PATHWAYS Scenarios Developed for the California Air Resources Board, DRAFT: August 2020; Energy and Environmental Economics, Inc.: San Francisco, CA. https://ww2.arb.ca.gov/sites/default/files/2020-08/e3_cn_draft_report_aug2020.pdf
[242] Schremp (2020). Transportation Fuels Trends, Jet Fuel Overview, Fuel Market Changes & Potential Refinery Closure Impacts. BAAQMD Board of Directors Special Meeting, May 5 2021, G. Schremp, Energy Assessments Division, California Energy Commission. In Board Agenda Presentations Package; https://www.baaqmd.gov/-/media/files/board-of-directors/2021/bods_presentations_050521_revised_op-pdf.pdf?la=en
[243] *Id.*

For example, increases in feedstock demand will implicate economic and transportation impacts to marine resources all over the world.

While the DEIR mentions in passing the Phillips 66 biofuel conversion proposal, it does not evaluate other biofuel proposals or their cumulative impacts.

> With marine vessel traffic and renewable feedstock and fuels transportation also a component of the Phillips 66 Rodeo Renewed Project, there is greater opportunity for introduction of non-native invasive species, vessel strikes and spills, even with mitigation measures implemented by the Project as described in Section 3.4. Therefore, the Project would contribute to a cumulatively significant impact on biological resources.

DEIR 4-10. These other projects, both in California and around the country, must be evaluated. For instance, vessel traffic increases will be cumulatively significant.

In 2017 Phillips 66 proposed a marine terminal expansion. According to the Project Description for that project, it was to

> modify the existing Air District permit limits to allow an increase in the amount of crude and gas oil that may be brought by ship or barge to the Marine Terminal at the Phillips 66 Company (Phillips 66} San Francisco Refinery in Rodeo, California (Rodeo Refinery). The refinery processes crude oil from a variety of domestic and foreign sources delivered by ship or barge at the Marine Terminal and from central California received by pipeline. The Proposed Project would allow the refinery to receive more waterborne-delivered crude and gas oil, and thereby to replace roughly equivalent volumes of pipeline-delivered crudes with waterborne-delivered crudes. However, the Proposed Project would not affect the characteristics of the crude oil and gas oil the refinery is able to process.
>
> The proposed increase in offloading and the additional ship and barge traffic necessitates modification of Phillips 66's existing Permit to Operate and the Major Facility Review (Title V) Permit, which was issued by the Air District to the Phillips 66, San Francisco Refinery (BAAQMD Facility #A0016). Approval of the proposed air permit modifications would be a discretionary action by the Air District, requiring CEQA review (BAAQMD Regulation 2-1-310).

Phillips 66 Marine Terminal Permit Revision Project, Notice of Preparation, June 2017, p. 2. The final EIR must evaluate past proposals such as the 2017 marine terminal expansion proposal, to determine whether there are cumulative impacts and whether those proposals are likely to be approved.

O12-118 cont'd

The record for BAAQMD's analysis of the Phillips 66 2017 project proposal should be incorporated into the record for the current CEQA review; as should the record associated with the proposed terminal expansion associated with the Phillips 66 Rodeo Renewed project. O12-118 cont'd

X. THE DEIR SHOULD HAVE MORE FULLY ADDRESSED HAZARDOUS CONTAMINATION ISSUES ASSOCIATED WITH CONSTRUCTION AND DECOMMISSIONING

The DEIR failed to adequately address the interrelated issues of site decommissioning and contamination hazards. The Refinery site is heavily contaminated, which gives rise to issues concerning both how decommissioned portions of the refinery will be addressed, and how Project construction and operation may affect ongoing remediation and monitoring activities. Additionally, given the likely short and definably finite commercial lifetime of the Project, the DEIR should have evaluated the impact of full site decommissioning. O12-119

The DEIR provides general references to existing contamination in its discussion of existing conditions (DEIR 3.9-8 – 9), construction impacts on hazardous waste remediation activities (DEIR 3.9-13), and decommissioning portions of the site (DEIR 2-39). However, the DEIR provides insufficient detail concerning the extent of existing contamination to the soil and groundwater, or concerning past cleanup operations currently being monitored. The analysis does reference Order No. 00-021 (DEIR at 3.9-13), but not the various past hazardous waste management activities that are completed but still subject to monitoring requirements. Ongoing hazardous waste remediation activities are being conducted under the jurisdiction of the Department of Toxic Substances Control (DTSC), which involve a land use restriction.[244] The U.S. Environmental Protection Agency (EPA) and the San Francisco Regional Water Board (Water Board) have also issued multiple past orders. EPA Resource Conservation and Recovery Act (RCRA) Order No. 09-89-0013 was issued March 13, 1989; and Waste Discharge Requirements Order R2-2004-0056 was issued in July 2004.[245] The San Francisco Bay Regional Board (Regional Board), overseeing the cleanup, issued cleanup orders for Waste Management Units (WMUs) 10, 11, 14, 31, and 32 in 2017.[246] The Regional Board approved post-closure management plans for Waste Management Units (WMUs) 1, 2, 3, 4, 5, 6, 8, 9, and 13in 2015.[247] O12-120

[244] DTSC activities include the individual Waste Management Unit (WMU), WMU-17, US EPA number CAD000072751. The latest Post Closure Facility Permit is effective 12/19/21 and will expire 12/18/31. Number 7 of Section V Special Conditions of the Post Closure Permit specifies that a Land Use Covenant was filed 9/10/20 based on the DTSC has concluded that it is reasonably necessary to restrict the land use of the Unit in order to protect present or future human health or safety or the environment. *See* Land Use Covenant And Agreement Environmental Restrictions County of Contra Costa Assessor's Parcel Number: 159-270-006, Tesoro Refining & Marketing Company LLC DTSC Site Code: 510505: September 10, 2020; Hazardous Waste Management Program Permitting Division, Post-Closure Hazardous Waste Facility Permit for Tesoro Refining and Marketing Company LLC. Permit No. 2021/22-HWM-05, EPA ID No CAD 000 072 751, effective date December 19, 2021.

[245] Letter dated July 30, 2004 to Tesoro Refining and Marketing Company from David Elias, Regional Board.

[246] Letter dated September 1, 2016 to Frances Malamud-Roam from Michael McGuire re Revised Alternatives Analysis, Tesoro Martinez Refinery Waste Management Unit Closure Project.

[247] Letter dated July 29, 2015 to Regional Board from Michael McGuire re Post-Closure Maintenance Plan (PCMP) for Waste Management Units 1, 2, 3, 4, 5, 6, 8, 9..

Yet only WMU 4 receives mention in the DEIR (in the discussion of cultural impacts, DEIR 3.5.5).

The DEIR should have disclosed in detail all of these historic and ongoing cleanup and monitoring operations, and described the basis for its cursory conclusion that construction and operation activities will not impact them (DEIR at 3.9-13). Additionally, the DEIR should have discussed how the Project will impact transportation routes around ongoing remediation. For example, the transfer route of waste from WMU 31 into WMU 14 must traverse the Waterfront Road which, is the main road leading to the active refinery.

O12-120 cont'd

The DEIR should also have provided further detail regarding decommissioning plans with respect to the portions of the Refinery that will be fallowed by the Project, beyond the cursory description at DEIR 2-39. The idled equipment, and the ground on which it is located, is likely to be highly contaminated from years of operation of the refinery. The DEIR should have discussed what specifically will be done with the equipment, and how Marathon will address contamination of soil and groundwater at the location of the idled equipment.

O12-121

Finally, the DEIR should have evaluated the impact of full site decommissioning, given the likely limited lifespan of the Project. As discussed in Section II, the foreseeable likelihood is that biofuel demand in California will wane significantly within the relatively near term as California transitions to a zero-emissions transportation economy. As noted, Contra Costa County itself has signed a pledge to be "diesel free by '33." Accordingly, the realistic likelihood is that the Project's commercial life will be short. Thus, in order to fully inform that public regarding foreseeable impacts, and to guide the County's thinking about planning for the Project site's future, the DEIR should have examined the impacts of full decommissioning of the site (even though such full decommissioning was rejected as a Project alternative).

O12-122

Such analysis of full decommissioning should take into account the fact that various oil companies refined oil at the Martinez site since 1913, roughly 60 years before the environmental protection wave of the early 1970s, and through waves of toxic gasoline additives—tetraethyl lead and then MTBE, from the 1930s through the early 2000s—and refinery releases to land persist to this day.

O12-123

XI. THE DEIR INADEQUATELY ADDRESSED THE PROJECT'S IMPACTS ON MARINE RESOURCES

The DEIR inadequately addresses multiple aspects of potential Project impacts on marine resources. This failure is problematic given that, as discussed in Section II, the Project appears to contemplate an increase in ship traffic, even assuming that the chosen baseline is correct (which it is not, per Section III).

O12-124

A. Increased Marine Traffic and Terminal Throughput Would Result in Significant Water Quality Impacts, With Attendant Safety Hazards

The water quality impacts from any increase in ship traffic or throughput volumes, as identified in Section III, must be thoroughly examined in all their phases. These include, at minimum, the loading process of feedstocks onto tankers and the shipping routes they take to San Francisco Bay, the unloading of those feedstocks and transport into the refinery, the separation and reuse or disposal of unused portions or diluents, the eventual shipment of refined or reused products to end markets, and finally through to impacts from the use of end products. This lifecycle analysis must take into account global effects such as climate change and ocean acidification, as well as local water quality impacts that could have serious consequences for the communities at production sites, ports, along the shipping routes, and near the actual Project site in Martinez. This analysis must also disclose the extent to which unknowns exist, such as the lack of concrete information concerning effective marine spill cleanup methodologies for feedstocks and the environmental impacts of such spills, and evaluate the risks taken as a result of those unknowns. O12-125

Each tanker trip carries an added risk of a spill, as a reported 50% of large spills occur in open water.[248] The majority of spills, however, are less than 200,000 gallons, and most of these spills happen while in port.[249] Two types of tanker will likely be used to transport feedstocks to the Facility, ocean-going tankers and barges. The final EIR must evaluate an actual worst-case spill scenario and mitigate appropriately. O12-126

California's 45-billion-dollar coastal economy has a lot to lose to a spill.[250] California commercial fisheries for instance, produced from 186-361 million pounds of fish from 2013-2015, at a value of 129-266 million dollars.[251] After the Costco Busan disaster spilled 53,000 gallons of oil into San Francisco Bay, the Governor closed the fishery, a significant portion of which was either contaminated or killed, closed more than 50 public beaches, some as far south as Pacifica, and thousands of birds died. All told that spill resulted in more than 73 million dollars in estimated damages and cleanup costs.[252] O12-127

A DEIR evaluating the environmental impacts of expanding operations at the Marathon marine terminals must take into account the increased risk of a spill into San Francisco Bay or at any other point along the route transport tankers and barges will take. Any increase in risk is considered to be a significant impact. However, the DEIR fails to evaluate impacts from the handling of hazardous materials along transportation corridors, and from the presence of hazardous materials along shorelines in the event of a spill. The final EIR must remedy this error. O12-128

[248] The International Tanker Owners Pollution Federation (2016 spill statistics) at 8.
[249] *Id*.
[250] *California Ocean and Coastal Economies*, National Ocean Economics Program (March 2015).
[251] Based on California Department of Fish and Wildlife and National Marine Fisheries Service data.
[252] *See, e.g., Incident Specific Preparedness Review M/V Cosco Busan Oil Spill in San Francisco Bay Report on Initial Response Phase*, Baykeepr, OSPR, NOAA, et al. (Jan. 11, 2008).

Uncertainty over how to clean up spills of feedstocks extends to the specific technology used for cleanup efforts. "The environmental impacts associated with oil spill clean-up efforts (e.g. mechanical or chemical) may increase the magnitude of ecological damage and delay recovery."[253] Recent surveys have not found any studies on the response of "trophic groups within eelgrass and kelp forest ecosystems to bitumen in the environment, or the impacts of different spill-response methods."[254] The final EIR must do more to evaluate these impacts. O12-129

There are additional mitigation measures that should be considered and included in the final EIR to help mitigate spill risk. First, all ships carrying feedstocks, petroleum products, or any other hazardous material that could spill into San Francisco Bay or any of the other waters along the Project's transport routes should be double-hulled. "Recent studies comparing oil spillage rates
from tankers based on hull design seem to suggest that double hull tankers spill less than pre-MARPOL single hull tankers, double bottom tankers, and double sided tankers."[255] Second, incentives for vessel speed reductions, as well as documentation and tracking of vessel speeds, as detailed elsewhere in these comments, would also reduce spill risks. Finally, additional yearly funding for the study of feedstock spills, the impact of such spills, and the most effective cleanup and mitigation methodologies would also help mitigate this risk and should be included in the final EIR. O12-130

A recent spill at the Phillips 66 Marine Terminal serves as a warning of what could result from increased marine terminal operations. According to press reports, "BAAQMD issued two 'public nuisance' violations to Phillips 66 for its Sept. 20, 2016 spill, which leaked oil into the bay and sent an estimated 120 people to the hospital from fumes."[256] That spill, which occurred while the Yamuna Spirit was offloading at the Phillips 66 Marine Terminal in Rodeo, was responsible for more than 1,400 odor complaints and a shelter-in-place order for the 120,000 residents of Vallejo, in addition to the hospital visits already mentioned.[257] O12-131

The 120 people who went to the hospital in Vallejo would probably agree that a release from the marine terminals would represent a significant safety hazard. Spill events are also high variance, in that they are relatively unlikely to occur, and high impact, in that the repercussions of such an event have the potential to cause extensive damage. Typical baseline analysis, therefore, is inappropriate. A baseline analysis that said there was no risk of tanker spills based on baseline data from the previous 3 years, for instance, would be clearly inadequate in hindsight after an event O12-132

[253] Green *et al*., 2017
[254] *Id*.
[255] *A Review of Double Hull Tanker Oil Spill Prevention Considerations*, Nuka Research & Planning Group, LLC. (Dec. 2009), p. 3, *available at* https://www.pwsrcac.org/wp-content/uploads/filebase/programs/oil_spill_prevention_planning/double_hull_tanker_review.pdf.
[256] Katy St. Clair, "Supervisor Brown says 'no way' to proposed Phillips 66 expansion," Times-Herald (Aug. 5, 2017), *available at* http://www.timesheraldonline.com/article/NH/20170805/NEWS/170809877; *see also* Ted Goldberg, "Refinery, Tanker Firm Cited for Fumes That Sickened Scores in Vallejo," KQED News (June 16, 2017), *available at* https://ww2.kqed.org/news/2017/06/16/refinery-tanker-firm-cited-for-fumes-that-sickened-scores-in-vallejo/; Ted Goldberg, "Phillips 66 Seeks Huge Increase in Tanker Traffic to Rodeo Refinery," KQED News (July 27, 2017) (", *available at* https://ww2.kqed.org/news/2017/07/27/phillips-66-seeks-big-increase-in-tanker-traffic-to-rodeo-refinery/.
[257] Ted Goldberg, "Refinery, Tanker Firm Cited for Fumes That Sickened Scores in Vallejo," *id*.

like the Exxon Valdez. So, too, here, spill risk in the final EIR must be calculated and mitigated based on the worst-case scenario, not on a baseline compiled over recent years that do not include any major oil spills.

O12-132 cont'd

In light of these concerns, Contra Costa must consider an independent study on feedstock cleanup, the adequacy of existing cleanup procedures and the need for additional cleanup and restitution funds, and increased monitoring for water and air quality impacts to communities surrounding the Project, whether those communities are located in the same county or not. Furthermore, the Bay Area Air Quality Management District should be considered as a responsible agency.

O12-133

As pointed out by California State Senator Bill Dodd, it is vital that the causes of this spill be thoroughly investigated and a determination made on how such a spill can be prevented in the future.[258] Such an investigation must be completed before any additional ships are authorized to use the same marine terminal where the spill was reported. Without a thorough report on past spills that includes a description of what happened and how such accidents can be prevented in the future, the DEIR will not be able to adequately evaluate the Project's potential environmental impacts.

Additional National Pollutant Discharge Elimination System ("NPDES") effluent criteria may be needed, a possibility which must be—but is not substantially—evaluated in the DEIR. DEIR 3.10-17 ("new facilities would generate a new wastewater stream that would require additional treatment equipment to be added to the existing wastewater treatment plant"). Foreseeable spill rates from an increase in marine terminal activity might qualify as a discharge to waters of the United States because it is reasonably predictable that a certain number of spills will occur. With this and other water quality impacts in mind, the regional water board should at least be another responsible agency, if not the lead agency evaluating a permit to increase marine terminal operations. Furthermore, as stated, different feedstock will result in a change in the effluent discharged by the refinery under their existing NDPES permit, another reason why the regional water board should at least be a responsible party. The DEIR must evaluate an updated NPDES permit that reflects the changing feedstock that will result from the Project instead of putting such analysis off until after the Project is completed.

O12-134

No reasonable mitigation or planning can be done with regard to the risk posed by the transport of feedstocks to the Phillips 66 refinery in Rodeo without specific information as to the chemical composition of the feedstocks being transported. Details on the types of feedstocks expected to arrive on the tankers utilizing the marine terminals' expanded capacity must be part of the DEIR and must be made publicly available. It is irresponsible to conduct risk assessment and best practices for the handling of feedstocks without at least knowing exactly what the chemical composition of the feedstock is, and how it differs from conventional oil. Additional research into best management practices, spill prevention practices, and cleanup and response planning is needed before permitting a major increase in the amount of refinery-bound tanker traffic coming into California's waters.

O12-135

[258] *See* Senator Bill Dodd, Letter Re: Vallejo Odor and Bay Area Air Quality Management District Response (March 8, 2017), *available at* https://www.documentcloud.org/documents/3514729-Sen-Dodd-BAAQMD-Letter-3-8-17.html.

We ask that the final EIR contain and make publicly available an independent scientific study on the risks to – and best achievable protection of – state waters from spills of feedstocks. This study should evaluate the hazards and potential hazards associated with a spill or leak of feedstocks. The study should encompass potential spill impacts to natural resources, the public, occupational health and safety, and environmental health and safety. This analysis should include calculations of the economic and ecological impacts of a worst-case spill event in the San Francisco Bay ecosystem, along the California coast, and along the entire projected shipping route for the expanded marine terminal. O12-136

Based on this study, the final EIR should also include a full review of the spill response capabilities and criteria for oil spill contingency plans and oil spill response organizations (OSROs) responsible for remediating spills. We respectfully request that the final EIR include an analysis indicating whether there are OSROs currently operating in California capable of responding adequately to a spill of the contemplated feedstocks. Further, the adequacy of an OSRO's spill response capability should be compared to the baseline of no action rather than to a best available control technology standard. O12-137

While California's regulatory agencies have recently been granted cleanup authority over spills of biologically-derived fuel products, no such authority or responsibility has been granted for feedstocks. If there are no current plans for OSROs to respond to spills of feedstocks in California waters, the final EIR must evaluate the impacts of such a spill under inadequate cleanup scenarios. The DEIR fails to adequately evaluate how spills of feedstocks will be remediated, if at all. O12-138

Additional ships delivering oil to the Project would be passing through a channel that the Army Corps of Engineers has slated for reduced dredging. The Project thus contemplates increasing ship traffic through a channel that could be insufficiently dredged. The final EIR must evaluate the safety risks posed by reduced Pinole Shoal Navigation Channel Maintenance Dredging.[259] Should Marathon be required to dredge the channel, it must fully evaluate and disclose impacts from such dredging in its environmental analysis. O12-139

Finally, the final EIR must evaluate ship maintenance impacts. Increased shipping means increased maintenance in regional shipyards and at regional anchorages, and these impacts must be analyzed. O12-140

B. The DEIR Wrongly Concludes There Would be No Aesthetic Impacts

The DEIR claims that there would be little aesthetic impact, and fails to analyze the impacts to marine environment-related aesthetics. DIER 3.2. San Francisco Bay is considered a world class scenic vista, with billions of dollars of tourism dependent on a setting of natural beauty. Yet minimal analysis has been done of what impact ship traffic would have on San Francisco Bay's aesthetics, including a significant source of light or glare (ships). Changes in O12-141

[259] Memorandum for Commander, South Pacific Division (CWSPD-PD), FY 17 O&M Dredging of San Francisco (SF) Bay Navigation Channels, U.S. Army Corps of Engineers (Jan. 12, 2017) (Army Corps memo discussing deferred dredging).

the types of ships serving the Facility and the times of day those ships are traversing San Francisco Bay are also relevant. The final EIR must take a hard look at these impacts, as well as impacts along expected transportation corridors and impacts from spill risks.

O12-141 cont'd

C. Air Quality Impacts Must Be Evaluated for an Adequate Study Area

Air quality impacts evaluated by the DEIR must include an adequate study area in order to appropriately estimate the Project's potential to result in substantial increases in criteria pollutant emissions. Air quality impacts from ship exhaust must be evaluated. These impacts must be evaluated by location, as is done for other types of impacts, for different types of ships, for every mile the ships travel, and for every community along their route, not just between the refinery and various anchorage points or arbitrary starting points such as the Golden Gate Bridge. The DEIR fails to do so, and also fails to evaluate health impacts from these routes and at various locations.[260] For instance, DEIR Table 3.3-5 evaluates only total mobile emissions, and fails to break out these emissions by source type. Impacts vary widely based on where the emissions are taking place, at sea or on land, etc. Under CEQA, the public must be informed in greater detail as to potential impacts from mobile sources. Ships will not arrive at the Project terminals from out of a vacuum, and each additional ship beyond those currently in fact using the terminal – not just those currently permitted – must be evaluated.

O12-142

Marathon does not have a good record of avoiding air quality violations at its refinery. For instance, Marathon Petroleum this year settled 58 violations stretching back to 2014. These violations included a "55-day flaring event in 2014, [during which] the refinery emitted enormous amounts of volatile organic compounds, hydrogen sulfide, sulfur dioxide and methane emissions, according to the Bay Area Air Quality Management District."[261] Such past violations must be evaluated when considering the likelihood of future violations that may relate to a change in feed stock or increased refinery activity as a result of the refinery's operations, including marine terminal operations.

O12-143

Provision of shore power for all ships at Marathon's terminals should also be considered as a mitigation measure prior to the 2027 implementation of California's *Ocean-Going Vessels at Berth Regulation*, described in the DEIR at 3.3-18 – 3.3-19. No implementation of these regulation is contemplated by the DEIR beyond the vague premise that the marine terminals will comply once they are forced to do so by the Air Board. The final EIR should include

O12-144

[260] Again, the DEIR confusingly piecemeals its analysis. Instead of including an easily producible table in the DEIR, it refers the public to various appendices (and even appendices to appendices) to attempt to calculate for themselves the air quality impacts of marine operations from the proposed Project. DEIR 3.3-28. Even these appendices are inadequate, as the DEIR acknowledges that it does not include all potential ship and barge traffic in its analysis. *Id*. (dividing out barge trip analysis from ocean-going vessels and admitting that "[b]arges may be used to transport feedstocks from third party terminals. The specific terminals have not yet been identified," emphasis added). According to one appendix, "[e]missions are calculated for the round-trip starting from the Pilot Boarding/Sea Buoy location (approximately 11 nautical miles west of the Golden Gate Bridge) to the relevant terminal." DEIR Appendix AQ-GH 15. Truncating trips like this is arbitrary and fails to accurately reflect the impact of the Project. The ships do not magically appear just outside the Golden Gate Bridge.

[261] *Marathon to pay $2 million for air quality violations at idled Martinez oil refinery*, Mercury News, Sept. 29, 2021, *available at* https://www.mercurynews.com/2021/09/29/marathon-to-pay-2-million-for-air-quality-violations-at-idled-martinez-oil-refinery/.

implementation details and timelines. Other mitigation that should be implemented include incentives for ship emissions and speed reductions that would result in air quality improvements.

O12-144 cont'd

According to the DEIR, mobile sources for the marine terminals are calculated using outdated EIRs from 2014 and 2015. DEIR 3.3-26 – 3.3-27. These EIRs are outside even the generous baseline contemplated in the DEIR. Average activity levels must be calculated based on actual operations, and cannot be tiered off of outdated EIRs.

O12-145

D. Recreational Impacts Are Potentially Significant

The DEIR states that "the Project would have no impact to recreation. DEIR 3.1-8. This is error. San Francisco Bay is a massive recreational area, and maritime traffic has a direct impact on opportunities for recreation on the Bay. Ship traffic qualifies as substantial physical deterioration of an existing facility. In addition, spills of feedstocks or finished products either from ships moving to and from the refinery or from the refinery itself have the potential to impact existing recreational sites. The DEIR contemplates product carried by ship across the Pacific Ocean and through San Francisco Bay, and each additional trip carries with it an increased chance of a spill. The final EIR must evaluate recreational impacts from increased ship traffic and spill risk, both in San Francisco Bay and at every point along contemplated transportation corridors.

O12-146

E. The Project Implicates Potential Utilities and Service System Impacts

The increase in maritime traffic has a direct impact on ship maintenance, anchorages, and upkeep on the Bay. Increased ship traffic would accelerate deterioration of existing facilities. In addition, spills of feedstocks or finished products either from ships moving to and from the refinery or from the refinery itself have the potential to impact existing ship facilities. The DEIR contemplates a huge increase in the amount of product carried by ship across the Pacific Ocean, through the Delta, and through San Francisco Bay, and each additional trip carries with it an increased chance of a spill. The final EIR must evaluate utility and service system impacts from increased ship traffic and spill risk, both in San Francisco Bay and at every point along contemplated transportation corridors.

O12-147

F. Biological Impacts and Impacts to Wildlife are Potentially Significant and Inadequately Mitigated

The DEIR makes clear that there are numerous special status marine and aquatic species present (*see, e.g.*, DEIR 3.4-8, 3.4-10 – 3.4-25), yet does not sufficiently protect these species. For each of the following impact areas, we request that adequate mitigation be evaluated and applied for each species type. Reference to EIRs from 2014 and 2015 is insufficient as conditions have changed since then, as mentioned earlier. *See, e.g.*, DEIR 3.4-34 (though these outdated EIRs are cited repeatedly with no evaluation of whether their analyses is still relevant).

O12-148

Increased shipping as a result of biofuel production and transport causes stress to the marine environment and can thus impact wildlife. Wake generation, sediment re-suspension, noise pollution, animal-ship collisions (or ship strikes), and the introduction of non-indigenous

species must all be studied as a part of the EIR process. "Wake generation by large commercial vessels has been associated with decreased species richness and abundance (Ronnberg 1975) given that wave forces can dislodge species, increase sediment re-suspension (Gabel et al. 2008), and impair foraging (Gabel et al. 2011)."[262] Wake generation must be evaluated as an environmental impact of the Project.

The DEIR contains ample data supporting vessel speed reduction as a means to avoid adverse impacts from ship strikes. *See, e.g.*, DEIR 3.4-40. Yet vessel speed reductions are not mandatory, and there is no requirement that the increased vessel traffic contemplated by the Project would adhere to speed recommendations to protect wildlife. The mitigation measures proposed by the DEIR amount to nothing more than sending some flyers. The final EIR should contemplate additional mitigation that includes tracking actual vessel speeds and incorporates mitigation for vessels that exceed 10 knots, as well as incentives for vessels to adhere to recommended speeds such as monetary bonuses or fines. Mitigation Measures BIO-7(b) is insufficient because it does not contemplate effective measures to ensure safe vessel speeds and to mitigate for exceedances.

O12-148 cont'd

Acoustic impacts can also be extremely disruptive. As the DEIR points out, "[s]hips are the dominant source of low frequency noise in many highly trafficked coastal zones." DEIR 3.4-35. "Increased tanker traffic threatens marine fish, invertebrate, and mammal populations by disrupting acoustic signaling used for a variety of processes, including foraging and habitat selection (e.g. Vasconcelos et al. 2007; Rolland et al. 2012), and by physical collision with ships – a large source of mortality for marine animals near the surface along shipping routes (Weir and Pierce 2013)."[263] Acoustic impacts must be evaluated as an environmental impact of the Project. However, in spite of the DEIR's admission that noise impacts would increase for fish and marine mammals under the Project, it still finds only minimal disturbance and concludes that "Behavioral disturbance and physical injury to fish and marine mammals from increasing intermittent vessel noise is not expected to be significant; thus impacts to special status species as a result of noise from increased vessel numbers would be less than significant." DEIR 3.4-35. No further analysis is given. This discrepancy must be explained in the final EIR, and mitigation measures, such as reducing vessel speed and the other potential mitigations must be implemented and incentivized. In addition, the DEIR must require that acoustic safeguards comport with recent scientific guidance for evaluating the risk to marine species.[264]

O12-149

Oil spill impacts are not adequately evaluated for biological resources and wildlife in the DEIR. The DEIR erroneously assumes that spills feedstocks for biofuels can be treated the same as petroleum-based spills. *See, e.g.*, DEIR 3.4-40 (also relying on the analysis in old DEIRs). There is no evidence that this is the case presented in the DEIR, and there is no evidence that current spill response capabilities are capable of or even authorized to respond to spills of non-petroleum feedstocks.

O12-150

[262] Green *et al*. 2017.
[263] *Id*.
[264] See Southall et al., Marine Mammal Noise Exposure Criteria: Assessing the Severity of Marine Mammal Behavioral Responses to Human Noise, *Aquatic Mammals*, (2021) 47(5), 421-464.

> Impacts from spills would depend on the material and quantity spilled. The above-referenced EIRs address spills from light oils such as fuel oil, medium oils such as crude oil and heavy oils such as heavy crude and some fuel oils. Biofuels such as ethanol or biodiesel, which are derived from vegetable oils or animal fats, behave differently from conventional petroleum-based fuels in the environment. A discussion of hazards associated with the change of feedstocks is provided in Section 3.9 Hazards and Hazardous Materials.

O12-150 cont'd

DEIR 3.4-41. This discussion does not address feedstock differences, and is inadequate to address risks to wildlife. Marathon could do more, for instance to study cleanup methodologies and impacts from spills. The DEIR's proposed mitigation measures are insufficient to address these concerns.

Invasive species are also a dangerous side effect of commercial shipping. "Tankers also serve as a vector for the introduction of non-indigenous species (NIS) via inadvertent transfer of propagules from one port to another (Drake and Lodge 2004), with the probability of introduction depending on the magnitude and origin of shipping traffic along tanker routes (Table 1 and Figure 3; Lawrence and Cordell 2010)." Invasive species impacts must be evaluated as an environmental impact of the Project. "Nonindigenous aquatic species can be introduced into the San Francisco Bay Estuary through ballast water exchange or vessel biofouling." DEIR 3.4-42. Yet the DEIR's mitigation measures are insufficient. Again, sending a flyer does not prevent the problems identified in the DEIR. DEIR 4.4-143. Additional recommended mitigation measures include incentives for ballast water remediation that ensures protection of sensitive areas and requiring documentation of ballast water exchanges from all visiting ships.

O12-151

In addition, the GHG emissions from the Project will contribute to climate change and in turn harm marine species. The combined GHG emissions from the facility, increased vessel traffic, and upstream and downstream emissions will have adverse impacts on marine species through temperature changes and ocean acidification. These changes may trigger changes to population distributions or migration, making ship strikes in some areas more likely.[265]

O12-152

G. Noise and Vibration Impact Analysis is Insufficient

According to the DEIR, "[t]he Project would not result in an increased number of vessels calling at the Marine Terminal on a peak day. Accordingly, noise levels would not increase as a result of peak-day vessel activity." DEIR 4.12-396. Furthermore, the DEIR's analysis of noise impacts completely neglects to address noise from ship traffic. DEIR § 3.12. This analysis is insufficient. The DEIR admits that overall vessel trips will drastically increase, but no analysis is made of what noise impacts will result from the increased number of vessels. The final EIR must evaluate noise impacts associated with the increase in vessel trips.

O12-153

[265] See Redfern et al., Effects of Variability in Ship Traffic and Whale Distributions on the Risk of Ships Striking Whales, *Frontiers in Marine Science* (Feb. 2020) Vol. 6, art. 793.

H. Transportation and Traffic Impacts Analysis is Inadequate

Additional impacts must be analyzed starting at the port that ships associated with the Project take on their cargos and ending at the ports they discharge it to. The EIR should include shipping impacts to public or non-Project commercial vessels and businesses, including impacts to recreational boaters and ferries, that might experience increased delay, anchorage waits or related crowding, and increased navigational complexity. Collision and spill analysis should not be limited to just the vessels calling at the marine terminal associated with the Project: increased ship traffic could result in accidents among other ships or waterborne vessels. This likelihood must be analyzed in the final EIR, just as vehicular traffic increases are analyzed for their impact on overall accident rates and traffic, generally. Such shipping traffic impact evaluations should extend to spills, air quality, marine life impacts from ship collisions, and other environmental impacts evaluated by the DEIR that could impact shipping traffic.

O12-154

I. Tribal Cultural Resources Impacts Analysis is Inadequate

The only tribal cultural impacts examined by the DEIR are construction impacts. But many of the people who historically called this area home had an intimate relationship with the Bay and the water, so impacts from increased marine terminal use and increased shipping traffic, as well as associated increased spill risk and impacts to fish and wildlife, must be examined in the final EIR as well. Examples of tribes that should be consulted include the Me-Wuk (Coast Miwok), the Karkin, the Me-Wuk (Bay Miwok), the Confederated Villages of Lisjan, Graton Rancheria, the Muwekma, the Ramaytush, and the Ohlone.

O12-155

J. The Project Risks Significant Environmental Justice and Economic Impacts

To the extent the Project utilizes offsets or credits, these have an undue impact on disadvantaged and already polluted communities, and the environmental justice impacts of such use must be evaluated. Violations, such as the air quality violations referenced above, also have an undue impact on disadvantaged and already polluted communities, impacts that cannot be addressed through monetary penalties.

O12-156

Martinez has a high concentration of hazardous waste facilities, has a high concentration of contamination from Toxic Release Inventory chemicals. This area also suffers from high levels of health impacts.

Fisheries would also be a major casualty of any large spill, and struggling fishing communities would be hardest hit by such impacts. Dungeness crab landings, for instance, were 3.1 million pounds in 2015, down almost 83% from the year before, with Oregon landings down a similar percentage.[266] Additional stress on these fisheries as a result of a spill or from other impacts from increased tanker traffic could have catastrophic consequences that need to be examined in the final EIR. Overall, California produced 366 million pounds of fish worth 252.6 million dollars in 2014 and 195 million pounds of fish worth 143.1 million dollars in 2015, and threats to this industry that result from the Project must be evaluated in the EIR.

O12-157

[266] *See* 2015 NOAA Fisheries of the United States.

K. The DEIR Fails to Disclose and Analyze Significant Additional Impacts

1. Public Trust Resources

The marine terminals that the Project targets for increased ship traffic occupies leased land, filled and unfilled. This land is California-owned sovereign land, and as a result the California State Lands Commission is a responsible party. Public trust impacts to this land and to other public trust resources must be evaluated in the final EIR. O12-158

2. Cross-Border Impacts

Shipping and ship traffic impacts extend across state and national borders. The final EIR must take into account environmental impacts that occur outside of California as a result of actions within California. O12-159

3. Terrorism Impacts

More ships bring increased risk. Anti-terrorism and security measures, as well as the potential impacts from a terrorist or other non-accidental action, must be evaluated in the final EIR. O12-160

XII. CONCLUSION

We request that the County address and correct the errors and deficiencies in the DEIR explained in this Comment. Given the extensive additional information that needs to be provided in an EIR to satisfy the requirements of CEQA, we request that the new information be included in a recirculated DEIR to ensure that members of the public have full opportunity to comment on it. O12-161

Thank you for your consideration of these Comments.

Very truly yours,

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APPENDIX A

Karras, G., *Changing Hydrocarbons Midstream* (Karras, 2021a)

Changing Hydrocarbons Midstream

Fuel chain carbon lock-in potential of crude-to-biofuel petroleum refinery repurposing

Prepared for the Natural Resources Defense Council (NRDC), by

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ABSTRACT

Moves to deoxygenate farmed lipids with hydrogen by repurposing troubled crude refining assets for "drop in" biofuels add a new carbon source to the liquid hydrocarbon fuel chain, with the largest biorefineries of this type that the world has ever seen now proposed in California. Characteristics of this particular biofuel technology were assessed across its shared fuel chain with petroleum for path-dependent feedstock acquisition, processing, fuel mix, and energy system effects on the environment at this newly proposed scale. The analysis was grounded by site-specific data in California.

This work found significant potential impacts are foreseeable. Overcommitment to purpose-grown biomass imports could shift emissions out of state instead of sequestering carbon. Fossil fuel assets repurposed for hydrogen-intensive deoxygenation could make this type of biorefining more carbon intensive than crude refining, and could worsen refinery fire, explosion, and flaring hazards. Locked into making distillate fuels, this technology would lock in diesel and compete with zero-emission freight and shipping for market share and hydrogen. That path-dependent impact could amplify, as electric cars replace gasoline and idled crude refining assets repurpose for more biomass carbon, to turn the path of energy transition away from climate stabilization. Crucially, this work also found that a structural disruption in the liquid hydrocarbon fuel chain opened a window for another path, to replace the freight and shipping energy function of crude refining without risking these impacts. The type and use of hydrogen production chosen will be pivotal in this choice among paths to different futures.

ACRONYMS AND TERMS

Barrel (b):	A barrel of oil is a volume of 42 U.S. gallons.
BEV:	Battery-electric vehicle.
Biofuel:	Hydrocarbons derived from biomass and burned for energy.
Biomass:	Any organic material that is available on a recurring basis, excluding fossil fuels.
Carbon intensity:	The amount of climate emission caused by a given amount of activity at a particular emission source. Herein, CO_2 or CO_2e mass per barrel refined, or SCF hydrogen produced.
Carbon lock-in:	Resistance to change of carbon-emitting systems that is caused by mutually reinforcing technological, capital, institutional, and social commitments to the polluting system which have become entrenched as it was developed and used. A type of path dependance.
Catalyst:	A substance that facilitates a chemical reaction without being consumed in the reaction.
Ester:	A molecule or functional group derived by condensation of an alcohol and an acid with simultaneous loss of water. Oxygen, carbon, and other elements are bonded together in esters.
Electrolysis:	Chemical decomposition produced by passing an electric current through a liquid or solution containing ions. Electrolysis of water produces hydrogen and oxygen.
FCEV:	Fuel cell electric vehicle.
HDO:	Hydrodeoxygenation. Reactions that occur in HEFA processing.
HEFA:	Hydrotreating esters and fatty acids. A biofuel production technology.
Hydrocarbon:	A compound of hydrogen and carbon.
Lipids:	Organic compounds that are oily to the touch and insoluble in water, such as fatty acids, oils, waxes, sterols, and triacylglycerols (TAGS). Fatty acids derived from TAGs are the lipid-rich feedstock for HEFA biofuel production.
MPC:	Marathon Petroleum Corporation, headquartered in Findlay, OH.
P66:	Phillips 66 Company, headquartered in Houston, TX.
SCF:	Standard cubic foot. 1 ft^3 of gas that is not compressed or chilled.
TAG:	Triacylglycerol. Also commonly known as triglyceride.
Ton (t):	Metric ton.
ZEV:	Zero-emission vehicle.

CONTENTS

FINDINGS AND TAKEAWAYS

Finding 1. Oil companies are moving to repurpose stranded and troubled petroleum assets using technology called "Hydrotreated Esters and Fatty Acids" (HEFA), which converts vegetable oil and animal fat lipids into biofuels that refiners would sell for combustion in diesel engines and jet turbines. The largest HEFA refineries to be proposed or built worldwide to date are now proposed in California.

Takeaways

F1.1 Prioritizing industry asset protection interests ahead of public interests could lock in HEFA biofuels instead of cleaner alternatives to petroleum diesel and jet fuel.

F1.2 HEFA refining could continue to expand as refiners repurpose additional crude refining assets that more efficient electric cars will idle by replacing gasoline.

F1.3 Assessment of potential impacts across the HEFA fuel chain is warranted before locking this new source of carbon into a combustion-based transportation system.

Finding 2. Repurposing refining assets for HEFA biofuels could increase refinery explosion and fire hazards. Switching from near-zero oxygen crude to 11 percent oxygen biomass feeds would create new damage mechanisms and intensify hydrogen-driven exothermic reaction hazards that lead to runaway reactions in biorefinery hydro-conversion reactors. These hydrogen-related hazards cause frequent safety incidents and even when safeguards are applied, recurrent catastrophic explosions and fires, during petroleum refining. At least 100 significant flaring incidents traced to these hazards occurred since 2010 among the two refineries where the largest crude-to-biofuel conversions are now proposed. Catastrophic consequences of the new biorefining hazards are foreseeable.

Takeaways

F2.1 Before considering public approvals of HEFA projects, adequate reviews will need to report site-specific process hazard data, including pre-project and post-project equipment design and operating data specifications and parameters, process hazard analysis, hazards, potential safeguards, and inherent safety measures for each hazard identified.

F2.2 County and state officials responsible for industrial process safety management and hazard prevention will need to ensure that safety and hazard prevention requirements applied to petroleum refineries apply to converted HEFA refineries.

Finding 3. Flaring by the repurposed biorefineries would result in acute exposures to episodic air pollution in nearby communities. The frequency of these recurrent acute exposures could increase due to the new and intensified process safety hazards inherent in deoxygenating the new biomass feeds. Site-specific data suggest bimonthly acute exposure recurrence rates for flare incidents that exceed established environmental significance thresholds. This flaring would result in prolonged and worsened environmental justice impacts in disparately exposed local communities that are disproportionately Black, Brown, or low-income compared with the average statewide demographics.

Takeaways

F3.1 Before considering public approvals of HEFA projects, adequate reviews will require complete analyses of potential community-level episodic air pollution exposures and prevention measures. Complete analyses must include worst-case exposure frequency and magnitude with impact demographics, apply results of process hazard, safeguard, and inherent safety measures analysis (F2.1), and identify measures to prevent and eliminate flare incident exposures.

F3.2 The Bay Area, San Joaquin Valley, and South Coast air quality management districts will need to ensure that flare emission monitoring and flaring prevention requirements applied to petroleum refineries apply to converted HEFA refineries.

Finding 4. Rather than contributing to a reduction in emissions globally, HEFA biofuels expansion in California could actually shift emissions to other states and nations by reducing the availability of limited HEFA biofuels feedstock elsewhere. Proposed HEFA refining for biofuels in California would exceed the per capita state share of total U.S. farm yield for all uses of lipids now tapped for biofuels by 260 percent in 2025. Foreseeable further HEFA growth here could exceed that share by as much as 660 percent in 2050. These impacts are uniquely likely and pronounced for the type of biomass HEFA technology demands.

Takeaways

F4.1 A cap on in-state use of lipids-derived biofuel feedstocks will be necessary to safeguard against these volume-driven impacts. *See also Takeaway F6.1.*

F4.2 Before considering public approvals of HEFA projects, adequate reviews will need to fully assess biomass feedstock extraction risks to food security, low-income families, future global farm yields, forests and other natural carbon sinks, biodiversity, human health, and human rights using a holistic and precautionary approach to serious and irreversible risks.

F4.3 This volume-driven effect does not implicate the Low Carbon Fuel Standard and can only be addressed effectively via separate policy or investment actions.

Changing Hydrocarbons Midstream

Finding 5. Converting crude refineries to HEFA refineries would increase the carbon intensity of hydrocarbon fuels processing to 180–240 percent of the average crude refinery carbon intensity nationwide. Refiners would cause this impact by repurposing otherwise stranded assets that demand more hydrogen to deoxygenate the type of biomass the existing equipment can process, and supply that hydrogen by emitting some ten tons of carbon dioxide per ton of hydrogen produced. In a plausible HEFA growth scenario, cumulative CO_2 emissions from continued use of existing California refinery hydrogen plants alone could reach 300–400 million metric tons through 2050.

Takeaways

F5.1 Before considering public approvals of HEFA projects, adequate reviews will need to complete comprehensive biorefinery potential to emit estimates based on site-specific data, including project design specifications, engineering for renewable-powered electrolysis hydrogen capacity at the site, and potential to emit estimates with and without that alternative. *See also Takeaways F7.1–4.*

Finding 6. HEFA biofuels expansion that could be driven by refiner incentives to repurpose otherwise stranded assets is likely to interfere with state climate protection efforts, in the absence of new policy intervention. Proposed HEFA plans would exceed the lipids biofuel caps assumed in state climate pathways through 2045 by 2025. Foreseeable further HEFA biofuels expansion could exceed the maximum liquid hydrocarbon fuels volume that can be burned in state climate pathways, and exceed the state climate target for emissions in 2050.

Takeaways

F6.1 A cap on lipids-derived biofuels will be necessary to safeguard against these HEFA fuel volume-driven impacts. *See also Takeaway F4.1.*

F6.2 Oil company incentives to protect refining and liquid fuel distribution assets suggest HEFA biofuels may become locked-in, rather than transitional, fuels.

F6.3 A cap on HEFA biofuels would be consistent with the analysis and assumptions in state climate pathways.

Changing Hydrocarbons Midstream

Finding 7. A clean hydrogen alternative could prevent emissions, spur the growth of zero-emission fuel cell vehicle alternatives to biofuels, and ease transition impacts.

Early deployment of renewable-powered electrolysis hydrogen production at California crude refineries during planned maintenance or HEFA repurposing could prevent 300–400 million metric tons of CO_2 emissions through 2050 and support critically needed early deployment of energy integration measures for achieving zero emission electricity and heavy-duty vehicle fleets.

Moreover, since zero-emission hydrogen production would continue on site for these zero-emission energy needs, this measure would lessen local transition impacts on workers and communities when refineries decommission.

Takeaways

F7.1 This feasible measure would convert 99 percent of current statewide hydrogen production from carbon-intensive steam reforming to zero-emission electrolysis. This clean hydrogen, when used for renewable grid balancing and fuel cell electric vehicles, would reap efficiency savings across the energy system.

F7.2 Early deployment of the alternatives this measure could support is crucial during the window of opportunity to break free from carbon lock-in which opened with the beginning of petroleum asset stranding in California last year and could close if refiner plans to repurpose those assets re-entrench liquid combustion fuels.

F7.3 During the crucial early deployment period, when fuel cell trucks and renewable energy storage could be locked out from use of this zero-emission hydrogen by excessive HEFA growth, coupling this electrolysis measure with a HEFA biofuel cap (*F4.1; F6.1*) would greatly increase its effectiveness.

F7.4 Coupling the electrolysis and HEFA cap measures also reduces HEFA refinery hazard, localized episodic air pollution and environmental justice impacts.

F7.5 The hydrogen roadmap in state climate pathways includes converting refineries to renewable hydrogen, and this measure would accelerate the deployment timeline for converting refinery steam reforming to electrolysis hydrogen production.

INTRODUCTION

i.1 Biofuels in energy systems

Fossil fuels redefined the human energy system. Before electric lights, before gaslights, whale oil fueled our lanterns. Long before whaling, burning wood for light and heat had been standard practice for millennia. Early humans would learn which woods burned longer, which burned smokier, which were best for light, and which for heat. Since the first fires, we have collectively decided on which biofuel carbon to burn, and how much of it to use, for energy.

We are, once again, at such a collective decision point. Biofuels—hydrocarbons derived from biomass and burned for energy—seem, on the surface, an attractive alternative to crude oil. However, there are different types of biofuels and ways to derive them, each carrying with it different environmental impacts and implications. Burning the right type of biofuel for the right use *instead* of fossil fuels, such as cellulose residue-derived instead of petroleum-derived diesel for old trucks until new zero emission hydrogen-fueled trucks replace them, might help to avoid severe climate and energy transition impacts. However, using more biofuel burns more carbon. Burning the wrong biofuel *along with* fossil fuels can increase emissions—and further entrench combustion fuel infrastructure that otherwise would be replaced with cleaner alternatives.

i.1.1 Some different types of biofuel technologies

Corn ethanol

Starch milled from corn is fermented to produce an alcohol that is blended into gasoline. Ethanol is about 10% of the reformulated gasoline sold and burned in California.

Fischer-Tropsch synthesis

This technology condenses a gasified mixture of carbon monoxide and hydrogen to form hydrocarbons and water, and can produce synthetic biogas, gasoline, jet fuel, or diesel biofuels. A wide range of materials can be gasified for this technology. Fischer-Tropsch synthesis can make any or all of these biofuels from cellulosic biomass such as cornstalk or sawmill residues.

Biofuel in the Climate System 101

People and other animals exhale carbon dioxide into the air while plants take carbon dioxide out of the air. Biofuel piggybacks on—and alters—this natural carbon cycle. It is fuel made to be burned but made from plants or animals that ate plants. Biofuels promise to let us keep burning fuels for energy by putting the carbon that emits back into the plants we will make into the fuels we will burn next year. All we have to do is grow a lot of extra plants, and keep growing them.

But can the biofuel industry keep that promise?

This much is clear: burning biofuels emits carbon and other harmful pollutants from the refinery stack and the tailpipe. Less clear is how many extra plants we can grow; how much land for food, natural ecosystems and the carbon sinks they provide it could take; and ultimately, how much fuel combustion emissions the Earth can take back out of the air.

Some types of biofuels emit more carbon than the petroleum fuels they replace, raise food prices, displace indigenous peoples, and worsen deforestation. Other types of biofuels might help, along with more efficient and cleaner renewable energy and energy conservation, to solve our climate crisis.

How much of which types of biofuels we choose matters.

"Biodiesel"

Oxygen-laden hydrocarbons made from lipids that can only be burned along with petroleum diesel is called "biodiesel" to denote that limitation, which does not apply to all diesel biofuels.

Hydrotreating esters and fatty acids (HEFA)

HEFA technology produces hydrocarbon fuels from lipids. This is the technology crude refiners propose to use for biofuels. The diesel hydrocarbons it produces are different from "biodiesel" and are made differently, as summarized directly below.

i.2 What is HEFA technology?

i.2.1 How HEFA works

HEFA removes oxygen from lipidic (oily) biomass and reformulates the hydrocarbons this produces so that they will burn like certain petroleum fuels. Some of the steps in HEFA refining are similar to those in traditional petroleum refining, but the "deoxygenation" step is very different, and that is because lipids biomass is different from crude and its derivatives.

i.2.2 HEFA feedstocks

Feedstocks are detailed in Chapter 2. Generally, all types of biomass feedstocks that HEFA technology can use contain lipids, which contain oxygen, and nearly all of them used for HEFA biofuel today come directly or indirectly from one (or two) types of farming.

Purpose-grown crops

Vegetable oils from oil crops, such as soybeans, canola, corn, oil palm, and others, are used directly and indirectly as HEFA feedstock. Direct use of crop oils, especially soy, is the major

portion of total HEFA feeds. Indirect uses are explained below. Importantly, these crops were cultivated for food and other purposes which HEFA biofuels now compete with—and a new oil crop that has no existing use can still compete for farmland to grow it. Some other biofuels, such as those which can use cellulosic residues as feedstock for example, do not raise the same issue. Thus, in biofuels jargon, the term "purpose-grown crops" denotes this difference among biofuels.

Animal fats

Rendered livestock fats such as beef tallow, pork lard, and chicken fat are the second largest portion of the lipids in HEFA feedstock, although that might change in the future if refiners tap fish oils in much larger amounts. These existing lipid sources also have existing uses for food and other needs, many of which are interchangeable among the vegetable and animal lipids. Also, particularly in the U.S. and similar agricultural economies, the use of soy, corn and other crops as livestock feeds make purpose-grown crops the original source of these HEFA feeds.

Used cooking oils

Used cooking oil (UCO), also called yellow grease or "waste" oil, is a variable mixture of used plant oils and animal fats, typically collected from restaurants and industrial kitchens. It notably could include palm oil imported and cooked by those industries. HEFA feeds include UCO, though its supply is much smaller than those of crop oils or livestock fats. UCO, however, originates from the same purpose grown oil crops and livestock, and UCO has other uses, many of which are interchangeable with the other lipids, so it is not truly a "waste" oil.

i.2.3 HEFA processing chemistry

The HEFA process reacts lipids biomass feedstock with hydrogen over a catalyst at high temperatures and pressures to form hydrocarbons and water. The intended reactions of this "hydro-conversion" accomplish the deoxygenation and reformulation steps noted above.

The role of hydrogen in HEFA production

Hydrogen is consumed in several HEFA process reactions, especially deoxygenation, which removes oxygen from the HEFA process hydrocarbons by bonding with hydrogen to form water. Hydrogen also is essential for HEFA process reaction control. As a result, HEFA processing requires vast amounts of hydrogen, which HEFA refineries must produce in vast amounts. HEFA hydro-conversion and hydrogen reaction chemistry are detailed in Chapter 1.

i.2.4 What HEFA produces

"Drop in" diesel

One major end product of HEFA processing is a "drop-in" diesel that can be directly substituted for petroleum diesel as some, or all, of the diesel blend fueled and burned. Drop-in diesel is distinct from biodiesel, which must be blended with petroleum diesel to function in combustion engines and generally needs to be stored and transported separately. Drop-in diesel

is also referred to as "renewable" diesel, however, those labels also apply to diesel made by other biofuel technologies, so diesel produced by the HEFA process is called "HEFA diesel" herein.

"Sustainable Aviation Fuel"

The other major end product of HEFA processing is a partial substitute for petroleum-based jet fuel, sometimes referred to as "Sustainable Aviation Fuel" or "SAF," which also is produced by other biofuel technologies. HEFA jet fuel is allowed by aviation standards to be up to a maximum of 50% of the jet fuel burned, so it must be blended with petroleum jet fuel.

i.3 Conversions of Crude oil refineries to HEFA

i.3.1 Current and proposed conversions of oil refineries

Phillips 66 Co. (P66) proposes to convert its petroleum refinery in Rodeo, CA into a 80,000 barrel per day (b/d) biorefinery.[2] In nearby Martinez, Marathon Petroleum Corporation (MPC) proposes a 48,000 b/d biorefinery[3] at the site where it closed a crude refinery in April 2020.[4] Other crude-to-biofuel refinery conversions are proposed or being built in Paramount, CA (21,500 b/d new capacity),[5] Bakersfield, CA (15,000 b/d),[6] Port Arthur, TX (30,700 b/d),[7] Norco, LA (17,900 b/d new capacity),[8] and elsewhere. All of these projects are super-sized compared with the 2,000–6,000 b/d projects studied as of just a few years ago.[9] The P66 Rodeo and MPC Martinez projects are the largest of their kind to be proposed or built to date. P66 boasts that its Rodeo biorefinery would be the largest in the world.[10]

i.3.2 Repurposing of existing equipment

Remarkably, all of the crude-to-biofuel conversion projects listed above seek to use HEFA technology—none of the refiners chose Fischer-Tropsch synthesis despite its greater flexibility than HEFA technology and ability to avoid purpose-grown biomass feedstock. However, this is consistent with repurposing the plants already built. The California refiners propose to repurpose existing hydro-conversion reactors—hydrocrackers or hydrotreaters—for HEFA processing, and existing hydrogen plants to supply HEFA process hydrogen needs.[2–6] Moreover, it is consistent with protecting otherwise stranded assets; repurposed P66 and MPC assets have recently been shut down, are being shut down, or will potentially be unusable soon, as described in Chapter 1.

While understandable, this reaction to present and impending petroleum asset stranding appears to be driving our energy system toward HEFA technology instead of potentially cleaner alternatives at an enormous scale, totaling 164,500 b/d by 2024 as proposed now in California. This assets protection reaction also presents a clear potential for further HEFA expansion. Refiners could continue to repurpose petroleum refining assets which will be idled as by the replacement of gasoline with more efficient electric passenger vehicles.

Before allowing this new source of carbon to become locked into a future combustion-based transportation system, assessment of potential impacts across the HEFA fuel chain is warranted.

i.4 Key questions and concerns about crude-to-biofuel conversions

i.4.1 Potential impacts of biomass feedstock acquisition

Proposed and potential HEFA expansions in California would rapidly and substantially increase total demand for globally traded agricultural lipids production. This could worsen food insecurity, risk deforestation, biodiversity and natural carbon sink impacts from expansions of farm and pasture lands, and drive populations elsewhere to prioritize use of their remaining lipids shares for food. Biofuel, biodiversity, and climate analysts often refer to the food security impact and agriculture expansion risks in terms of food price and "indirect land use" impacts. The latter effect, on *where* a globally limited biofuel resource could be used, is often referred to by climate policy analysts as an emission-shifting or "leakage" impact. Chapter 2 reviews these potential feedstock acquisition impacts and risks.

i.4.2 Potential impacts of HEFA refinery processing

Processing a different oil feedstock is known to affect refinery hazards and emissions, and converted HEFA refineries would process a very different type of oil feedstock. The carbon intensity—emissions per barrel processed—of refining could increase because processing high-oxygen plant oils and animal fats would consume more hydrogen, and the steam reformers that refiners plan to repurpose emit some ten tons of CO_2 per ton of hydrogen produced. Explosion and fire risks could increase because byproducts of refining the new feeds pose new equipment damage hazards, and the extra hydrogen reacted with HEFA feeds would increase the frequency and magnitude of dangerous runaway reactions in high-pressure HEFA reactors. Episodic air pollution incidents could recur more frequently because refiners would partially mitigate the impacts of those hazards by rapid depressurization of HEFA reactor contents to refinery flares, resulting in acute air pollutant exposures locally. Chapter 3 assesses these potential impacts.

i.4.3 Potential impacts on climate protection pathways

A climate pathway is a road map for an array of decarbonization technologies and measures to be deployed over time. California has developed a range of potential pathways to achieve its climate goals—all of which rely on replacing most uses of petroleum with zero-emission battery-electric vehicles and fuel cell-electric vehicles (FCEVs) energized by renewable electricity. Proposed and potential HEFA biofuels growth could exceed this range of state pathways or interfere with them in several ways that raise serious questions for our future climate.

HEFA biofuels could further expand as refiners repurpose assets idled by the replacement of gasoline with electric vehicles. This could exceed HEFA caps *and* total liquid fuels volumes in the state climate pathways. Hydrogen committed to HEFA growth would not be available for FCEVs and grid-balancing energy storage, potentially slowing zero-emission fuels growth. High-carbon hydrogen repurposed for HEFA refining, which could not pivot to zero-emission FCEV fueling or energy storage, could lock in HEFA biofuels instead of supporting transitions to cleaner fuels. These critical-path climate factors are assessed in Chapter 4.

i.4.4 Alternatives, opportunities and choices

Zero emission hydrogen alternative

Renewable-powered electrolysis of water produces zero-emission hydrogen that could replace existing high-carbon hydrogen production during refinery maintenance shutdowns and HEFA conversions. Indeed, a "Hydrogen Roadmap" in state climate pathways envisions converting all refineries to renewable hydrogen. This measure could cut emissions, support the growth of FCEVs and grid-balancing energy needed to further expand renewable electricity and zero-emission fuels, and reduce local transition impacts when refineries decommission.

Window of opportunity

A crucial window of opportunity to break out of carbon lock-in has opened with the beginning of California petroleum asset stranding in 2020 and could close if refiner plans to repurpose those assets re-entrench liquid combustion fuels. The opening of this time-sensitive window underscores the urgency of early deployment for FCEV, energy storage, and zero-emission fuels which renewable-powered electrolysis could support.

Potential synergies with HEFA biofuels cap

Coupling this measure with a HEFA biofuels cap has the potential to enhance its benefits for FCEV and cleaner fuels deployment by limiting the potential for electrolysis hydrogen to instead be committed to HEFA refining during the crucial early deployment period, and has the potential to reduce HEFA refining hazard, episodic air pollution and environmental justice impacts.

i.4.5 A refinery project disclosure question

Readers should note that P66[2] and MPC[11] excluded flares and hydrogen production which would be included in their proposed HEFA projects from emission reviews they assert in support of their air permit applications. To date neither refiner has disclosed whether or not its publicly asserted project emission estimate excludes any flare or hydrogen production plant emissions. However, as shown in Chapter 3, excluding flare emissions, hydrogen production emissions, or both could underestimate project emission impacts significantly.

i.5 The scope and focus of this report

This report addresses the questions and concerns introduced above. Its scope is limited to potential fuel chain and energy system impacts of HEFA technology crude-to-biofuel conversion projects. It focuses on the California setting and, within this setting, the Phillips 66 Co. (P66) Rodeo and Marathon Petroleum Corp. (MPC) Martinez projects. Details of the data and methods supporting original estimates herein are given in a Supporting Material Appendix.[1]

1. OVERVIEW OF HEFA BIOFUEL TECHNOLOGY

All of the full-scale conversions from petroleum refining to biofuel refining proposed or being built in California now seek to use the same type of technology for converting biomass feedstock into fuels: hydrotreating esters and fatty acids (HEFA).[2 3 4 6] "Hydrotreating" signifies a hydro-conversion process: the HEFA process reacts biomass with hydrogen over a catalyst at high temperatures and pressures to form hydrocarbons and water. "Esters and fatty acids" are the type of biomass this hydro-conversion can process: triacylglycerols (TAGs) and the fatty acids derived from TAGs. HEFA feedstock is biomass from the TAGs and fatty acids in plant oils, animal fats, fish oils, used cooking oils, or combinations of these biomass lipids.

This chapter addresses how HEFA biofuel technology functions, which is helpful to assessing its potential impacts in the succeeding chapters, and explores why former and current crude oil refiners choose this technology instead of another available fuels production option.

1.1 HEFA process chemistry

Hydrocarbons formed in this process reflect the length of carbon chains in its feed. Carbon chain lengths of the fatty acids in the TAGs vary by feed source, but in oil crop and livestock fat feeds are predominantly in the range of 14–18 carbons (C14–C18) with the vast majority in the C16–C18 range.[1] Diesel is predominantly a C15–C18 fuel; Jet fuel C8–C16. The fuels HEFA can produce in relevant quantity are thus diesel and jet fuels, with more diesel produced unless more intensive hydrocracking is chosen intentionally to target jet fuel production.

HEFA process reaction chemistry is complex, and in practice involves hard-to-control process conditions and unwanted side-reactions, but its intended reactions proceed roughly in sequence to convert TAGs into distillate and jet fuel hydrocarbons.[12 13 14 15 16 17 18 19 20 21 22] Molecular sites of these reactions in the first step of HEFA processing, hydrodeoxygenation (HDO), are illustrated in Diagram 1 below.

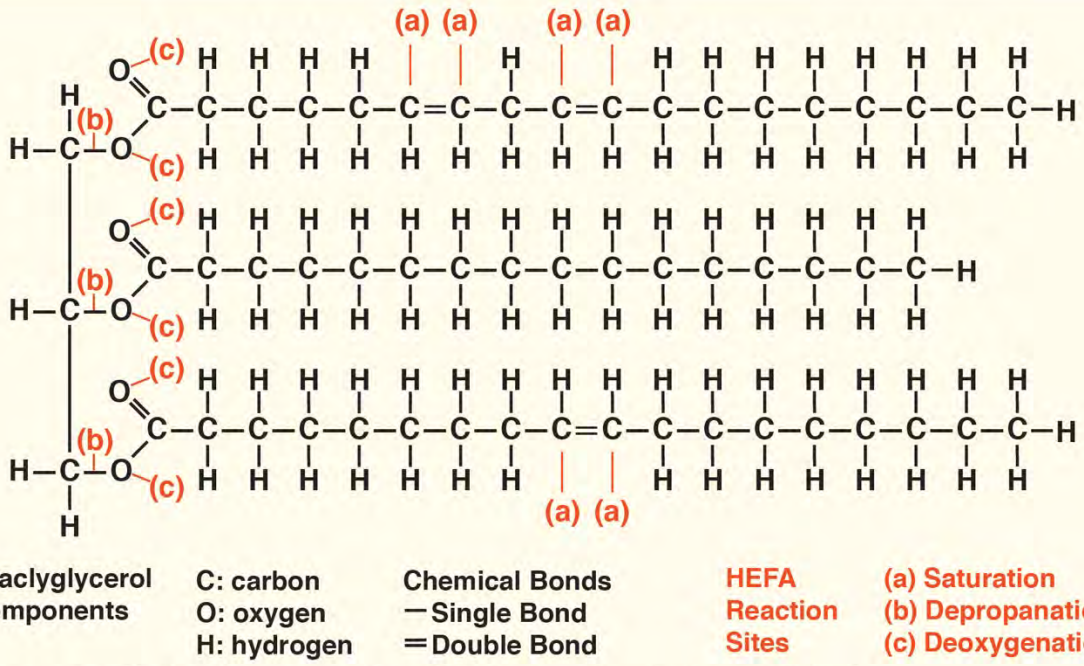


Diagram 1. Hydrodeoxygenation (HDO) of a triacylglycerol (TAG).

Fatty acids are "saturated" by bonding hydrogen to their carbon atoms. *See* (a) in Diagram. This tends to start first. Then, the fatty acids are broken free from the three-carbon "propane knuckle" of the TAG (Diagram 1, left) by breaking its bonds to them via hydrogen insertion. (Depropanation; *see* (b) in Diagram 1.) Still more hydrogen bonds with the oxygen atoms (c), to form water (H_2O), which is removed from the hydrocarbon process stream. These reactions yield water, propane, some unwanted but unavoidable byproducts (not shown in the diagram for simplicity), and the desired HDO reaction products—hydrocarbons which can be made into diesel and jet fuel.

But those hydrocarbons are not yet diesel or jet fuel. Their long, straight chains of saturated carbon make them too waxy. Fueling trucks or jets with wax is risky, and prohibited by fuel specifications. To de-wax them, those straight-chain hydrocarbons are turned into their branched-chain isomers.

Imagine that the second-to-last carbon on the right of the top carbon chain in Diagram 1 takes both hydrogens bonded to it, and moves to in between the carbon immediately to its left and one of the hydrogens that carbon already is bonded to. Now imagine the carbon at the end of the chain moves over to where the second-to-last carbon used to be, and thus stays attached to the carbon chain. That makes the straight chain into its branched isomer. It is isomerization.

Isomerization of long-chain hydrocarbons in the jet–diesel range is the last major HEFA process reaction step. Again, the reaction chemistry is complex, involves hard-to-control process conditions and unwanted side reactions at elevated temperatures and pressures, and uses a lot of

hydrogen. But these isomerization reactions, process conditions, and catalysts are markedly different from those of HDO.[9 14–17 19 20] And these reactions, process conditions, catalysts and hydrogen requirements also depend upon whether isomerization is coupled with intentional hydrocracking to target jet instead of diesel fuel production.[1] Thus this last major set of HEFA process reactions has, so far, required a separate second step in HEFA refinery configurations. For example, MPC proposes to isomerize the hydrocarbons from its HDO reactors in a separate second-stage hydrocracking unit to be repurposed from its shuttered Martinez crude refinery.[3]

HEFA isomerization requires very substantial hydrogen inputs, and can recycle most of that hydrogen when targeting diesel production, but consumes much more hydrogen for intentional hydrocracking to boost jet fuel production, adding significantly to the already-huge hydrogen requirements for its HDO reaction step.[1]

The role and impact of heat and pressure in the HEFA process

Hydro-conversion reactions proceed at high temperatures and extremely high pressures. Reactors feeding gas oils and distillates of similar densities to HEFA reactor feeds run at 575–700 ºF and 600–2,000 pounds per square inch (psi) for hydrotreating and at 575–780 ºF and 600–2,800 psi for hydrocracking.[16] That is during normal operation. The reactions are exothermic: they generate heat in the reactor on top of the heat its furnaces send into it. Extraordinary steps to handle the severe process conditions become routine in hydro-conversion. Hydrogen injection and recycle capacities are oversized to quench and attempt to control reactor heat-and-pressure rise.[16 22] When that fails, which happens frequently as shown in a following chapter, the reactors depressurize, dumping their contents to emergency flares. That is during petroleum refining.

Hydro-conversion reaction temperatures increase in proportion to hydrogen consumption,[21] and HDO reactions can consume more hydrogen, so parts of HEFA hydro-conversion trains can run hotter than those of petroleum refineries, form more extreme "hot spots," or both. Indeed, HEFA reactors must be designed to depressurize rapidly.[22] Yet as of this writing, no details of design potential HEFA project temperature and pressure ranges have been reported publicly.

1.2 Available option of repurposing hydrogen equipment drives choice of HEFA

Refiners could choose better new biofuel technology

Other proven technologies promise more flexibility at lower feedstock costs. For example, Fischer-Tropsch synthesis condenses a gasified mixture of carbon monoxide and hydrogen to form hydrocarbons and water, and can produce biogas, gasoline, jet fuel, or diesel biofuels.[23] Cellulosic biomass residues can be gasified for Fischer-Tropsch synthesis.[24] This alternative promises lower cost feedstock than HEFA technology and the flexibility of a wider range of future biofuel sales, along with the same ability to tap "renewable" fuel subsidies as HEFA technology. Refiners choose HEFA technology for a different reason.

Refiners can repurpose existing crude refining equipment for HEFA processing

Hydro-conversion reactors and hydrogen plants which were originally designed, built, and used for petroleum hydrocracking and hydrotreating could be repurposed and used for the new and different HEFA feedstocks and process reactions. This is in fact what the crude-to-biofuel refinery conversion projects propose to do in California.[2 3 5 6]

In the largest HEFA project to be proposed or built, P66 proposes to repurpose its 69,000 barrel/day hydrocracking capacity at units 240 and 246 combined, its 16,740 b/d Unit 248 hydrotreater, and its 35,000 b/d Unit 250 hydrotreater for 100% HEFA processing at Rodeo.[2 25] In the second largest project, MPC proposes to repurpose its 40,000 b/d No.2 HDS hydrotreater, 70,000 b/d No. 3 HDS hydrotreater, 37,000 b/d 1st Stage hydrocracker, and its 37,000 b/d 2nd Stage hydrocracker for 100% HEFA processing at Martinez.[3 26]

For hydrogen production to feed the hydro-conversion processing P66 proposes to repurpose 28.5 million standard cubic feet (SCF) per day of existing hydrogen capacity from its Unit 110 and 120 million SCF/d of hydrogen capacity from the Air Liquide Unit 210 at the same P66 Rodeo refinery.[2 25 27] MPC proposes to repurpose its 89 million SCF/d No. 1 Hydrogen Plant along with the 35 million SCF/d Air Products Hydrogen Plant No. 2 at the now-shuttered MPC Martinez refinery.[3 4 11 26]

By converting crude refineries to HEFA biofuel refiners protect otherwise stranded assets

Motivations to protect otherwise stranded refining assets are especially urgent in the two largest crude-to-biofuel refining conversions proposed to date. Uniquely designed and permitted to rely on a landlocked and fast-dwindling crude source already below its capacity, the P66 San Francisco Refinery has begun to shutter its front end in San Luis Obispo County, which makes its unheated pipeline unable to dilute and send viscous San Joaquin Valley crude to Rodeo.[28] This threatens the viability of its Rodeo refining assets—as the company itself has warned.[29] The MPC Martinez refinery was shut down permanently in a refining assets consolidation, possibly accelerated by COVID-19, though the pandemic closed no other California refinery.[30]

The logistics of investment in new and repurposed HEFA refineries as a refining asset protection mechanism leads refiners to repurpose a refining technology that demands hydrogen, then repurpose refinery hydrogen plants that supply hydrogen, then involve other companies in a related sector—such as Air Liquide and Air products—that own otherwise stranded hydrogen assets the refiners propose to repurpose as well.

Refiners also seek substantial public investments in their switch to HEFA biofuels. Tepperman (2020)[31] reports that these subsidies include federal "Blenders Tax" credits, federal "Renewable Identification Number" credits, and state "Low Carbon Fuel Standard" credits that one investment advisor estimated can total $3.32 per gallon of HEFA diesel sold in California. Krauss (2020)[32] put that total even higher at $4.00 per gallon. Still more public money could be directed to HEFA jet fuel, depending on the fate of currently proposed federal legislation.[33]

2. UPSTREAM — IMPACT OF FEEDSTOCK CHOICES

The types, amounts, and characteristics of energy feedstocks have repercussions across the energy system and environment. Choosing HEFA technology would lock into place a particular subset of the biomass carbon on our planet for use in energy production. It would further create a need for continued and potentially additional hydrogen use. This chapter evaluates the environmental impacts of feedstock acquisition and feedstock choices in HEFA production.

2.1 Proposed feedstock use by the Phillips 66, Marathon, and other California projects

2.1.1 Biomass volume

The proposed conversions at P66 and MPC, and attendant use of HEFA feedstocks, are very large in scale. P66 boasts that its Rodeo biorefinery would be the largest in the world.[10] The feedstock capacity of its HEFA biorefinery proposed in Rodeo, CA reported by P66 is 80,000 barrels per day (b/d).[2] With a feedstock capacity of 48,000 b/d, the MPC Martinez, CA project could then be the second largest HEFA refinery to be proposed or built worldwide.[3] The World Energy subsidiary, AltAir, expansion in Paramount, CA, which also plans to fully convert a petroleum refinery, would add 21,500 b/d of new HEFA feedstock capacity.[5] And Global Clean Energy Holdings, Inc. plans to convert its petroleum refinery in Bakersfield, CA into a HEFA refinery[6] with at least 15,000 b/d of new capacity. Altogether that totals 164,500 b/d of new HEFA feedstock capacity statewide.

The aggregate proposed new California feedstock demand is some 61–132 *times* the annual feedstock demand for HEFA refining in California from 2016–2019.[34] But at the same time, the proposed new California biofuel feed demand is only ten percent of California refinery demand for crude oil in 2019,[35] the year before COVID-19 forced temporary refining rate cuts.[36] This raises a potential for the new HEFA feed demand from crude-to-biofuel refinery conversions proposed here today to be only the beginning of an exponentially increasing trend.

2.1.2 Biomass type

HEFA technology, proposed at all of the California refineries currently proposing conversion to biofuel production, uses as feedstock triacylglycerols (TAGs) and fatty acids derived from TAGs (Chapter 1). Primary sources of these biomass lipids in concentrations and amounts necessary for HEFA processing are limited to oil crop plants, livestock fats, and fish oils. Existing U.S. biofuels production has tapped soybean oil, distillers corn oil, canola oil, cottonseed oil, beef tallow, pork lard and grease, poultry fats, fish oils from an unreported and likely wide range of species, and used cooking oil—lipids that could be recovered from uses of these primary sources, also known as "yellow grease."[37] [38] [39]

2.1.3 Other uses for this type of biomass

Importantly, people already use these oils and fats for many other needs, and they are traded globally. Beside our primary use of this type of biomass to feed ourselves directly, we use it to feed livestock in our food system, to feed our pets, and to make soap, wax, lubricants, plastics, cosmetic products, and pharmaceutical products.[40]

2.2 Indirect impacts of feedstock choices

2.2.1 Land use and food system impacts

Growing HEFA biofuel feedstock demand is likely to increase food system prices. Market data show that investors in soybean and tallow futures have bet on this assumption.[41] [42] [43] This pattern of radically increasing feedstock consumption and the inevitable attendant commodity price increases threatens significant environmental and human consequences, some of which are already emerging even with more modestly increased feedstock consumption at present.

As early as 2008, Searchinger et al.[44] showed that instead of cutting carbon emissions, increased use of biofuel feedstocks and the attendant crop price increases could expand crop land into grasslands and forests, reverse those natural carbon sinks, and cause food-sourced biofuels to emit more carbon than the petroleum fuels they replace. The mechanism for this would be global land use change linked to prices of commodities tapped for both food and fuel.[44]

Refiners say they will not use palm oil, however, that alone does not solve the problem. Sanders et al. (2012)[45] showed that multi-nation demand and price dynamics had linked soy oil, palm oil, food, and biofuel feedstock together as factors in the deforestation of Southeast Asia for palm oil. Santeramo (2017)[46] showed that such demand-driven changes in prices act across the oil crop and animal fat feedstocks for HEFA biofuels in Europe and the U.S. Searle (2017)[47] showed rapeseed (canola) and soy biofuels demand was driving palm oil expansion; palm oil imports increase for other uses of those oils displaced by biofuels demand.

Additionally, The Union of Concerned Scientists (2015),[48] Lenfert et al. (2017),[49] and Nepstad and Shimada (2018)[50] linked soybean oil prices to deforestation for soybean plantations in the Brazilian Amazon and Pantanal. By 2017, some soy and palm oil biofuels were found to

emit more carbon than the petroleum fuels they are meant to replace.[47] [51] By 2019 the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) warned large industrial biofuel feedstock plantations threaten global biodiversity.[52] By 2021 the Intergovernmental Panel on Climate Change joined the IPBES in this warning.[53] At high yields and prices, up to 79 million acres could shift to energy crops by 2030 in the U.S. alone.[40] And once a biofuel feedstock also used for food is locked in place, the human impacts of limiting land conversion could potentially involve stark social injustices, notably food insecurity and hunger.[44]

Work by many others who are not cited here contributed to better understanding the problem of our growing fuel chain-food chain interaction. Potential biodiversity loss, such as pollinator population declines, further risks our ability to grow food efficiently. Climate heating threatens more frequent crop losses. The exact tipping point, when pushing these limits too hard might turn the natural carbon sinks that biofuels depend upon for climate benefit into global carbon sources, remains unknown.

2.1.2 Impact on climate solutions

Technological, economic, and environmental constraints across the arrays of proven technologies and measures to be deployed for climate stabilization limit biofuels to a targeted role in sectors for which zero-emission fuels are not yet available.[53] [54] [55] [56] [57] [58] [59] [60] [61] And these technologies and measures require place-based deployment actions understood in a larger global context—actions that must be planned, implemented, and enforced by the political jurisdictions in each geography, but whose effect must be measured on a worldwide scale. California policy makers acted on this fact by expressly defining an in-state emission reduction which results in an emission increase elsewhere as inconsistent with climate protection.[62]

Tapping a biomass resource for biofuel feedstock can only be part of our state or national climate solution if it does not lead to countervailing climate costs elsewhere that wipe out or overtake any purported benefits. Thus, if California takes biomass from another state or nation which that other state or nation needs to cut emissions there, it will violate its own climate policy, and more crucially, burning that biofuel will not cut carbon emissions. Moreover, our climate policy should not come at the cost of severe human and environmental harms that defeat the protective purpose of climate policy.

Use of biofuels as part of climate policy is thus limited by countervailing climate and other impacts. Experts that the state has commissioned for analysis of the technology and economics of paths to climate stabilization suggest that state biofuel use should be limited to the per capita share of sustainable U.S. production of biofuel feedstock.[54] [55] Per capita share is a valid benchmark, and is used herein, but it is not necessarily a basis for just, equitable, or effective policy. Per capita, California has riches, agriculture capacity, solar energy potential, and mild winters that populations in poorer, more arid, or more polar and colder places may lack. Accordingly, the per capita benchmark applied in Table 1 below should be interpreted as a conservative (high) estimate of sustainable feedstock for California HEFA refineries.

Table 1. U.S. and California lipid supplies *v.* potential new lipid feedstock demand from crude-to-biofuel refinery conversions now planned in California.

MM t/y: *million metric tons/year*

Lipids supply	U.S. (MM t/y)	U.S. (%)	CA per capita [d] (MM t/y)	CA produced [e] (MM t/y)
Biofuels [a]	4.00	100 %	0.48	0.30
All uses	20.64	100 %	2.48	1.55
Soybean oil [b]	10.69	52 %		
Livestock fats [a]	4.95	24 %		
Corn oil [b]	2.61	13 %		
Waste oil [a]	1.40	7 %		
Canola oil [b]	0.76	4 %		
Cottonseed [b]	0.23	1 %		

Lipids Demand for four proposed CA refineries	Percentage of U.S. and California supplies for all uses		
(MM t/y) [c]	U.S. total	CA per capita	CA produced
8.91	43 %	359 %	575 %

a. US-produced supply of feedstocks for hydro-processing esters and fatty acids (HEFA) in 2030, estimated in the U.S. Department of Energy *Billion-Ton Update* (2011).[40] Includes total roadside/farm gate yields estimates in the contiguous U.S. for biofuel feedstock consumption, and for all uses of animal fats and waste oil (used cooking oil).
b. U.S. farm yield for all uses of lipids used in part for biofuels during Oct 2016–Sep 2020 from U.S. Department of Agriculture *Oil Crops Data: Yearbook Tables;* tables 5, 20, 26 and 33.[38] *See* also Karras (2021a).[63]
c. From proposed Rodeo,[2] Martinez,[3] Paramount[5] and Bakersfield[6] capacity at a feed specific gravity of 0.914.
d. California per capita share of U.S. totals based on 12 percent of the U.S. population.
e. Calif. produced lipids, after *Billion-Ton Update* by Mahone et al.,[55] with lipids for all uses scaled proportionately.

2.3 Effect of supply limitations on feedstock acquisition impacts

Feeding the proposed new California HEFA refining capacity could take more than 350% of its per capita share from total U.S. farm yield for *all uses* of oil crop and livestock fat lipids that have been tapped for biofuels in much smaller amounts until now. *See* Table 1. The 80,000 b/d (~4.24 MM t/y) P66 Rodeo project[2] alone could exceed this share by ~71%. At 128,000 b/d (~6.79 MM t/y) combined, the P66[2] and Marathon[3] projects together could exceed it by ~174%.

2.3.1 Supply effect on climate solutions

Emission shifting would be the first and most likely impact from this excess taking of a limited resource. The excess used here could not be used elsewhere, and use of the remaining farmed lipids elsewhere almost certainly would prioritize food. Reduced capacity to develop and use this biofuel for replacing petroleum diesel outside the state would shift future emissions.

2.3.2 Supply effect on land use and food systems

Displacement of lipid food resources at this scale would also risk cascading impacts. These food price, food security, and land conversion impacts fuel deforestation and natural carbon sink destruction in the Global South, and appear to have made some HEFA biofuels more carbon-

intensive than petroleum due to indirect land use impacts that diminish the carbon storage capacity of lands converted to biofuel plantations, as described above.[41–53]

The severity of these risks to food security, biodiversity, and climate sinks appears uncertain for some of the same reasons that make it dangerous. Both the human factors that drove land use impacts observed in the past[41–53] and the ecological resilience that constrained their severity in the past may not always scale in a linear or predictable fashion, and there is no precedent for the volume of lipid resource displacement for energy now contemplated.

In contrast, the causal trigger for any or all of these potential impacts would be a known, measurable volume of potential lipid biomass feedstock demand. Importantly, this volume-driven effect does not implicate the Low Carbon Fuel Standard and can only be addressed effectively by separate policy or investment actions.

2.3.3 Supply effect on HEFA feedstock choices

Both Marathon and P66 have indicated informally that their preferred feedstocks are used cooking oil "waste" and domestic livestock fats rather than soy and other food crop oils. It is clear, however, that supplies of these feedstocks are entirely insufficient to meet anticipated demand if the two conversions (and the others planned in California) move forward. Table 1 reveals the fallacy of assuming that used "waste" cooking oil or domestic livestock fats could feed the repurposed HEFA refineries, showing that supplies would be inadequate even in an extreme hypothetical scenario wherein biofuel displaces all other uses of these lipids.

As discussed below, these HEFA feedstock availability limitations have fuel chain repercussions for the other critical HEFA process input—hydrogen.

2.4 Impact of biomass feedstock choices on hydrogen inputs

2.4.1 All HEFA feedstocks require substantial hydrogen inputs to convert the triacylglycerols and fatty acids in the lipid feedstock into HEFA biofuels

Hydrogen (H_2) is the most abundant element in diesel and jet fuel hydrocarbons, and all of the lipid feedstocks that HEFA refiners could process need substantial refinery hydrogen inputs. In HEFA refining hydrogen bonds with carbon in lipid feeds to saturate them, to break the fatty acids and propane "knuckle" of those triacylglycerols apart, and—in unavoidable side-reactions or intentionally to make more jet fuel—to break longer carbon chains into shorter carbon chains. (Chapter 1.) Hydrogen added for those purposes stays in the hydrocarbons made into fuels; it is a true HEFA biofuel feedstock.

Hydrogen also bonds with oxygen in the lipids to remove that oxygen from the hydrocarbon fuels as water. *Id.* Forming the water (H_2O) takes two hydrogens per oxygen, and the lipids in HEFA feedstocks have consistently high oxygen content, ranging from 10.8–11.5 weight percent,[1] so this deoxygenation consumes vast amounts of hydrogen. Further, hydrogen is injected in large amounts to support isomerization reactions that turn straight-chain hydrocarbons

into branched-chain hydrocarbons. (Chapter 1.) And more hydrogen is injected to quench and control severe processing conditions under which all of these hydro-conversion reactions proceed. *Id.*

2.4.2 Some HEFA feedstocks need more hydrogen for HEFA processing than others

All types of HEFA feeds consume hydrogen in all the ways described above. However, how much is consumed in the first reaction—saturation—depends on the number of carbon double bonds in the fatty acids of the specific lipid feed source. *See* Diagram 1, Chapter 1. That matters because fatty acids in one specific HEFA lipids feed can have more carbon double bonds than fatty acids in another. Charts 1-A through 1–F below illustrate these differences in the fatty acid profiles of different HEFA feeds. The heights of the columns in these charts show the percentages of fatty acids in each feed that have various numbers of carbon double bonds.

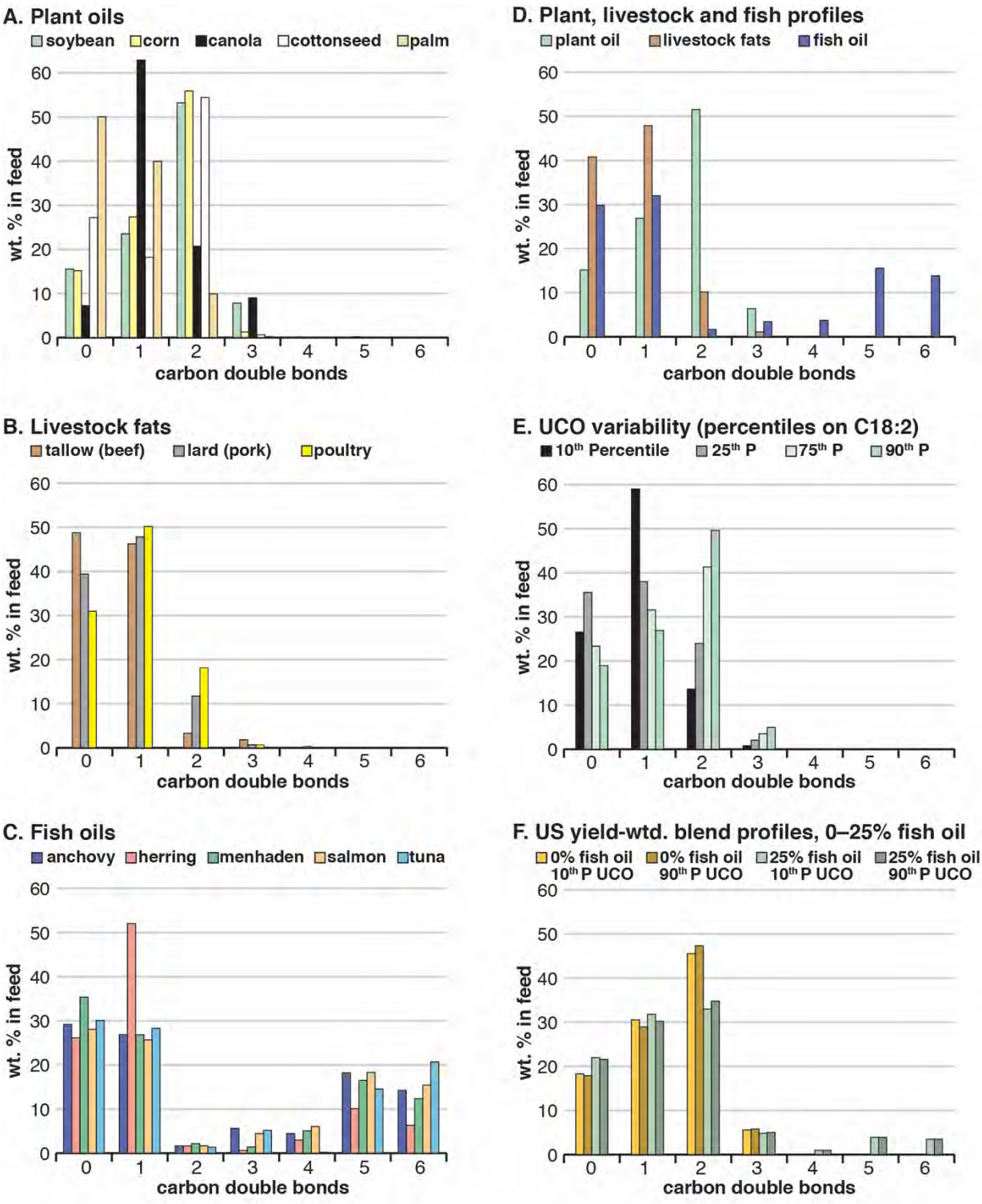
In soybean oil, which accounts for the majority of U.S. oil crops yield shown in Table 1, most of the fatty acids have 2–3 carbon double bonds (Chart 1-A). In contrast, most of the fatty acids in livestock fats have 0–1 carbon double bonds (Chart 1-B). And in contrast to the plant oil *and* livestock fat profiles, which are essentially empty on the right side of charts 1-A and 1-B, a significant portion of the fatty acids in fish oils have 4–6 carbon double bonds (Chart 1-C).

Thus, HEFA processing requires more hydrogen to saturate the carbon double bonds in soy oil than those in livestock fats, and even more hydrogen to saturate those in fish oils. Such single-feed contracts are plausible, but feedstock acquisition logistics for the HEFA biofuels expansion—especially in light of the supply problem shown in Table 1—suggest refiners will process blends, and likely will process yield-weighted blends. Charts 1-D and 1-F show that such blends would dampen but still reflect these differences between specific plant oils, livestock fats, and fish oils. Finally, Chart 1-E illustrates the notoriously variable quality of used cooking oil (UCO), and Chart 1-F illustrates how the impact of UCO variability could be small compared with the differences among other feeds, since UCO could be only a small portion of the blend, as shown in Table 1.

2.4.3 Refining HEFA feedstocks demands more hydrogen than refining crude oil

Table 2, on the next page following the charts below, shows total hydrogen demand per barrel of feedstock, for processing different HEFA feeds, and for targeting different HEFA fuels.

Hydrogen demand for saturation of carbon double bonds ranges across the biomass feeds shown in Table 2 from 186–624 standard cubic feet of H_2 per barrel of biomass feed (SCF/b), and is the largest feedstock-driven cause of HEFA H_2 demand variability. For comparison, total on-purpose hydrogen production for U.S. refining of petroleum crude from 2006–2008, before lighter shale oil flooded refineries, averaged 273 SCF/b.[1 64] This 438 (624-186) SCF/b saturation range alone exceeds 273 SCF/b. The extra H_2 demand for HEFA feeds with more carbon double bonds is one repercussion of the livestock fat and waste oil supply limits revealed in Table 1.



1. HEFA feed fatty acid profiles by number of carbon double bonds.
Carbon double bonds require more hydrogen in HEFA processing. **A–C.** Plant oil, animal fat and fish oil profiles. **D.** Comparison of weighted averages for plant oils (US farm yield-wtd. 70/20/7/3 soy/corn/canola/cottonseed blend), livestock fats (40/30/30 tallow/lard/poultry blend) and fish oils (equal shares for species in Chart 1C). **E.** UCO: used cooking oil, a highly variable feed. **F.** US yield-weighted blends are 0/85/10/5 and 25/60/10/5 fish/plant/livestock/UCO oils. Profiles are median values based on wt.% of linoleic acid. *See* Table A1 for data and sources.[1]

Table 2. Hydrogen demand for processing different HEFA biomass carbon feeds.

Standard cubic feet of hydrogen per barrel of biomass feed (SCF/b)

	Hydrodeoxygenation reactions		Total with isomerization / cracking	
Biomass carbon feed	Saturation [a]	Others [b,c]	Diesel target	Jet fuel target [d]
Plant oils				
Soybean oil	479	1,790	2,270	3,070
Plant oils blend [e]	466	1,790	2,260	3,060
Livestock fats				
Tallow	186	1,720	1,910	2,690
Livestock fats blend [e]	229	1,720	1,950	2,740
Fish oils				
Menhaden	602	1,880	2,480	3,290
Fish oils blend [e]	624	1,840	2,460	3,270
US yield-weighted blends [e]				
Blend without fish oil	438	1,780	2,220	3,020
Blend with 25% fish oil	478	1,790	2,270	3,070

a. Carbon double bond saturation as illustrated in Diagram 1 (a). **b, c.** Depropanation and deoxygenation as illustrated in Diagram 1 (b), (c), and losses to unwanted (diesel target) cracking, off-gassing and solubilization in liquids. **d.** Jet fuel total also includes H_2 consumed by intentional cracking along with isomerization. **e.** Blends as shown in charts 1-D and 1-F. Data from Tables A1and Appendix at A2.[1] Figures may not add due to rounding.

Moreover, although saturation reaction hydrogen alone can exceed crude refining hydrogen, total hydrogen consumption in HEFA feedstock processing is larger still, as shown in Table 2.

Other hydrodeoxygenation reactions—depropanation and deoxygenation—account for most of the total hydrogen demand in HEFA processing. The variability in "other" hydrogen demand mainly reflects unavoidable hydrogen losses noted in Table 2, which rise with hydro-conversion intensity. Targeting maximum jet fuel rather than diesel production boosts total HEFA hydrogen demand by approximately 800 SCF/b.[1 9 65] This is primarily a product slate rather than feed-driven effect: maximizing jet fuel yield from the HDO reaction hydrocarbons output consumes much more hydrogen for intentional hydrocracking, which is avoided in the isomerization of a HEFA product slate targeting diesel.

Total hydrogen demand to process the likely range of yield-weighted biomass blends at the scale of planned HEFA expansion could thus range from 2,220–3,070 SCF/b, fully 8–11 *times* that of the average U.S. petroleum refinery (273 SCF/b).[1 64] This has significant implications for climate and community impacts of HEFA refining given the carbon-intensive and hazardous ways that refiners already make and use hydrogen now.

3. MIDSTREAM — HEFA PROCESS ENVIRONMENTAL IMPACTS

This chapter assesses refinery carbon emissions, refinery explosion and fire hazards, and air pollution impacts from refinery flares in HEFA processing. As shown in Chapter 2, turning a petroleum refinery into a HEFA refinery increases its hydrogen input intensity. This increased hydrogen intensity is particularly problematic given that the proposed conversions are all based on plans to re-purpose existing fossil fuel hydrogen production and hydro-conversion processes (Chapter 1). Current refinery hydrogen production that refiners propose to re-purpose uses the extraordinarily carbon intense "steam reforming" technology. Additionally, refinery explosion, fire, and flare emission hazards associated with processing in hydro-conversion units which refiners propose to re-purpose intensify at the increased hydrogen feed rates HEFA processing requires. P66 proposes to repurpose 148.5 million standard cubic feet per day (MMSCFD) of existing steam reforming hydrogen production capacity and 120,740 barrels per day (b/d) of existing hydro-conversion capacity for its proposed HEFA refinery in Rodeo. *Id.* MPC proposes to repurpose 124 MMSCFD of steam reforming capacity and 147,000 b/d of hydro-conversion capacity for its proposed HEFA refinery in Martinez. *Id.*

3.1 Carbon impact of steam reforming in the HEFA process

The hydrogen intensity of HEFA processing makes emissions from supplying the hydrogen all the more important, and as noted, refiners propose to repurpose carbon-intensive steam reforming. This could boost HEFA refinery carbon emissions dramatically.

Steam reforming makes hydrogen by stripping it from hydrocarbons, and the carbon left over from that forms carbon dioxide (CO_2) that emits as a co-product. *See* Diagram 2. It is often called methane reforming, but refiners feed it other refining byproduct hydrocarbons along with purchased natural gas, and even more CO_2 forms from the other feeds. The difference illustrated in Diagram 2 comes out to 16.7 grams of CO_2 per SCF of H_2 produced from propane *versus* 13.9 grams CO_2/SCF H_2 produced from methane. Fossil fuel combustion adds more CO_2.

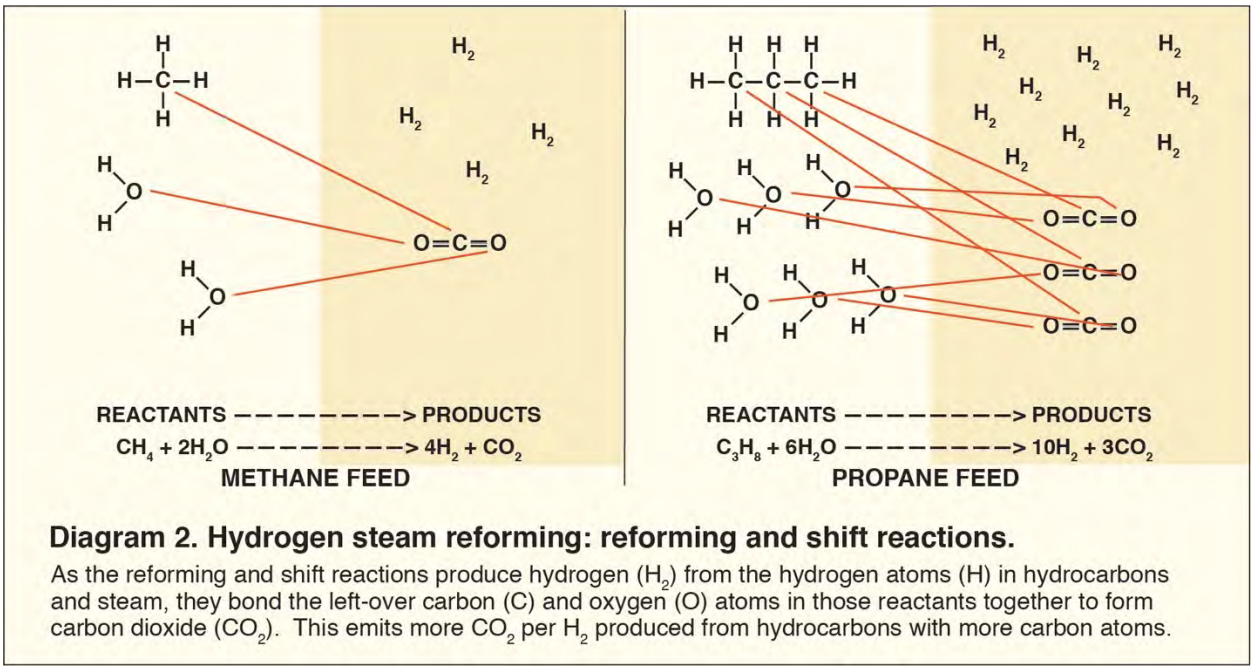


Diagram 2. Hydrogen steam reforming: reforming and shift reactions.
As the reforming and shift reactions produce hydrogen (H_2) from the hydrogen atoms (H) in hydrocarbons and steam, they bond the left-over carbon (C) and oxygen (O) atoms in those reactants together to form carbon dioxide (CO_2). This emits more CO_2 per H_2 produced from hydrocarbons with more carbon atoms.

Heating the water and feed to make the mixture of superheated steam and hydrocarbons that react at 1,300–1,900 ºF, and making the additional steam and power that drive its pumps and pressure, make steam reforming energy intensive. Natural gas and refinery process off gas burn for that energy. Combustion energy intensity, based on design capacities verified and permitted by local air officials, ranges across 11 hydrogen plants that serve or served Bay Area refineries, from 0.142–0.277 million joules (MJ) per SCF H_2 produced, with a median of 0.202 MJ/SCF across the 11 plants.[1] At the median, ~10 gCO_2/SCF H_2 produced emits from burning methane. That, plus the 13.9 g/SCF H_2 from methane feed, could emit 23.9 g/SCF. This median energy intensity (EI) for methane feed is one of the potential plant factors shown in Table 3 below.

Hydrogen plant factors are shown in Table 3 for two feeds—methane, and a 77%/23% methane/propane mix—and for two combustion energy intensities, a Site EI and the median EI from Bay Area data discussed above. The mixed feed reflects propane by-production in HEFA process reactions and the likelihood that this and other byproduct gases would be used as feed, fuel, or both. Site EI should be more representative of actual P66 and MPC plant factors, but details of how they will repurpose those plants have not yet been disclosed. Median EI provides a reference point for P66 and MPC plant factors, and is applied to the other projects in the statewide total at the bottom of the table.

Table 3 shows how high-carbon hydrogen technology and high hydrogen demand for hydro-conversion of HEFA feeds (Chapter 2) combine to drive the carbon intensity of HEFA refining. At the likely hydrogen feed mix and biomass feed blend lower bound targeting diesel production, HEFA hydrogen plants could emit 55.3–57.9 kilograms of CO_2 per barrel of biomass feed. And in those conditions at the upper bound, targeting jet fuel, they could emit 76.4–80.1 kg/b.

Table 3. CO_2 emissions from hydrogen production proposed for HEFA processing by full scale crude-to-biofuel refinery conversions planned in California.

g: gram (CO_2) **SCF:** standard cubic foot (H_2) **b:** barrel (biomass feed) **Mt:** million metric tons

	Plant factor[a] (g/SCF)	Conversion demand (SCF/b)[b] Lower bound	Conversion demand (SCF/b)[b] Upper bound	Carbon intensity (kg/b)	Mass emission[c] (Mt/y)
P66 Rodeo					
Mixed feed [d]					
Site EI [a]	26.1	2,220	3,070	57.9 – 80.1	1.69 – 2.34
Median EI [a]	24.9	2,220	3,070	55.3 – 76.4	1.61 – 2.23
Methane [d]					
Site EI [a]	25.0	2,220	3,070	55.5 – 76.7	1.62 – 2.24
Median EI [a]	23.9	2,220	3,070	53.1 – 73.4	1.55 – 2.14
MPC Martinez					
Mixed feed [d]					
Site EI [a]	25.8	2,220	3,070	57.3 – 79.2	1.00 – 1.39
Median EI [a]	24.9	2,220	3,070	55.3 – 76.4	0.97 – 1.34
Methane [d]					
Site EI [a]	24.7	2,220	3,070	54.8 – 75.8	0.96 – 1.33
Median EI [a]	23.9	2,220	3,070	53.1 – 73.4	0.93 – 1.29
Total CA Plans: P66, MPC, AltAir and GCE					
Mixed feed [a, d]	25.8	2,220	3,070	57.3 – 79.2	3.51 – 4.86
Methane [a, d]	24.6	2,220	3,070	54.6 – 75.5	3.35 – 4.63

a. Plant factor energy intensity (EI) expressed as emission rate assuming 100% methane combustion fuel. Site EI is from plant-specific, capacity-weighted data; median EI is from 11 SF Bay Area hydrogen plants that serve or served oil refineries. CA total assumes site EIs for P66 and MPC and median EI for AltAir and GCE.
b. H_2 demand/b biomass feed: lower bound for yield-weighted blend with 0% fish oil targeting maximum diesel production; upper bound for yield-weighted blend with 25% fish oil targeting maximum jet fuel production. **c.** Mass emission at kg/b value in table and capacity of proposed projects, P66: 80,000 b/d; MPC: 48,000 b/d; Altair: 21,500 b/d; GCE: 18,500 b/d. **d.** Mixed feed is 77% methane and 23% propane, the approximate proportion of propane by-production from HEFA processing, and the likely disposition of propane, other process byproduct gases, or both; methane: 100% methane feed to the reforming and shift reactions. *See* Appendix for details.[1]

Total CO_2 emissions from hydrogen plants feeding the currently proposed HEFA refining expansion proposed statewide could exceed 3.5 million tons per year—if the refiners only target diesel production. *See* Table 3. If they all target jet fuel, and increase hydrogen production to do so, those emissions could exceed 4.8 million tons annually. *Id.*

It bears note that this upper bound estimate for targeting jet fuel appears to require increases in permitted hydrogen production at P66 and MPC. Targeting jet fuel at full feed capacity may also require new hydrogen capacity a step beyond further expanding the 1998 vintage[66] P66 Unit 110 or the 1963 vintage[67] MPC No. 1 Hydrogen Plant. And if so, the newer plants could be less energy intensive. The less aged methane reforming merchant plants in California, for example, have a reported median CO_2 emission rate of 76.2 g/MJ H_2.[68] That is 23.3 g/SCF, close to, but

less than, the methane reforming median of 23.9 g/SCF in Table 3. Conversely, the belief, based on available evidence until quite recently, that methane emissions from steam reformers do not add significantly to the climate-forcing impact of their huge CO_2 emissions, might turn out to be wrong. Recently reported aerial measurements of California refineries[69] indicate that methane emissions from refinery hydrogen production have been underestimated dramatically. Thus, the upper bound carbon intensity estimates in Table 3 might end up being too high or too low. But questions raised by this uncertainty do not affect its lower bound estimates, and those reveal extreme-high carbon intensity.

Total CO_2 emissions from U.S. petroleum refineries averaged 41.8 kg per barrel crude feed from 2015–2017, the most recent period in which we found U.S. government-reported data for oil refinery CO_2 emitted nationwide.[1] At 55–80 kg per barrel biomass feed, the proposed HEFA hydrogen production *alone* exceeds that petroleum refining carbon intensity by 32–91 percent.

Additional CO_2 would emit from fuel combustion for energy to heat and pressure up HEFA hydro-conversion reactors, precondition and pump their feeds, and distill, then blend their hydrocarbon products. Unverified potential to emit calculations provided by one refiner[1] suggest that these factors could add ~21 kg/b to the 55–80 kg/b from HEFA steam reforming. This ~76–101 kg/b HEFA processing total would exceed the 41.8 kg/b carbon intensity of the average U.S. petroleum refinery by ~82–142 percent. Repurposing refineries for HEFA biofuels production using steam reforming would thus increase the carbon intensity of hydrocarbon fuels processing.

3.2 Local risks associated with HEFA processing

HEFA processing entails air pollution, health, and safety risks to workers and the surrounding community. One of these risks—the intensified catastrophic failure hazard engendered by the more intensive use of hydrogen for HEFA processing—renders HEFA refining in this respect more dangerous than crude processing.

3.2.1 HEFA processing increases refinery explosion and fire risk

After a catastrophic pipe failure ignited in the Richmond refinery sending 15,000 people to hospital emergency rooms, a feed change was found to be a causal factor in that disaster—and failures by Chevron and public safety officials to take hazards of that feed change seriously were found to be its root causes.[70] The oil industry knew that introducing a new and different crude into an existing refinery can introduce new hazards.[71] More than this, as it has long known, side effects of feed processing can cause hazardous conditions in the same types of hydro-conversion units it now proposes to repurpose for HEFA biomass feeds,[71] and feedstock changes are among the most frequent causes of dangerous upsets in these hydro-conversion reactors.[16]

But differences between the new biomass feedstock refiners now propose and crude oil are bigger than those among crudes which Chevron ignored the hazards of before the August 2012 disaster in Richmond—and involve oxygen in the feed, rather than sulfur as in that disaster.[70]

Chevron Richmond Refinery, 6 Aug 2012. Image: CSB

This categorical difference between oxygen and sulfur, rather than a degree of difference in feed sulfur content, risks further "minimizing the accuracy, or even feasibility, of predictions based on historical data."[71] At 10.8–11.5 wt. %, HEFA feeds have very high oxygen content,[1] while the petroleum crude fed to refinery processing has virtually none. Carbonic acid forms from that oxygen in HEFA processing. Carbonic acid corrosion is a known hazard in HEFA processing.[22] But this corrosion mechanism, and the specific locations it attacks in the refinery, differ from those of the sulfidic corrosion involved in the 2012 Richmond incident. Six decades of industry experience with sulfidic corrosion[71] cannot reliably guide—and could misguide—refiners that attempt to find, then fix, damage from this new hazard before it causes equipment failures.

Worse, high-oxygen HEFA feedstock boosts hydrogen consumption in hydro-conversion reactors dramatically, as shown in Chapter 2. That creates more heat in reactors already prone to overheating in petroleum refining. Switching repurposed hydrocrackers and hydrotreaters to HEFA feeds would introduce this second new oxygen-related hazard.

A specific feedback mechanism underlies this hazard. The hydro-conversion reactions are exothermic: they generate heat.[16 21 22] When they consume more hydrogen, they generate more

heat.[21] Then they get hotter, and crack more of their feed, consuming even more hydrogen,[16 21] so "the hotter they get, the faster they get hot."[16] And the reactions proceed at extreme pressures of 600–2,800 pound-force per square inch,[16] so the exponential temperature rise can happen fast.

Refiners call these runaway reactions, temperature runaways, or "runaways" for short. Hydro-conversion runaways are remarkably dangerous. They have melted holes in eight-inch-thick, stainless steel walls of hydrocracker reactors[16]—and worse. Consuming more hydrogen per barrel in the reactors, and thereby increasing reaction temperatures, HEFA feedstock processing can be expected to increase the frequency and magnitude of runaways.

High temperature hydrogen attack or embrittlement of metals in refining equipment with the addition of so much more hydrogen to HEFA processing is a third known hazard.[22] And given the short track record of HEFA processing, the potential for other, yet-to-manifest, hazards cannot be discounted.

On top of all this, interdependence across the process system—such as the critical need for real-time balance between hydro-conversion units that feed hydrogen and hydrogen production units that make it—magnifies these hazards. Upsets in one part of the system can escalate across the refinery. Hydrogen-related hazards that manifest at first as isolated incidents can escalate with catastrophic consequences.

Significant and sometimes catastrophic incidents involving the types of hydrogen processing systems proposed for California HEFA projects are unfortunately common in crude oil refining, as reflected in the following incident briefs posted by *Process Safety Integrity*[72] report:

- Eight workers are injured and a nearby town is evacuated in a 2018 hydrotreater reactor rupture, explosion and fire.
- A worker is seriously injured in a 2017 hydrotreater fire that burns for two days and causes an estimated $220 million in property damage.
- A reactor hydrogen leak ignites in a 2017 hydrocracker fire that causes extensive damage to the main reactor.
- A 2015 hydrogen conduit explosion throws workers against a steel refinery structure.
- Fifteen workers die, and 180 others are injured, in a series of explosions when hydrocarbons flood a distillation tower during a 2005 isomerization unit restart.
- A vapor release from a valve bonnet failure in a high-pressure hydrocracker section ignites in a major 1999 explosion and fire at the Chevron Richmond refinery.
- A worker dies, 46 others are injured, and the community must shelter in place when a release of hydrogen and hydrocarbons under high temperature and pressure ignites in a 1997 hydrocracker explosion and fire at the Tosco (now MPC) Martinez refinery.
- A Los Angeles refinery hydrogen processing unit pipe rupture releases hydrogen and hydrocarbons that ignite in a 1992 explosion and fires that burn for three days.

- A high-pressure hydrogen line fails in a 1989 fire which buckles the seven-inch-thick steel of a hydrocracker reactor that falls on other nearby Richmond refinery equipment.
- An undetected vessel overpressure causes a 1987 hydrocracker explosion and fire.[72]

These incidents all occurred in the context of crude oil refining. For the reasons described in this section, there is cause for concern that the frequency and severity of these types of hydrogen-related incidents could increase with HEFA processing.

Refiners have the ability to use extra hydrogen to quench, control, and guard against runaway reactions as described in Chapter 1, a measure which has proved partially effective and appears necessary for hydro-conversion processing to remain profitable. As a safety measure, however, it has proved ineffective so often that hydro-conversion reactors are equipped to depressurize rapidly to flares.[16] [22] And that last-ditch safeguard, too, has repeatedly failed to prevent catastrophic incidents. The Richmond and Martinez refineries were equipped to depressurize to flares, for example, during the 1989, 1997, 1999 and 2012 incidents described above. In fact, precisely because it is a last-ditch safeguard, to be used only when all else fails, flaring reveals how frequently these hazards manifest as potentially catastrophic incidents. *See* Table 4 for specific examples.

Indeed, despite current safeguards, hydro-conversion and hydrogen-related process safety hazards which their HEFA conversion projects could worsen contribute to significant flaring incidents at the P66 Rodeo and MPC Martinez refineries frequently. Causal analysis reports for significant flaring show that hydrogen-related hazard incidents occurred at those refineries a combined total of 100 times from January 2010 through December 2020.[1] This is a conservative estimate, since incidents can cause significant impacts without causing environmentally significant flaring, but still represents, on average, and accounting for the Marathon plant closure since April 2020, another hydrogen-related incident at one of those refineries every 39 days.[1]

Sudden unplanned or emergency shutdowns of major hydro-conversion or hydrogen production plants occurred in 84 of these 100 reported process safety hazard incidents.[1] Such sudden forced shutdowns of *both* hydro-conversion and hydrogen production plants occurred in 22 of these incidents.[1] In other words, incidents escalated to refinery-level systems involving multiple plants frequently—a foreseeable consequence, given that both hydro-conversion and hydrogen production plants are susceptible to upset when the critical balance of hydrogen production supply and hydrogen demand between them is disrupted suddenly. In four of these incidents, consequences of underlying hazards included fires in the refinery.[1]

Since switching to HEFA refining is likely to further increase the frequency and magnitude of these already-frequent significant process hazard incidents, and flaring has proven unable to prevent every incident from escalating to catastrophic proportions, catastrophic consequences of HEFA process hazards are foreseeable.

Table 4. Examples from 100 hydrogen-related process hazard incidents at the Phillips 66 Rodeo and Marathon Martinez refineries, 2010–2020.

Date [a]	Refinery	Hydrodrogen-related causal factors reported by the refiner [a]
3/11/10	Rodeo	A high-level safety alarm during a change in oil feed shuts down Unit 240 hydrocracker hydrogen recycle compressor 2G-202, forcing the sudden shutdown of the hydrocracker
5/13/10	Martinez	A hydrotreater charge pump bearing failure and fire forces #3 HDS hydrotreater shutdown [b]
9/28/10	Martinez	A hydrocracker charge pump trip leads to a high temperature excursion in hydrocracker reactor catalyst beds that forces sudden unplanned hydrocracker shutdown [c]
2/17/11	Martinez	A hydrogen plant fire caused by process upset after a feed compressor motor short forces the hydrogen plant shutdown; the hydrocracker shuts down on sudden loss of hydrogen
9/10/12	Rodeo	Emergency venting of hydrogen to the air from one hydrogen plant to relieve a hydrogen overpressure as another hydrogen plant starts up ignites in a refinery hydrogen fire
10/4/12	Rodeo	A hydrocracker feed cut due to a hydrogen makeup compressor malfunction exacerbates a reactor bed temperature hot spot, forcing a sudden hydrocracker shutdown [d]
1/11/13	Martinez	Cracked, overheated and "glowing" hydrogen piping forces an emergency hydrogen plant shutdown; the loss of hydrogen forces hydrocracker and hydrotreater shutdowns
4/17/15	Martinez	Cooling pumps trip, tripping the 3HDS hydrogen recycle compressor and forcing a sudden shutdown of the hydrotreater as a safety valve release cloud catches fire in this incident [e]
5/18/15	Rodeo	A hydrocracker hydrogen quench valve failure forces a sudden hydrocracker shutdown [f]
5/19/15	Martinez	A level valve failure, valve leak and fire result in an emergency hydrotreater shutdown
3/12/16	Rodeo	A Unit 240 level controller malfunction trips off hydrogen recycle compressor G-202, which forces an immediate hydrocracker shutdown to control a runaway reaction hazard [g]
1/22/17	Martinez	An emergency valve malfunction trips its charge pump, forcing a hydrocracker shutdown
5/16/19	Martinez	A recycle compressor shutdown to fix a failed seal valve forces a hydrocracker shutdown [h]
6/18/19	Martinez	A control malfunction rapidly depressurized hydrogen plant pressure swing absorbers
11/11/19	Rodeo	A failed valve spring shuts down hydrogen plant pressure swing absorbers in a hydrogen plant upset; the resultant loss of hydrogen forces a sudden hydrotreater shutdown [i]
2/7/20	Martinez	An unprotected oil pump switch trips a recycle compressor, shutting down a hydrotreater
3/5/20	Rodeo	An offsite ground fault causes a power sag that trips hydrogen make-up compressors, forcing the sudden shutdown of the U246 hydrocracker [j]
10/16/20	Rodeo	A pressure swing absorber valve malfunction shuts down a hydrogen plant; the emergency loss of hydrogen condition results in multiple process unit upsets and shutdowns [k]

a. Starting date of the environmentally significant flaring incident, as defined by Bay Area Air Quality Management District Regulation § 12-12-406, which requires causal analysis by refiners that is summarized in this table. An incident often results in flaring for more than one day. The 100 "unplanned" hydro-conversion flaring incidents these examples illustrate are given in Table A6 of this report. Notes b–k below further illustrate some of these examples with quotes from refiner causal reports. **b.** "Flaring was the result of an 'emergency' ... the #3 HDS charge pump motor caught fire ... ." **c.** "One of the reactor beds went 50 degrees above normal with this hotter recycle gas, which automatically triggered the 300 lb/minute emergency depressuring system." **d.** "The reduction in feed rates exacerbated an existing temperature gradient ...higher temperature gradient in D-203 catalyst Bed 4 and Bed 5 ... triggered ... shutdown of Unit 240 Plant 2." **e.** "Flaring was the result of an Emergency. 3HDS had to be shutdown in order to control temperatures within the unit as cooling water flow failed." **f.** "Because hydrocracking is an exothermic process ... [t]o limit temperature rise... [c]old hydrogen quench is injected into the inlet of the intermediate catalyst beds to maintain control of the cracking reaction." **g.** "Because G-202 provides hydrogen quench gas which prevents runaway reactions in the hydrocracking reactor, shutdown of G-202 causes an automatic depressuring of the Unit 240 Plant 2 reactor ... ." **h.** "Operations shutdown the Hydrocracker as quickly and safely as possible." **i.** "[L]oss of hydrogen led to the shutdown of the Unit 250 Diesel Hydrotreater." **j.** "U246 shut down due to the loss of the G-803 A/B Hydrogen Make-Up compressors." **k.** "Refinery Emergency Operating Procedure (REOP)-21 'Emergency Loss of Hydrogen' was implemented."

3.2.2 HEFA processing would perpetuate localized episodic air pollution

Refinery flares are episodic air polluters. Every time the depressurization-to-flare safeguard dumps process gases in attempts to avoid even worse consequences, that flaring is uncontrolled open-air combustion. Flaring emits a mix of toxic and smog forming air pollutants—particulate matter, hydrocarbons ranging from polycyclic aromatics to methane, sulfur dioxide, hydrogen sulfide, and others—from partially burning off enormous gas flows. Most of the 100 incidents described above flared more than two million cubic feet of vent gas each, and many flared more than ten million.[1]

The increased risk of process upsets associated with HEFA processing concomitantly creates increased risk to the community of acute exposures to air pollutants, with impacts varying with the specifics of the incident and atmospheric conditions at the time when flaring recurs.

In 2005, flaring was linked to episodically elevated local air pollution by analyses of a continuous, flare activity-paired, four-year series of hourly measurements in the ambient air near the fence lines of four Bay Area refineries.[73] By 2006, the regional air quality management district independently confirmed the link, assessed community-level impacts, and set environmental significance thresholds for refinery flares.[74] [75] These same significance thresholds were used to require P66 and MPC to report the hazard data described above.[75]

Thus, each of the hundred hydrogen-related flaring incidents since 2010 at the P66 Rodeo and MPC Martinez refineries discussed above *individually* exceeded a relevant environmental significance threshold for air quality. Therefore, by prolonging the time over which the frequent incidents continue, and likely increasing the frequency of this significant flaring, repurposing refineries for HEFA processing can be expected to cause significant episodic air pollution.

Environmental justice impacts

It bears significant note that the refinery communities currently living with episodic air pollution—which would potentially be worsened by the conversion to HEFA processing—are predominantly populated by people of color. In fact, refineries were found to account for 93% of the statewide population-weighted disparity between people of color and non-Hispanic whites in particulate matter emission burdens associated with all stationary source industries in the state cap-and-trade program.[76] These communities of color tend to suffer from a heavy pre-existing pollution burden, such that additional and disproportionate episodic air pollution exposures would have significant environmental justice implications.

4. DOWNSTREAM — IMPACT OF BIOFUEL CONVERSIONS ON CLIMATE PATHWAYS

This chapter assesses potential impacts of HEFA biofuels expansion on California climate plans and goals. Primary issues of concern are HEFA biofuel volume, total liquid combustion fuel volume, systemic effects of refining and hydrogen use which could create HEFA lock-in, and the timing of choices between zero-emission *versus* liquid combustion fuels. Benchmarks for assessing these impact issues are taken from state roadmaps for the array of decarbonization technologies and measures to be deployed over time to achieve state climate goals—herein, "climate pathways." The state has developed a range of climate pathways, which rely in large part on strategies for replacing petroleum with zero-emission fuels that HEFA growth may disrupt and which reflect, in part, tradeoffs between zero-emission and liquid combustion fuels. Section 4.1 provides background on these climate pathway benchmarks and strategies.

Section 4.2 compares a foreseeable HEFA growth scenario with state climate pathway benchmarks for HEFA biofuel volume, total liquid fuel volume and systemic effects of refining and hydrogen use through mid-century, and estimates potential greenhouse gas emissions. This assessment shows that HEFA biofuel growth has the potential to impact state climate goals significantly. Section 4.3 addresses the timing of choices between zero-emission and liquid combustion fuels, shows that a zero-emission hydrogen alternative could be deployed during a critical window for breaking carbon lock-in, and assesses HEFA growth impacts on the emission prevention, clean fuels development, and transition mitigation effectiveness of this alternative.

4.1 California climate goals and implementation pathway benchmarks background related to HEFA biofuel impact issues assessed

4.1.1 State climate goals and pathways that HEFA biofuels growth could affect

State climate goals call for cutting greenhouse gas emissions 80% below 1990 emissions to a 2050 target of 86.2 million tons per year,[77] for zero-emission vehicles (ZEVs) to be 100% of

light-duty vehicle (LDV) sales by 2035 and 100% of the medium- and heavy-duty vehicle (MDV and HDV) fleet by 2045,[78] and for achieving net-zero carbon neutrality by 2045.[79]

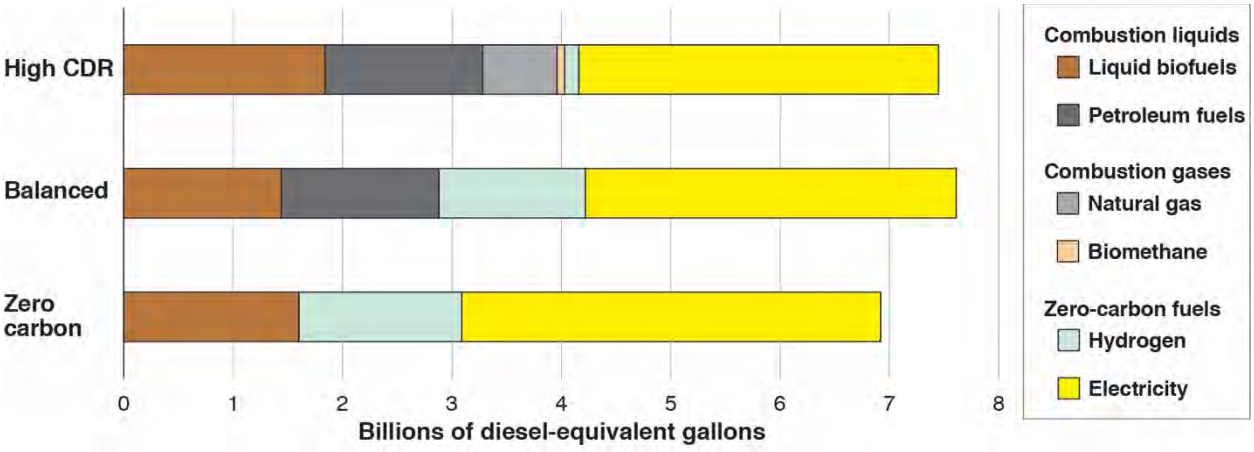
Behind the net-zero goal lies a highly consequential tradeoff: deeper emission cuts require transforming hard-to-decarbonize uses of energy. Relying on carbon dioxide removal-and-sequestration (CDR) instead risks failure to cut emissions until too late. The state has begun to confront this tradeoff by developing climate pathways that range from near-zero carbon to high-CDR. These pathways show how various types of biofuels and other technologies and measures fit into lower-emission and higher-emission approaches to achieving state climate goals.

Pathway scenarios developed by Mahone et al. for the California Energy Commission (CEC),[54] Air Resources Board[55] and Public Utilities Commission,[56] Austin et al. for the University of California,[57] and Reed et al. for UC Irvine and the CEC[58] add semi-quantitative benchmarks to the 2050 emission target, for assessing refinery conversions to biofuels. They join other work in showing the need to decarbonize electricity and electrify transportation.[54–61] Their work "bookends" the zero-carbon to high–CDR range of paths to state climate goals,[55] analyzes the roles of liquid hydrocarbon combustion fuels and hydrogen in this context,[54–58] and addresses potential biomass fuel chain effects on climate pathways.[54 55 57]

4.1.2 State climate pathway liquid fuels volume benchmarks that HEFA biofuels growth could affect

Total liquid transportation fuels benchmark: ~1.6 to 3.3 billion gallons by 2045

All state pathways to net-zero emissions cut liquid petroleum fuels use dramatically, with biofuels replacing only a portion of that petroleum. Chart 2 illustrates the "bookends" of the zero-carbon to high-CDR range of pathways for transportation reported by Mahone et al.[55]



2. California Transportation Fuels Mix in 2045: Balanced and "bookend" pathways to the California net-zero carbon emissions goal.

Adapted from Figure 8 in Mahone et al. (2020a[55]). Fuel shares converted to diesel energy-equivalent gallons based on Air Resources Board LCFS energy density conversion factors. **CDR:** carbon dioxide removal (sequestration).

Total liquid hydrocarbon combustion fuels for transportation in 2045, including petroleum and biofuels, range among the pathways from approximately 1.6 to 3.3 billion gallons/year (Chart 2), which is roughly 9% to18% of statewide petroleum transportation fuels use from 2013–2017.[55] Liquid biofuels account for approximately 1.4 to 1.8 billion gallons/year, which is roughly 40% to 100% of liquid transportation fuels in 2045 (Chart 2). Importantly, up to 100% of the biofuels in these pathways would be derived from cellulosic biomass feedstocks[57 80 81] instead of purpose-grown lipids which HEFA technology relies upon, as discussed below.

HEFA biofuels volume benchmark: zero to 1.5 billion gallons per year through 2045

Many State climate pathways exclude or cap HEFA biofuel. Mahone et al. assume biofuels included in the pathways use cellulosic residues that are not purpose-grown—and cap those fuels in most scenarios to the per capita state share of non-purpose-grown U.S. biomass supply.[54 55] This excludes purpose-grown lipids-derived biofuels such as the HEFA biofuels. Austin et al.[57] assume a cap on lipids biomass that limits HEFA jet fuel and diesel use to a maximum of 0.5–0.6 and 0.8–0.9 billion gallons/year, respectively. Both Austin[57] and Mahone[54 55] cite difficult-to-predict land use emissions as reasons to limit purpose-grown crop and lipid-derived biofuels *as pathway development constraints* rather than as problems with the Low Carbon Fuel Standard (LCFS). This report agrees with that view: the need and ability to limit HEFA volume is a climate pathway impact issue—and local land use impact issue—not a criticism of the LCFS. *See* Box below.

4.1.3 Electrolysis hydrogen benchmarks for systemic energy integration that affect the timing of choices between zero-emission *versus* liquid combustion fuels

To replace combustion fuels in hard-to-electrify sectors, state climate pathways rely in part on "energy integration" measures, which often rely on electrolysis hydrogen, as discussed below.

Hydrogen for hard-to-decarbonize energy uses

Hydrogen, instead of HEFA diesel, could fuel long-haul freight and shipping. Hydrogen stores energy used to produce it so that energy can be used *where* it is needed for end-uses of energy that are hard to electrify directly, and *when* it is needed, for use of solar and wind energy at night and during calm winds. Climate pathways use hydrogen for hard-to-electrify emission sources in transportation, buildings and industry, and to support renewable electricity grids.

What is renewable-powered electrolysis hydrogen?

Electrolysis produces hydrogen from water using electricity. Oxygen is the byproduct, so solar and wind-powered electrolysis produces zero-emission hydrogen. State climate pathways consider three types of electrolysis: alkaline, proton-exchange membrane, and solid oxide electrolyzers.[55 58] The alkaline and proton-exchange membrane technologies have been proven in commercial practice.[58] Renewable-powered electrolysis plants are being built and used at increasing scale elsewhere,[82] and California has begun efforts to deploy this technology.[58]

Biofuels in the Low Carbon Fuel Standard (LCFS)

What the LCFS does	What we still need to do in other ways
Reduces the carbon intensity (CI) of transportation fuels	Reduce carbon-based fuel volume and volume-related mass emissions
Reduces transportation fuels CI by increments, over increments of time	Avoid committing to fuels that would exceed 2045 climate targets despite early incremental CI cuts
Moves money from higher-CI to lower-CI fuel producers	Build long-lasting production only for those fuels which will not exceed 2045 climate targets
Applies to fuels sold for use in the state, including biofuels, fossil fuels, electricity and hydrogen fuels	Prevent imports that people elsewhere need for their own biomass-based food and fuel
Compares the CI of each biofuel to the CI of the petroleum fuel it could replace across the whole fuel chains of both. To move dollars from higher to lower CI fuel producers, a specific "lifecycle" CI number estimate is made for each biofuel, from each type of biomass production, biofuel production, and fuel combustion in transportation for that biofuel	Directly monitor all the worldwide interactions of biomass fuel and food chains—to find out *before* an impact occurs. For example, what if increasing demand for soy-based biofuel leads farmers to buy pastureland for soybean plantations, leading displaced ranchers to fell rainforest for pastureland in another environment, state, or country?
Relies on currently quantifiable data for carbon emissions from harvesting each specific type of biomass for biofuel. The LCFS *has to* do this to come up with the specific CI numbers it uses to incrementally reduce transportation fuels CI now	Realize that some serious risks need to be avoided before they become realities which can be fully quantified, find out which biofuels pose such risks, and avoid taking those serious risks
This report does not assess the performance of the LCFS for its intended purpose — that is beyond the report scope. *This report should not be interpreted as a criticism or endorsement of the LCFS.*	**HEFA biofuel** risks that the LCFS is not designed to address are assessed in this report. *There are other ways to address these HEFA risks.*

Electrolysis is not the only proven hydrogen production technology considered in state climate pathways; however, it is the one that can store solar and wind energy, and electrolysis hydrogen can decarbonize hard-to-electrify emission sources without relying on CDR.

Renewable-powered electrolysis for zero-emission transportation

Renewable-powered electrolysis hydrogen could be critical for zero-emission transportation. Hydrogen fuel shares shown in Chart 2 represent fuel cell-electric vehicle (FCEV) fueling. Fuel cells in FCEVs convert the hydrogen back into electricity that powers their electric motors. Thus, hydrogen stored in its fuel tank is the "battery" for this type of electric vehicle. FCEVs can decarbonize transportation uses of energy where battery-electric vehicles (BEVs) might be more costly, such as long-haul freight and shipping, in which the size and mass of BEV batteries needed to haul large loads long distances reduce the load-hauling capacity of BEVs.

This zero-emission electrolysis hydrogen also plays a key role because it fuels FCEVs without relying on CDR. These zero-emission FCEVs appear crucial to the feasibility of the

state climate goal for a 100% ZEV medium- and heavy-duty fleet by 2045.[78] This raises a turnkey issue because—as the difference in hydrogen fuel share between the High-CDR and the Balanced pathways in Chart 2 reflects—both electrolysis and FCEVs are proven technologies, but they nevertheless face significant infrastructure deployment challenges.[54–61]

In state climate pathways, renewable hydrogen use in transportation grows from an average of 1.24 million standard cubic feet per day (MMSCFD) in 2019[83] to roughly 1,020–1,080 MMSCFD by 2045.[56–58] This 2045 range reflects different scenarios for the mix of BEVs and FCEVs in different vehicle classes. The low end excludes FCEV use in LDVs[58] while the high end is a "central scenario" that includes both BEV and FCEV use in all vehicle classes.[57]

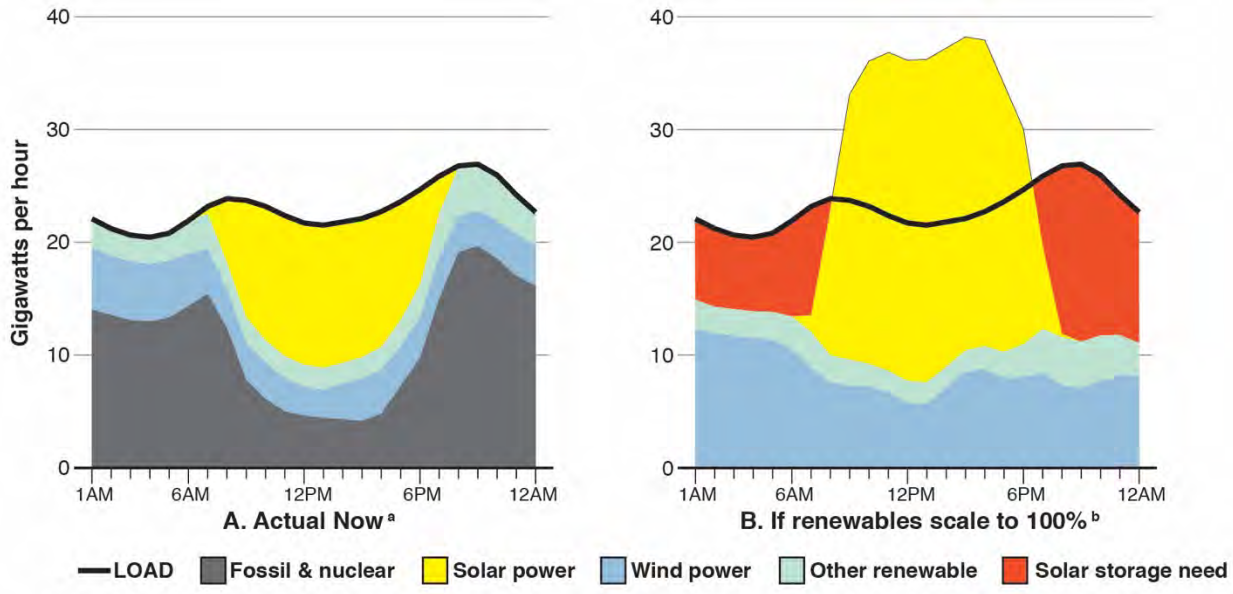
Renewable-powered electrolysis for future solar and wind power growth

Hydrogen produced by electrolysis can store solar and wind power energy, which supports the renewable energy growth needed to produce more zero-emission FCEV fuel by electrolysis. Electrolysis hydrogen plays a key role in the further growth of solar and wind energy resources, because it can store that energy efficiently for use overnight as well as over longer windless periods. The direct use of electricity for energy—in grid jargon, the "load"—occurs in the same instant that electricity is generated. This is a challenge for climate pathways because solar and wind power are intermittent electricity generators, while electricity use (load) is continuous, and varies differently from solar and wind power generation over time.

Substantial energy storage will be critical to a renewable electricity grid. There are other storage technologies such as ion batteries, compressed air, hydropower management and power-to-gas turbines, and climate pathways include multiple measures to balance renewable grids.[54–61] However, electrolysis hydrogen is particularly beneficial because it can provide efficient long-term storage over wind cycles as well as short-term storage over solar cycles while fueling ZEV growth. Charts 3 A and B below illustrate the scale of the solar energy storage need.

Load, the thick black curve that does not change from Chart A to Chart B, shows how much electric power we need and when we need it. In the renewables scale-up scenario (B), the yellow above the load curve is peak solar generation that could be wasted ("curtailed") if it cannot be stored, and the red below the load curve indicates "blackouts" we could avoid by storage of the otherwise wasted energy for use when it gets dark. This is only an example on one hypothetical day, but to continue the illustration, the energy that storage could shift, from yellow above the load curve to red below it, compares to the energy stored in ~1,500 MMSCF of hydrogen.

State climate pathways assign electrolysis a key role in meeting part of this enormous grid-balancing need. Energy storage would be accomplished by a mix of technologies and measures, including renewable-powered electrolysis hydrogen and others.[54–58] Increasing needs for energy storage in climate pathways become substantial before 2030, and the role of electrolysis hydrogen in this storage grows by up to approximately 420 MMSCFD by 2045.[58]



3. California electricity load shape on 20 April: Actual in 2021 *v.* renewable power.

A high-renewables future will require short-term storage of peak solar power generation for use at night. *See* yellow above and red below the black line showing total electricity load that can be used at the time power is generated, in this example. Solar electrolysis hydrogen stored in the fuel tanks of zero-emission trucks could be a needed part of the solution. **a.** Data reported for 20 April 2021.[84] **b.** Example scenario scales up solar and wind data proportionately to replace total fossil and nuclear generation on this day.

Renewable-powered electrolysis hydrogen for least-cost energy integration measures

Climate pathway analyses underscore both the challenge and the benefits of integrating electrolysis hydrogen across the transportation and electricity sectors. The scale-up challenge appears urgent. From ~2.71 MMSCFD by the end of 2021,[58] in-state electrolysis capacity would reach ~1,440–1,500 MMSCFD by 2045 to meet all of the transportation and energy storage needs for hydrogen discussed above.[56–58] Ramping to that scale, however, achieves economies of scale in electrolysis hydrogen production and fueling that overcome significant deployment barriers to growth of this zero-emission FCEV fuel; electrolysis hydrogen costs can be expected to fall from above to below those of steam reforming hydrogen around 2025–2035.[55 56 58 84 85] Policy intervention to meet critical needs for earlier deployment is assumed to drive ramp-up.[58]

Then, once deployed at scale, integration of electrolysis, transportation and the electricity grid can provide multiple systemic benefits. It can cut fuel costs by enabling FCEVs that are more efficient than diesel or biofuel combustion vehicles,[86] cut health costs by enabling zero-emission FCEVs,[57 87] cut energy costs by using otherwise wasted peak solar and wind power,[58 85] and enable priority measures needed to decarbonize hard-to-electrify energy emissions.[54 55 57 58 85] From the perspective of achieving lower-risk climate stabilization pathways, renewable-powered electrolysis hydrogen may be viewed as a stay-in-business investment.

State climate pathway benchmarks for hydrogen energy storage, transportation fuel, and refining that HEFA biofuel growth could affect

Electrolysis hydrogen production in state pathways could reach ~ 420 MMSCFD for energy storage and approximately 1,020–1,080 MMSCFD for transportation, as noted above, and could grow due to a third need and opportunity, which also could be affected by HEFA biofuel growth. The Hydrogen Roadmap in state climate pathways includes converting petroleum refining to renewable hydrogen production,[58] an enormously consequential measure, given that current hydrogen capacity committed to crude refining statewide totals ~1,216 MMSCFD.[88]

4.1.4 Replacement of gasoline with BEVs would idle crude refining capacity for distillates as well, accelerating growth of a petroleum diesel replacement fuels market that ZEVs, biofuels, or both could capture

BEVs could replace gasoline quickly

Gasoline combustion inefficiencies make battery electric vehicle (BEV) replacement of gasoline a cost-saving climate pathway measure. By 2015 BEVs may already have had lower total ownership cost than gasoline passenger vehicles in California.[89] BEVs go three times as far per unit energy as same-size vehicles burning gasoline,[90] have fewer moving parts to wear and fix—for example, no BEV transmissions—have a fast-expanding range, and a mostly-ready fuel delivery grid. Economics alone should make gasoline obsolete as fast as old cars and trucks wear out, strongly supporting the feasibility of state goals for BEVs and other zero-emission vehicles (ZEVs) to comprise 100% of light-duty vehicle (LDV) sales by 2035.[78] State climate pathways show that BEVs can be 30–100% of LDV sales by 2030–2035, 60–100% of LDV and medium-duty vehicle sales by 2030–2045, and comprise most of the California vehicle fleet by 2045.[55 57] Electricity-powered LDVs and MDVs would thus replace gasoline relatively quickly.

Gasoline replacement would idle petroleum distillates production

Crude refining limitations force petroleum distillate production cuts as gasoline is replaced. Existing California refineries cannot make distillates (diesel and jet fuel) without coproducing gasoline. From 2010–2019 their statewide distillates-to-gasoline production volumes ratio was 0.601 and varied annually from only 0.550 to 0.637.[91] This reflects hard limits on refining technology: crude distillation yields a gasoline hydrocarbon fraction, and refineries are designed and built to convert other distillation fractions to gasoline, not to convert gasoline to distillates. During October–December in 2010–2019, when refinery gasoline production was often down for maintenance while distillate demand remained high, the median distillate-to-gasoline ratio rose only to 0.615.[1] That is a conservative estimate for future conditions, as refiners keep crude rates high by short-term storage of light distillation yield for gasoline production after equipment is returned to service.[1 91] When gasoline and jet fuel demand fell over 12 months following the 19 March 2020 COVID-19 lockdown[36] the ratio fell to 0.515.[91] Future permanent loss of gasoline markets could cut petroleum distillate production to less than 0.615 gallons per gallon gasoline. Climate pathways thus replace petroleum distillates along with gasoline.

Existing distillates distribution infrastructure favors biofuels, emphasizing the need for early deployment of FCEVs and zero-emission electrolysis hydrogen

Fuel cell-electric vehicle (FCEV) transportation faces a challenge in the fact that existing petroleum distillates distribution infrastructure can be repurposed to deliver drop-in biofuels to truck, ship, and jet fuel tanks, while hydrogen fuel infrastructure for FCEVs must ramp up. Hydrogen-fueled FCEV growth thus faces deployment challenges which biofuels do not.[54–61] Those infrastructure challenges underly the urgent needs for early deployment of FCEVs and electrolysis hydrogen identified in state climate pathway analyses.[54–58] Indeed, early deployment is an underlying component of the climate pathway benchmarks identified above.

4.2 HEFA biofuels growth could exceed state climate pathway benchmarks for liquid fuels volumes, interfere with achieving electrolysis hydrogen energy integration benchmarks, and exceed the state climate target for emissions in 2050

4.2.1 HEFA biofuels growth could exceed state climate pathway benchmarks for liquid fuels volumes

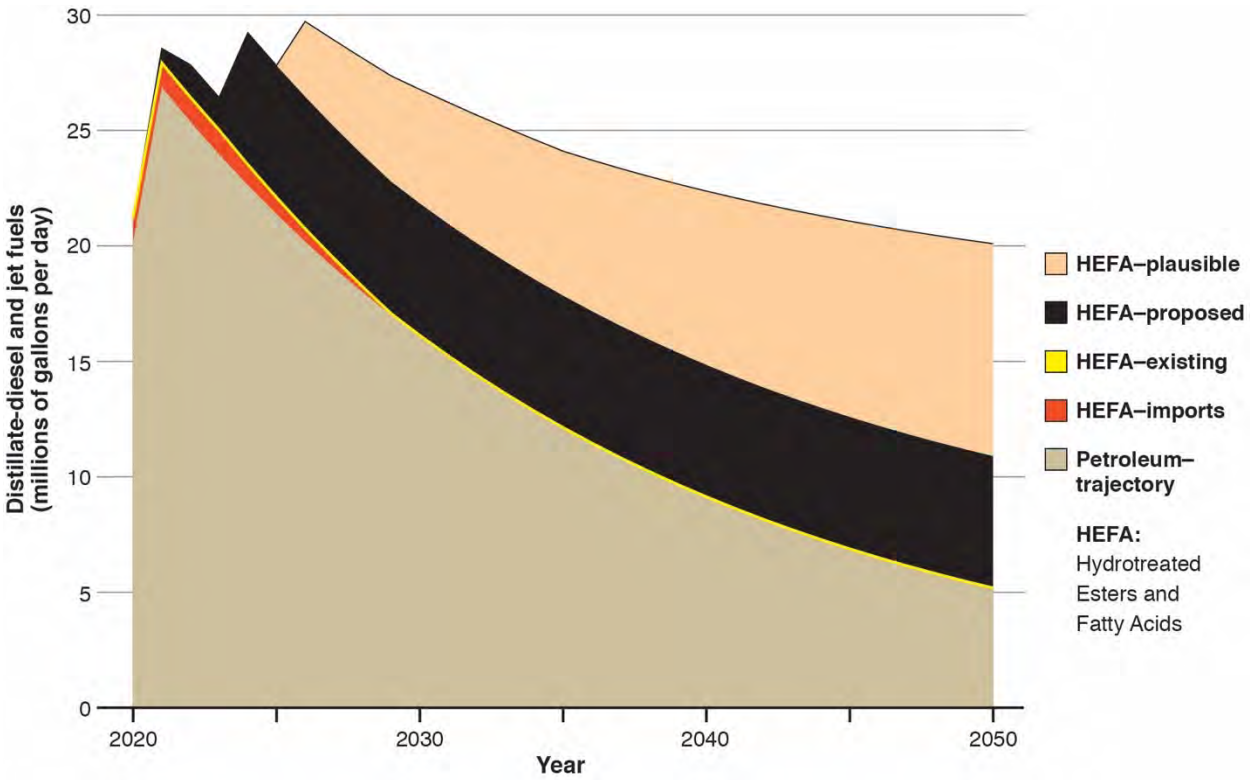
Proposed projects would exceed HEFA biofuel caps

Current proposals to repurpose in-state crude refining assets for HEFA biofuels could exceed the biofuel caps in state climate pathways by 2025. New in-state HEFA distillate (diesel and jet fuel) production proposed by P66, MPC, AltAir and GCE for the California fuels market would, in combination, total ~2.1 billion gal./y and is planned to be fully operational by 2025.[1–6] If fully implemented, these current plans alone would exceed the HEFA diesel and jet fuel caps of 0.0–1.5 billion gal./y in state climate pathways (§4.1.2).

Continued repurposing of idled crude refining assets for HEFA biofuels could exceed the total liquid combustion fuels volume benchmarks in state climate pathways

Further HEFA biofuels growth, driven by incentives for refiners to repurpose soon-to-be-stranded crude refining assets before FCEVs can be deployed at scale, could exceed total liquid fuels combustion benchmarks for 2045 in state climate pathways. As BEVs replace petroleum distillates along with gasoline, crude refiners could repurpose idled petroleum assets for HEFA distillates before FCEVs ramp up (§ 4.1.4), and refiners would be highly incentivized to protect those otherwise stranded assets (Chapter 1).

Chart 4 illustrates a plausible future HEFA biofuel growth trajectory in this scenario. Declining petroleum diesel and jet fuel production forced by gasoline replacement with BEVs (gray-green, bottom) could no longer be fully replaced by currently proposed HEFA production (black) by 2025–2026. Meanwhile the idled crude refinery hydrogen production and processing assets repurpose for HEFA production (light brown, top). As more petroleum refining assets are stranded, more existing refinery hydrogen production is repurposed for HEFA fuels, increasing the additional HEFA production from left to right in Chart 4.



4. Combustion fuels additive potential of HEFA diesel and jet production in California.

As electric vehicles replace gasoline, stranding petroleum refining assets, continuing HEFA biorefining expansion could add as much as 15 million gallons per day (290%) to the remaining petroleum distillate-diesel and jet fuel refined in California by 2050. Locking in this combustion fuels additive could further entrench the incumbent combustion fuels technology in a negative competition with cleaner and lower-carbon technologies, such as renewable-powered hydrogen fuel cell electric vehicles (FCEVs). That could result in continued diesel combustion for long-haul freight and shipping which might otherwise be decarbonized by zero emission hydrogen-fueled FCEVs.

Petroleum-trajectory for cuts in petroleum refining of distillate (D) and jet (J) fuels that will be driven by gasoline replacement with lower-cost electric vehicles, since petroleum refineries cannot produce as much D+J when cutting gasoline (G) production. It is based on 5.56%/yr light duty vehicle stock turnover and a D+J:G refining ratio of 0.615. This ratio is the median from the fourth quarter of 2010–2019, when refinery gasoline production is often down for maintenance, and is thus relatively conservative. Similarly, state policy targets a 100% zero-emission LDV fleet by 2045 and could drive more than 5.56%/yr stock turnover. Values for 2020–2021 reflect the expected partial rebound from COVID-19.

HEFA-imports and **HEFA-existing** are the mean D+J "renewable" volumes imported, and refined in the state, respectively, from 2017–2019. The potential in-state expansion shown could squeeze out imports.

HEFA-proposed is currently proposed new in-state capacity based on 80.9% D+J yield on HEFA feed including the Phillips 66 Rodeo, Marathon Martinez, Altair Paramount, and GCE Bakersfield projects, which represent 47.6%, 28.6%, 12.8%, and 11.0% of this proposed 5.71 MM gal/day total, respectively.

HEFA-plausible: as it is idled along the petroleum-based trajectory shown, refinery hydrogen capacity is repurposed for HEFA biofuel projects, starting in 2026. This scenario assumes feedstock and permits are acquired, less petroleum replacement than state climate pathways,[55] and slower HEFA growth than new global HEFA capacity expansion plans targeting the California fuels market[92] anticipate. Fuel volumes supported by repurposed hydrogen capacity are based on H_2 demand for processing yield-weighted feedstock blends with fish oil growing from 0% to 25%, and a J:D product slate ratio growing from 1:5.3 to 1:2, during 2025–2035.

For data and methodological details see Table A7.[1]

Refining and combustion of HEFA distillates in California could thus reach ~15.0 million gal./d (5.47 billion gal./y), ~290% of the remaining petroleum distillates production, by 2050.[1.] HEFA distillate production in this scenario (5.47 billion gal./y) would exceed the 1.6–3.3 billion gal./y range of state climate pathways for combustion of *all* liquid transportation fuels, including petroleum and biofuel liquids, in 2045.[55] This excess combustion fuel would squeeze out cleaner fuels, and emit future carbon, from a substantial share of the emergent petroleum distillate fuels replacement market—a fuel share which HEFA refiners would then be motivated to retain.

This climate impact of HEFA biofuels growth is reasonably foreseeable

The scenario shown in Chart 4 is an illustration, not a worst case. It assumes slower growth of HEFA biofuel combustion in California than global investors anticipate, less petroleum fuels replacement than state climate pathways, and no growth in distillates demand. Worldwide, the currently planned HEFA refining projects targeting California fuel sales total ~5.2 billion gal./y by 2025.[92] HEFA growth by 2025 in the Chart 4 scenario is less than half of those plans. State climate pathways reported by Mahone et al.[55] replace ~92% of current petroleum use by 2045, which would lower the petroleum distillate curve in Chart 4, increasing the potential volume of petroleum replacement by HEFA biofuel. Further, in all foreseeable pathways, refiners would be incentivized to protect their assets and fuel markets—and there are additional reasons why HEFA biofuel could become locked-in, as discussed below.

4.2.2 Continued use of steam reforming for refinery hydrogen could interfere with meeting state climate pathway benchmarks for electrolysis hydrogen energy integration, and lock HEFA biofuels in place instead of supporting transitions to zero-emission fuels

In contradiction to the conversion of refineries to renewable hydrogen in state climate pathways (§4.1.3), refiners propose to repurpose their high-carbon steam reforming hydrogen production assets for HEFA biofuels refining (chapters 1, 3). This would foreclose the use of that hydrogen for early deployment of ZEVs and renewable energy storage, the use of those sites for potentially least-cost FCEV fueling and renewable grid-balancing, and the future use of that hydrogen by HEFA refiners in a pivot to zero emission fuels. These potential impacts, together with HEFA refiner motivations to retain market share (§ 4.2.1), could result in HEFA diesel becoming a locked-in rather than a transitional fuel.

Repurposing refinery steam reforming for HEFA would circumvent a renewable hydrogen benchmark and interfere with early deployment for FCEVs and energy storage, slowing growth in ZEV hydrogen fuel and renewable energy for ZEV fuels production

Repurposing refinery steam reforming for HEFA fuels, as refiners propose,[2–6] instead of switching crude refining to renewable hydrogen, as the hydrogen roadmap in state climate pathways envisions,[58] could foreclose a very significant deployment potential for zero-emission fuels. Nearly all hydrogen production in California now is steam reforming hydrogen committed to oil refining.[56] Statewide, crude refinery hydrogen capacity totals ~1,216 MMSCFD,[88] some 980 times renewable hydrogen use for transportation in 2019 (1.24 SCFD)[83] and ~450 times planned 2021 electrolysis hydrogen capacity (~2.71 MMSCFD).[58] Repurposing crude refining

hydrogen production for HEFA refining would perpetuate the commitment of this hydrogen to liquid combustion fuels instead of other potential uses. Importantly, that hydrogen would not be available for early deployment of FCEVs in the hard-to-electrify long haul freight and shipping sectors, or energy storage grid-balancing that will be needed for solar and wind power growth to fuel both zero emission FCEVs and BEVs.

By blocking the conversion of idled refinery hydrogen capacity to renewable hydrogen, repurposing idled crude refinery steam reforming for HEFA biofuels could slow ZEV fuels growth. Chart 5 below illustrates the scale of several potential impacts. Hydrogen demand for HEFA biofuels could exceed that for early deployment of FCEVs (Chart, 2025), exceed hydrogen demand for energy storage grid-balancing (Chart, 2045), and rival FCEV fuel demand for hydrogen in climate pathways through mid-century (*Id.*). ZEV growth could be slowed by foreclosing significant potential for zero-carbon hydrogen and electricity to produce it.

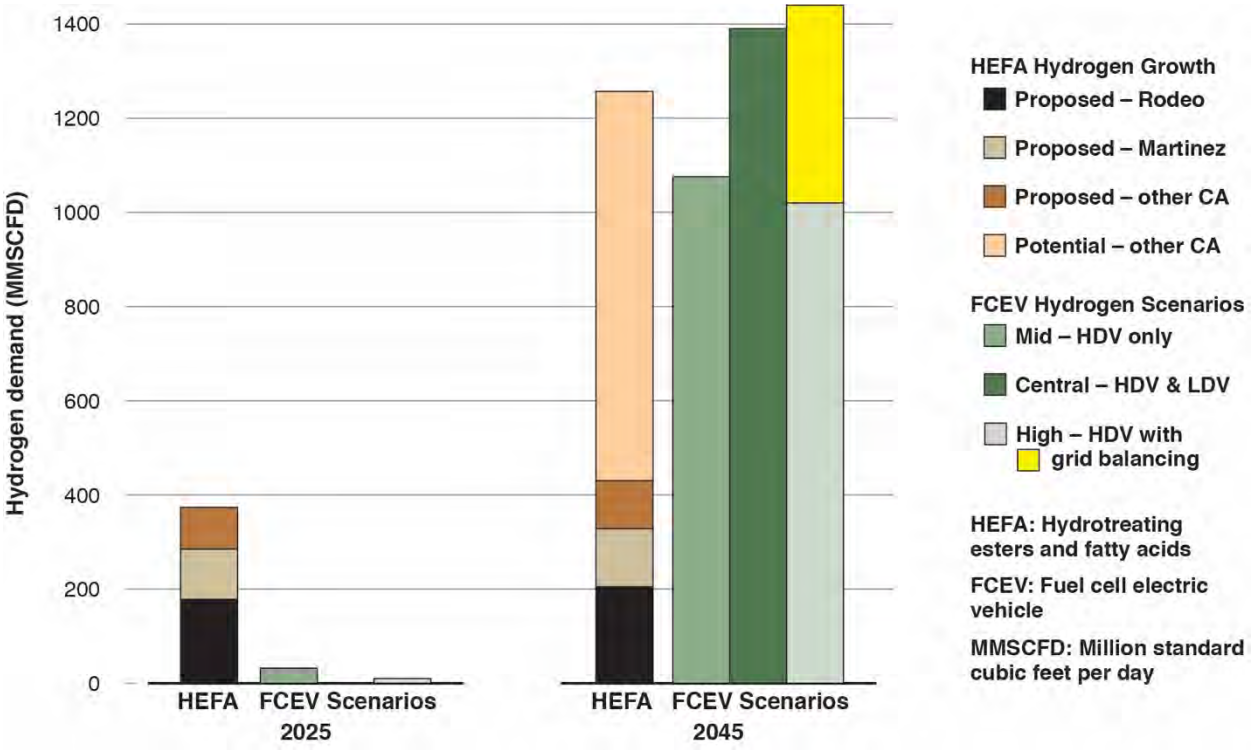
Repurposing refinery steam reforming could foreclose electrolysis deployment in key locations, potentially blocking least-cost FCEV fueling and grid-balancing deployment

Repurposing idled crude refinery steam reforming for HEFA biofuel production would foreclose reuse of otherwise idled refinery sites for renewable-powered electrolysis hydrogen. This site foreclosure impact could be important because of the potential electrolysis sites availability and location. Proximity to end-use is among the most important factors in the feasibility of renewable hydrogen build-out,[58] and refineries are near major California freight and shipping corridors and ports, where dense land uses make the otherwise idled sites especially useful for electrolysis siting. Repurposing crude refineries for HEFA biofuels could thus slow the rapid expansion of renewable-powered electrolysis hydrogen needed in climate pathways.

Continued use of steam reforming would lock HEFA refiners out of future ZEV fueling, further contributing to HEFA combustion fuels lock-in

Committing HEFA refineries to carbon-intensive steam reforming hydrogen would lock the refiners, who then would not be able to pivot toward future fueling of zero-emission FCEVs, into continued biofuel production. HEFA refiners would thus compete with hydrogen-fueled FCEVs in the new markets for fuels to replace petroleum diesel. In this HEFA growth scenario, the hydrogen lock-in, electrolysis site lockout, and ZEV fuel impacts described directly above could be expected to reinforce their entrenched position in those markets. This would have the effect of locking refiners into biofuels instead of ZEV fuels, thereby locking-in continued biofuel use at the expense of a transition to zero-emission fuels.

Crucially, multiple state pathway scenario analyses[54–56 58] show that the simultaneous scale-up of FCEVs in hard-to-electrify sectors, renewable-powered electrolysis for their zero-emission fuel, and solar and wind power electricity to produce that hydrogen, already faces substantial challenges—apart from this competition with entrenched HEFA biofuel refiners.



5. Potential growth in hydrogen demand for HEFA biorefineries, fuel cell electric vehicle (FCEV) goods movement, and renewable electricity grid balancing to 2025 and 2045.

HEFA biorefineries could slow the growth of zero-emission goods movement, and of renewable electricity, by committing limited hydrogen supplies to drop-in diesel before the cleaner technologies ramp up (chart, 2025), by rivaling their demand for large new hydrogen supplies through mid-century (chart, 2045), and by committing to the wrong type of hydrogen production technology. H_2 supplied by electrolysis of water with renewable electricity could fuel FCEVs to decarbonize long-haul goods movement, and could store peak solar and wind energy to balance the electricity grid, enabling further growth in those intermittent energy resources. However, nearly all California H_2 production is committed to oil refining as of 2021. Refiners produce this H_2 by carbon-intensive steam reforming, and propose to repurpose that fossil fuel H_2 technology, which could not pivot to zero-emission FCEVs or grid balancing, in their crude-to-biofuel refinery conversions.

HEFA proposed based on H_2 demand estimated for P66 Rodeo, MPC Martinez, and other California HEFA projects proposed or in construction as of May 2021. H_2 demand increases from 2025–2045 as HEFA feedstock, jet fuel, and H_2/b demands increase. For data and methods details *see* Table A7.[1]

HEFA potential based on H_2 production capacity at California petroleum refineries, additional to that for currently proposed projects, which could be idled and repurposed for potential HEFA projects along the trajectory shown in Chart 4. *See* Table A7 for data and details of methods.[1]

FCEV Mid – HDV only from Mahone et al. (2020b),[56] FCEVs are ~2% and 50% of new heavy duty vehicle sales in California and other U.S. western states by 2025 and 2045, respectively.[56]

Central – HDV & LDV from Austin et al. (2021), H_2 for California transportation, central scenario, LC1.[57]

High – HDV with grid balancing from Reed et al. (2020), showing here two components of total demand from their high case in California: non-LDV H_2 demand in ca. 2025 and 2045, and H_2 demand for storage and firm load that will be needed to balance the electricity grid as solar and wind power grow, ca. 2045.[58]

4.2.3 Potential carbon emissions could exceed the 2050 climate target

CO_2e emissions from the HEFA growth scenario were estimated based on LCFS carbon intensity values[86] weighted by the HEFA fuels mix in this scenario,[1] accounting for emission shifting effects described in Chapter 2. Accounting for this emission shift that would be caused by replacing petroleum with excess HEFA biofuel use in California at the expense of abilities to do so elsewhere—excluding any added land use impact—is consistent with the LCFS and state climate policy regarding emission "leakage."[62] Results show that HEFA diesel and jet fuel CO_2e emissions in this scenario could reach 66.9 million tons (Mt) per year in 2050. *See* Table 5.

Table 5. Potential CO_2e emissions in 2050 from HEFA distillates refined and used in California.

Distillates volume		
HEFA distillates refined and burned in CA [a]	5.47	billion gallons per year
CA per capita share of lipid-based biofuel [b]	0.58	billion gallons per year
Excess lipids shifted to CA for HEFA biofuel [c]	4.89	billion gallons per year
Distillate fuels mix		
HEFA diesel refined and burned in CA [d]	66.7	percentage of distillates
HEFA jet fuel refined and burned in CA [d]	33.3	percentage of distillates
Fuel chain carbon intensity		
HEFA diesel carbon intensity [e]	7.62	kg CO_2e/gallon
HEFA jet fuel carbon intensity [e]	8.06	kg CO_2e/gallon
Petroleum diesel carbon intensity [e]	13.50	kg CO_2e/gallon
Petroleum jet fuel carbon intensity [e]	11.29	kg CO_2e/gallon
Emissions (millions of metric tons as CO_2e)		
From CA use of per capita share of lipids	4.50	millions of metric tons per year
From excess CA HEFA use shifted to CA	37.98	millions of metric tons per year
Emissions shift to other states and nations [f]	24.44	millions of metric tons per year
Total HEFA distillate emissions	66.92	millions of metric tons per year

a. Potential 2050 HEFA distillates refinery production and use in California in the scenario shown in Chart 4.[1]
b. Statewide per capita share of U.S. farm yield for all uses of lipids used in part for biofuels, from data in Table 1, converted to distillates volume based on a feed specific gravity of 0.914 and a 0.809 feed-to-distillate fuel conversion efficiency. Importantly, these purpose-grown lipids have other existing uses (Chapter 2).
c. Excess lipid biomass taken from other states or nations. This share of limited lipid biomass could not be used elsewhere to replace petroleum with HEFA biofuels. Per capita share of total U.S. production for all uses, rather than that share of lipids available for biofuel, represents a conservative assumption in this estimate.
d. Distillate fuels mix in 2050 (1 gallon jet fuel to 3 gallons diesel) as described in Table A7 part f.[1]
e. Carbon intensity (CI) values from tables 3, 7-1, and 8 of the California LCFS Regulation.[86] HEFA values used (shown) were derived by apportioning "fats/oils/grease residues" and "any feedstocks derived from plant oils" at 31% and 69%, respectively, based on the data in Table 1.
f. Future emissions that would not occur if other states and nations had access to the lipid feedstock committed to California biofuel refining and combustion in excess of the state per capita share shown. Shifted emissions based on the difference between HEFA and petroleum CI values for each fuel, applied to its fuels mix percent of excess lipid-based distillates shifted to CA for HEFA biofuel. Accounting for emissions caused by replacing petroleum in CA *instead of* elsewhere, separately from any added land use impact, is consistent with the LCFS and state climate policy regarding "leakage."[62] Total emissions thus include shifted emissions.

Emissions from the remaining petroleum distillate fuels in this scenario, ~5,113,000 gal./d or 1.87 billion gal./y (Chart 4; Table A7[1]), would add 22.1–24.2 Mt/y, if diesel is 25–75% of the 2050 petroleum distillates mix, at the petroleum carbon intensities in Table 5. Thus, distillate transportation fuel emissions alone (89–91 Mt/y) could exceed the 86.2 Mt/y 2050 state target for CO_2e emissions from all activities statewide.[77] Total 2050 emissions would be larger unless zeroed out in all other activities statewide. Repurposing idled petroleum refinery assets for HEFA biofuels threatens state climate goals.

4.3 A zero-emission electrolysis hydrogen alternative can be deployed during a crucial window for breaking carbon lock-in: HEFA biofuels growth could impact the timing, and thus the emission prevention, clean fuels development, and transition benefits, of this zero-emission electrolysis hydrogen alternative.

Potential benefits to climate pathways from converting hydrogen production to renewable-powered electrolysis (electrolysis) at refinery sites were assessed with and without HEFA biofuels expansion. The "HEFA Case" captures proposed and potential HEFA growth; the "No HEFA Case" is consistent state climate pathways that exclude purpose-grown lipids-derived biofuels in favor of cellulosic residue-derived biofuels.[54] [55] Conversion to electrolysis is assumed to occur at crude refineries in both cases, consistent with the hydrogen road map in state climate pathways,[58] but as an early deployment measure—assumed to occur during 2021–2026. This measure could reduce refinery carbon intensity, increase zero-emission transportation and electricity growth, and reduce local transition impacts significantly, and would be more effective if coupled with a cap on HEFA biofuels.

4.3.1 Electrolysis would prevent HEFA biofuels from increasing the carbon intensity of hydrocarbon fuels refining

Deployment timing emerges as the crucial issue in this analysis. "It is simpler, less expensive, and more effective to introduce inherently safer features during the design process of a facility rather than after the process is already operating. Process upgrades, rebuilds, and repairs are additional opportunities to implement inherent safety concepts."[70] The design phase for HEFA refinery conversions, and petroleum refinery turnarounds that occur on 3- to 5-year cycles are critical insertion points for electrolysis in place of carbon-intensive steam reforming. This zero-emission measure would cut the carbon intensity of refining at any time, however, climate stabilization benefit is directly related to the cumulative emission cut achieved, so the effectiveness of this measure would also depend upon how quickly it would be deployed.

Refining CI benefits in the HEFA Case

Replacing steam reforming with electrolysis could cut the carbon intensity (CI) of HEFA refining by ~72–79%, from ~76–101 kg/b to ~21 kg/b refinery feed (Chapter 3). This would cut the CI of HEFA fuels processing from significantly above that of the average U.S. petroleum refinery (~50 kg/b crude; *Id.*) to significantly below the CI of the average U.S. crude refinery.

Refining CI benefits in the No HEFA Case

Replacing steam reforming with electrolysis at petroleum refineries would reduce CI by ~34% based on San Francisco Bay Area data,[66] however, in other states or nations where refiners run less carbon-intensive crude and product slates than in California, this ~34% may not apply.[64]

Refining CI reduction effectiveness

Cumulative emission cuts from hydrogen production would be the same in both cases since hydrogen emissions would be eliminated from HEFA refineries in both cases. Based on the CI values above and the HEFA growth trajectory[1] in Chart 4 this measure could prevent ~194–282 million tons (Mt) of CO_2 emission from HEFA hydrogen production through 2050. Petroleum refinery emissions could be cut by 103 Mt through 2050, based on the median mixed feed CI of steam reforming (24.9 g/SCF, Table 3) and the remaining refinery hydrogen production underlying the distillates trajectory in Chart 4 from 2026–2050.[1] Total direct *cumulative* emissions prevented could be ~297–400 Mt. *Annual* fuel chain emissions from all distillates in transportation in 2050 (89–91 Mt/y) could be cut by ~12–16%, to ~76–78 Mt/y in the HEFA Case. In the No HEFA Case annual fuel chain emissions from petroleum distillates in 2050 (~22–24 Mt/y) could be cut by ~8–9%, to ~20–22 Mt/y, although use of other biofuels along with ZEVs could add to that 20–22 Mt/y significantly. This measure would be effective in all cases, and far more effective in climate pathways that cap HEFA growth and transition to ZEVs.

4.3.2 Use of electrolysis would facilitate development of hydrogen for potential future use in transportation and energy storage

Deployment timing again is crucial. Electrolysis can integrate energy transformation measures across transportation and electricity, speeding both FCEV growth and renewable power growth (§ 4.1). Benefits of this energy integration measure could coincide with a window of opportunity to break free from carbon lock-in, which opened with the beginning of petroleum asset stranding shown in Chapter 1 and could close if refiner attempts to repurpose those assets entrench a new source of carbon in the combustion fuel chain. As Seto et al. conclude:

> "Understanding how and when lock-in emerges also helps identify windows of opportunity when transitions to alternative technologies and paths are possible [.] ... either in emergent realms and sectors where no technology or development path has yet become dominant and locked-in or at moments when locked-in realms and sectors are disrupted by technological, economic, political, or social changes that reduce the costs of transition ... ."[93]

Here, in a moment when the locked-in petroleum sector has been disrupted, and neither FCEV nor HEFA technology has yet become dominant and locked into the emergent petroleum diesel fuel replacement sector, this electrolysis energy integration measure could reduce the costs of transition if deployed at scale (§ 4.1). Indeed, state climate pathway analyses suggest that the need for simultaneous early deployment of electrolysis hydrogen, FCEVs, and energy storage load-balancing—and the challenge of scaling it up in time—are hard to overstate (§§ 4.1, 4.2).

Clean fuels development benefits in the HEFA Case

Converting refinery steam reforming to electrolysis during crude-to-biofuel repurposing before 2026 and at refineries to be idled and repurposed thereafter could provide electrolysis hydrogen capacities in 2025 and 2045 equivalent to the HEFA steam reforming capacities shown in Chart 5. However, HEFA refining would use this hydrogen, foreclosing its use to support early deployment of FCEVs and energy storage, and could further commit the share of future transportation illustrated in Chart 4 to liquid combustion fuel chain infrastructure.

Planned policy interventions could deploy electrolysis[58] and FCEVs[78] separately from refinery electrolysis conversions, although less rapidly without early deployment of this measure. If separate early deployment is realized at scale, this measure would enable HEFA refiners to pivot toward FCEV fueling and energy storage later. However, refinery combustion fuel share lock-in (§4.2) and competition with the separately developed clean hydrogen fueling could make that biofuel-to-ZEV-fuel transition unlikely, absent new policy intervention.

Clean fuels development benefits in the No HEFA Case

In the No HEFA Case, cellulosic residue-derived instead of HEFA biofuels would be in climate pathways,[55] and crude refinery steam reforming would be converted to electrolysis when it is idled before 2026 and in turnarounds by 2026. Instead of committing converted electrolysis hydrogen to HEFA refining as crude refining capacity is idled, it would be available for FCEVs and energy storage in the same amounts shown in Chart 5. This could fuel greater early FCEV deployment than state climate pathways assume (Chart, 2025), provide more hydrogen energy storage than in the pathways (Chart, 2045), and fuel most of the FCEV growth in the pathways through 2045 (*Id.*). These estimates from Chart 5 are based on the petroleum decline trajectory[1] underlying Chart 4, which is supported by economic drivers as well as climate constraints (§ 4.1) and assumes slower petroleum replacement through 2045 than state climate pathways (§ 4.2).

Clean fuels development benefits effectiveness

Energy integration benefits of this measure could be highly effective in supporting early deployment of zero-emission transportation during a crucial window of opportunity for replacing liquid hydrocarbon combustion fuels, and could fuel hydrogen storage as well as most zero-emission FCEV growth needs thereafter, in the No HEFA Case. In the HEFA Case, however, those benefits could be limited to an uncertain post-2030 future. These results further underscore the importance of limiting HEFA biofuel growth in state climate pathways.

4.3.3 Use of electrolysis could lessen transition impacts from future decommissioning of converted refineries

Just transitions, tailored to community-specific needs and technology-specific challenges, appear essential to the feasibility of climate stabilization.[66 94] Full just transitions analysis for communities that host refineries is beyond the scope of this report, and is reviewed in more detail elsewhere.[66 94] However, the recent idling of refining capacity, and proposals to repurpose it for HEFA biofuels, raise new transition opportunities and challenges for California communities

which were identified in this analysis, affect the feasibility of climate pathways, and thus are reported here. Hydrogen plays a pivotal role in the new transition challenges and opportunities which communities that host California refineries now face.

Transition benefits in the HEFA Case

Electrolysis would enable HEFA refineries to pivot from using hydrogen for biofuel to selling it for FCEV fuel, energy storage, or both. Assuming state climate pathways that replace transportation biofuels with ZEVs[57] achieve the state goal for 100% ZEV medium- and heavy-duty vehicles by 2045,[78] this would allow HEFA refiners to transition from HEFA biofuel hydro-conversion processing while continuing uninterrupted hydrogen production at the same sites. Potential benefits would include reduced local job and tax base losses as compared with total facility closure, and eliminating the significant refinery explosion/fire risk and local air pollution impacts from HEFA hydro-conversion processing that are described in Chapter 3.

However, HEFA lock-in could occur before the prospect of such a biofuel-to-ZEV fuel transition could arise (§ 4.2). Conversions to electrolysis would lessen incentives for refiners to protect assets by resisting transition, and yet their fuel shares in emerging petroleum distillates replacement markets and incentives to protect those market shares would have grown (*Id.*).

Transition benefits in the No HEFA Case

In the No HEFA Case electrolysis hydrogen could pivot to FCEV fueling, energy storage, or both as petroleum refining capacity is idled in state climate pathways. Petroleum asset idling would be driven by economic factors that replace gasoline as well as climate constraints and thus be likely to occur (§ 4.1). Indeed, it has begun to occur (Chapter 1) and is likely to gather pace quickly (§§ 4.1, 4.2). Local job and tax base retention resulting from this hydrogen pivot in the No HEFA Case could be of equal scale as in the HEFA case. Local benefits from elimination of refinery hazard and air pollution impacts upon site transition would be from replacing petroleum refining rather than HEFA refining and would be realized upon crude refinery decommissioning rather than upon repurposed HEFA refinery decommissioning years or decades later.

Transition benefits effectiveness

Electrolysis hydrogen could have a pivotal role in just transitions for communities that host refineries. However, transition benefits of electrolysis would more likely be realized, and would be realized more quickly, in the No HEFA Case than in the HEFA Case. Realization of these potential transition benefits would be uncertain in the HEFA Case, and would be delayed as compared with the No HEFA Case.

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APPENDIX B

Karras, G., *Unsustainable Aviation Fuel*
(Karras, 2021b)

UNSUSTAINABLE AVIATION FUEL

An assessment of carbon emission and sink impacts from biorefining and feedstock choices for producing jet biofuel in repurposed crude refineries

A Natural Resources Defense Council (NRDC) Report

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CONTENTS

Executive Summary

Current climate, energy and aviation policy use the term Sustainable Aviation Fuel (SAF) to mean alternatives to petroleum aviation fuel which could include seven types of biofuels and can replace up to half of petroleum jet fuel under existing aviation fuel blending limits. In practice this definition of SAF favors continued use of existing combustion fuel infrastructure to burn a mix of biofuel and petroleum. That is not a net-zero carbon climate solution in itself, and in this sense, SAF is not sustainable. Rather, the partial replacement of petroleum jet fuel with biofuel is meant to incrementally reduce emissions from the hard-to-decarbonize aviation sector and, in concert with more effective measures in other sectors, help to achieve climate stabilization goals.

A question, then, is whether the type of biofuel favored by the existing combustion fuel infrastructure will, in fact, emit less carbon than petroleum. This, the evidence suggests, is a key question for the sustainability of SAF.

Although it is but one proven technology for the production of SAF, Hydrotreated Esters and Fatty Acids (HEFA) technology is the fastest-growing type of biofuel in the U.S. today. This rapid recent and projected growth is being driven by more than renewable fuels incentives. The crucially unique and powerful driver of HEFA biofuel growth is that oil companies can protect troubled and climate-stranded assets by repurposing petroleum crude refinery hydro-conversion and hydrogen plants for HEFA jet fuel and diesel biofuels production.

Some HEFA biofuels are reported to emit more carbon per gallon than petroleum fuels. This is in part because HEFA technology depends upon and competes for limited agricultural or fishery yields of certain types—oil crops, livestock fats or fish oils—for its biomass feedstocks. Meeting increased demands for at least some of those feedstocks has degraded natural carbon sinks, causing indirect carbon emissions associated with those biofuels. And it is in part because HEFA feedstocks require substantial hydrogen inputs for HEFA processing, resulting in very substantial direct carbon emissions from fossil fuel hydrogen production repurposed for HEFA biorefining. Both processing strategies, i.e., refining configurations to target jet fuel *v.* diesel

production, and feedstock choices, e.g., choosing to process palm oil *v.* livestock fat feeds, are known factors in these direct and indirect emissions. That is important because HEFA jet fuel yield is limited, and refiners can use various combinations of feeds and processing strategies to boost jet yield with repurposed crude refining equipment. To date, however, the combined effect of these factors in strategies to boost HEFA jet fuel yield has received insufficient attention.

This report focuses on two questions about climate impacts associated with HEFA jet fuel production in repurposed crude refineries. First, could feedstocks that enable refiners to boost jet fuel yield increase the carbon dioxide emission per barrel—the carbon intensity—of HEFA refining relative to the feeds and processing strategy refiners use to target HEFA diesel yield? Second, could the acquisition of feedstocks that refiners can use to increase HEFA jet fuel yield result in comparatively more serious indirect climate impacts?

The scope of the report is limited to these two questions. Its analysis and findings are based on publicly reported data referenced herein. Data and analysis methods supporting feed-specific original research are given and sourced in an attached data and methods table.[1] Data limitations are discussed in the final chapter. This work builds on recent NRDC-sponsored research[2] which is summarized in relevant part as context above, and as referenced in following chapters.

Chapter 1 provides an overview of HEFA technology, including the essential processing steps for HEFA jet fuel production and additional options for maximizing jet fuel yield using repurposed crude refining assets. This process analysis shows that a growing fleet of HEFA refineries could, and likely would, use a combination of strategies in which the use of intentional hydrocracking (IHC) could vary widely. HEFA refiners could produce HEFA jet fuel without intentional hydrocracking (No-IHC), produce more HEFA jet fuel with IHC in the isomerization step needed for all HEFA fuels (Isom-IHC), or produce more HEFA jet fuel while shaving the increased hydrogen costs of intentional hydrocracking (Selective-IHC). The strategies chosen would be influenced by the capabilities of crude refineries repurposed for HEFA processing.

Chapter 2 reviews HEFA feedstock limitations and supply options, presents detailed data relating feedstock properties to effects on HEFA jet fuel yields and process hydrogen demand, and ranks individual feedstocks for their ability to increase HEFA jet fuel yield. Differences in chemistry among feeds result in different feed rankings for jet fuel *versus* diesel yields, different feed rankings for increased jet fuel yield among processing strategies, and different feed rankings for hydrogen demand among processing strategies. Palm oil, livestock fats, and fish oils boost jet fuel yield without intentional hydrocracking, and enable more refiners to further boost jet yield with intentional hydrocracking, which increases HEFA process hydrogen demand.

Chapter 3 describes and quantifies refining strategy-specific and feed-specific carbon dioxide (CO_2) emissions from the repurposed crude refinery steam reformers that produce hydrogen for HEFA processing. Feed-specific carbon intensity (CI) rankings for jet fuel-range feed fractions mask those for whole feed actual CI when refiners use the No-IHC process strategy. Refining CI rankings for some feeds with low *v.* high jet yields (e.g., soybean oil *v.*

menhaden fish oil) are reversed in the Selective-IHC strategy compared with the other strategies for increasing HEFA jet fuel yield. Some feeds that increase jet fuel yield have relatively higher process CI (fish oils) while others have relatively lower process CI (palm oil and livestock fats). However, palm oil and livestock fat feeds also enable the highest-CI refining strategies, and all strategies for HEFA jet fuel production result in substantially higher refining CI than the average U.S. petroleum refinery CI. This shows that HEFA jet fuel growth would increase the carbon intensity of hydrocarbon fuels processing.

Chapter 4 reviews natural carbon sinks and assesses potential carbon emission impacts from increasing production of the specific food system resources HEFA refiners can use as feedstocks. Palm oil, livestock, and fisheries production emit from these carbon sinks. Present assessments confirm this "indirect" impact of palm oil biofuels, but suggest livestock fat and fish oil biofuels have relatively low feed production emissions due to the assumption that biofuel demand will not expand livestock production or fisheries catch. Some also assume U.S. policies that discourage palm oil biofuels prevent palm oil expansion to fill in for other uses of biomass biofuels displace. Those assumptions, however, are based on historical data, when biofuels demand was far below total production for the type of biomass HEFA refiners can process. HEFA feedstock demand could far exceed total current U.S. production for all uses of that biomass type—including food and fuel—if HEFA jet fuel replaces as little as 18 percent of current U.S. jet fuel consumption.

With HEFA jet fuel growth to replace 18 percent of U.S. jet fuel, world livestock fat and fish oil production could supply only a fraction of U.S. HEFA feedstock demand unless that demand boosts their production, with consequent indirect carbon impacts. Palm oil production could expand to fill other uses for livestock fat and other plant oils which the increased U.S. biofuel demand would displace. Intensified and expanded production of soybean and other oil crops with relatively high indirect carbon impacts would likely be necessary, in addition, to supply the total demand for both food and fuel. Further, given refiner incentives to repurpose climate-stranded crude refining assets, plausible U.S. HEFA growth scenarios by mid-century range above 18 percent and up to 39 percent of U.S. jet fuel replacement with HEFA jet fuel.

Thus, data and analysis in Chapter 4 suggest the potential for significant indirect carbon emission impacts associated with the mix of HEFA jet fuel feedstocks that could meet plausible future SAF demand, and that high-jet yield feeds could contribute to or worsen these impacts.

Crucially, causal factors for these impacts would be inherent and mutually reinforcing. HEFA technology repurposed from crude refineries can process only feedstocks that are co-produced from food resources, it requires large hydrogen inputs that boost refining emissions to marginally improve its low jet fuel yield, and even then, it could require more than two tons of carbon-emitting feedstock production per ton of HEFA jet fuel produced.

Findings and takeaways from this work follow below.

Findings and Takeaways

Finding 1. Hydrotreated Esters and Fatty Acids (HEFA) biofuel technology has inherent limitations that affect its potential as a sustainable aviation fuel: low jet fuel yield on feedstock, high hydrogen demand, and limited sustainable feedstock supply.

Takeaway Climate-safe plans and policies will need to prioritize alternatives to petroleum jet fuel combustion which do not have known sustainability limitations.

Finding 2. Switching HEFA feedstocks to target increased jet fuel yield could increase the carbon intensity—CO_2 emitted per barrel feed—of HEFA refining, compared with targeting HEFA diesel yield. HEFA refining carbon intensity could increase in 80 percent of plausible feed switch and processing combinations targeting jet fuel. Direct emission impacts could be significant given that the carbon intensity of HEFA refining substantially exceeds that of U.S. petroleum refining.

Takeaway Environmental impact assessments of proposed HEFA projects will need to address potential emissions from future use of HEFA refineries to maximize jet fuel production, and assess lower emitting alternatives to repurposing existing high-carbon refinery hydrogen plants.

Finding 3. One of three feeds that could boost HEFA jet fuel yield causes carbon emissions from deforestation for palm plantations, and the other two cannot meet potential HEFA feedstock demand without risking new carbon emissions from expanded livestock production or fisheries depletion. These indirect impacts could be significant given that feedstock demand for replacing only a small fraction of current U.S. jet fuel with HEFA jet fuel would exceed total U.S. production of HEFA feedstocks biomass—biomass which now is used primarily for food.

Takeaway Before properly considering approvals of proposed HEFA projects, permitting authorities will need to assess potential limits on the use of feedstocks which could result in significant climate impacts.

Finding 4. Natural limits on total supply for the type of feedstock that HEFA technology can process appear to make replacing any significant portion of current petroleum jet fuel with this type of biofuel unsustainable.

Takeaway Sustainable aviation plans will need to consider proactive and preventive limits on HEFA jet fuel, in concert with actions to accelerate development and deployment of sustainable, climate-safe alternatives.

1. How would refiners rebuild for HEFA jet fuel production?

Oil companies can repurpose existing fossil fuel hydrogen plants, hydrocrackers, and hydrotreaters at their petroleum refineries to produce jet fuel and diesel biofuels using a technology called hydrotreating esters and fatty acids (HEFA). "Hydrotreating" means a hydro-conversion process: the HEFA process reacts biomass with hydrogen over a catalyst at high temperatures and pressures to form hydrocarbons and water. "Esters and fatty acids" are the type of biomass this hydro-conversion can process: the triacylglycerols and fatty acids in plant oils, animal fats, fish oils, used cooking oils, or combinations of these biomass lipids.[1]

HEFA processing requires a sequence of steps, performed in separate hydro-conversion reactors, to deoxygenate and isomerize (restructure) the lipids feedstock, and very substantial hydrogen inputs for those process steps, in order to produce diesel and jet fuels.[2]

One problem with using HEFA technology for Sustainable Aviation Fuel (SAF) is that these hydrodeoxygenation and isomerization steps alone can convert only a fraction of its feedstock into jet fuel—as little as 0.128 pounds of jet fuel per pound of soybean oil feed.[3] Intentional hydrocracking can boost HEFA jet fuel yield to approximately 0.494 pounds per pound of feed,[3] however, that requires even more hydrogen, and can require costly additional refining capacity. This chapter describes the range of processing strategies that refiners could use to increase HEFA jet fuel yields from their repurposed crude refineries.

1.1 Step 1: Hydrodeoxygenation (HDO) of jet fuel (and diesel) hydrocarbons

HEFA processing produces diesel and jet fuels from the hydrocarbon chains of fatty acids. In all HEFA feedstocks, fatty acids are bound in triacylglycerols that contain substantial oxygen, and various numbers of carbon double bonds. To free the fatty acids and make fuels that can burn like petroleum diesel and jet fuel from them, that oxygen must be removed from the whole feed. This first essential step in HEFA processing is called hydrodeoxygenation (HDO).

HDO reaction chemistry is complex, as reviewed in more detail elsewhere,[2] and its intended reactions all consume hydrogen by forcing it into the feedstock molecules. Process reactions insert hydrogen to free fatty acids from triacylglycerols ("depropanation") and to remove oxygen by bonding it with hydrogen to form water ("deoxygenation"). And along with those reactions, still more hydrogen bonds with the carbon chains to "saturate" the carbon double bonds in them. These reactions proceed at high temperatures and pressures in the presence of a catalyst to yield the intended HDO products: deoxygenated hydrocarbon chains which can be further processed to make diesel and jet fuels.

1.2 Step 2: Isomerization of jet fuel and diesel hydrocarbons

Isomerization restructures the saturated straight-chain hydrocarbons produced by HDO, which are too waxy to burn well or safely in diesel or jet engines, by turning these straight-chain hydrocarbons into their branched-chain isomers. This is the second essential HEFA process step.

Like HDO, isomerization reactions are complex, proceed at high temperatures and pressures in the presence of a catalyst, and require substantial hydrogen inputs.[2] However, isomerization process reactions, conditions, and catalysts differ substantially from those of HDO and, instead of consuming the hydrogen input as in HDO, most of the hydrogen needed for isomerization can be recaptured and recycled.[2] These differences have so far required a separate isomerization processing step, performed in a separate process reactor, to make HEFA diesel and jet fuel.

1.3 Additional option of intentional hydrocracking (IHC)

Hydrocracking breaks ("cracks") carbon bonds by forcing hydrogen between bonded carbon atoms at high temperature and pressure. This cracks larger hydrocarbons into smaller ones. It is an unwanted side reaction in HDO and some isomerization processing since when uncontrolled, it can produce compounds too small to sell as either diesel or jet fuel. *Intentional* hydrocracking (IHC) uses specialized catalysts and process conditions different from those required by HDO to crack HDO outputs into hydrocarbons in the jet fuel range.

Thus, while HEFA refiners can make jet fuel with HDO and isomerization alone (No-IHC), they could make more jet fuel by adding IHC to their processing strategy. Adding IHC for the HDO output can boost jet fuel yield to approximately 49.4 percent of HEFA feedstock mass (49.4 wt.%).[3] This boost is important, compared with No-IHC jet fuel yield of approximately 12.8 wt.% on soybean oil,[3] the most abundant HEFA feedstock produced in the U.S.[2] However, hydrocrackers are expensive to build for refineries that do not already have them,[4] and IHC increases demand for hydrogen plant production capacity by approximately 1.3 wt.% on feed (800 cubic feet of H_2/barrel).[2 3] New capacity for additional hydrogen production is also costly to refiners that cannot repurpose existing capacity. HEFA refiners that choose the IHC option to maximize jet fuel yield might choose one processing strategy to minimize new hydrocracking capacity cost, or another processing strategy to minimize new hydrogen capacity cost.

1.3.1 IHC in isomerization process units

Hydrocracking and isomerization can be accomplished in a repurposed crude refinery hydrocracker, given the necessary retooling and catalyst for HEFA HDO output processing.[2] Thus, a crude refinery with sufficient existing hydrocracking and hydrogen capacity for the whole HEFA feed stream it plans to process could repurpose that equipment for IHC in the isomerization step of its repurposed HEFA process configuration. This "Isom-IHC" processing strategy would allow that refiner to maximize HEFA jet fuel yield without the capital expense of building a new hydrocracker. However, combining intentional hydrocracking in isomerization, which is required for all HEFA fuels, cracks the entire output from the HDO step, incurring the 800 cubic feet of hydrogen per barrel cost increment on the entire HEFA feed. If a refiner lacks the existing hydrogen capacity, Isom-IHC could entail building new hydrogen plant capacity.

1.3.2 Selective IHC in separate hydrocracking process units

HEFA refiners separate the components of their HDO and isomerization outputs to re-run portions of the feed through those processes and to sell HEFA diesel and jet fuel as separate products. That distillation, or "fractionation," capacity could be used to separate the jet fuel produced by HDO and isomerization processing from their hydrocarbons output, and feed only those hydrocarbons outside the jet fuel range to a separate intentional hydrocracking unit. This "Selective-IHC" processing strategy could increase jet fuel yield while reducing IHC hydrogen consumption, and new hydrogen plant costs, compared with those of the Isom-IHC strategy. However, it would not eliminate the hydrogen production cost of IHC, and more importantly for refiners that lack the existing hydrocracking capacity before repurposing their crude refineries, it would entail building expensive new hydrocrackers.

1.4 Three potential HEFA jet fuel processing strategies

HEFA feedstock supply limitations,[2] differences in hydrogen production and hydrocracking capacities among U.S. refineries,[5] and the differences between processing strategies described above suggest the broad outlines of a prospective future HEFA jet fuel refining fleet. Refiners that can repurpose sufficient capacity could maximize HEFA jet fuel yield using IHC strategies. The fleet-wide mix would be influenced initially by whether existing hydrocracking or hydrogen production capacity would limit total production by each refinery to be repurposed. Later, the relative costs of hydrogen production *v.* hydrocracking could affect the mix of Selective-IHC *v.* Isom-IHC in the mid-century HEFA refining fleet.

Refiners that lack sufficient capacity for IHC could repurpose for the No-IHC strategy and coproduce HEFA jet fuel along with larger volumes of HEFA diesel. Then, increasing costs of the much higher feed volume needed per gallon of HEFA jet fuel yield from the No-IHC strategy could limit this strategy to a small portion of the refining fleet by mid-century. Declining HEFA diesel demand, as electric and fuel cell vehicles replace diesel vehicles, could further drive this this limitation of the No-IHC processing strategy. However, refiners that do not use intentional hydrocracking could seek to boost HEFA jet fuel yield in another way.

2. Can refiners make more HEFA jet fuel from some feedstocks than from others?

HEFA biofuel technology is limited to a particular subset of world biomass supply for its feedstock. Despite that limitation, however, differences among these lipid feeds could affect both HEFA processing and jet fuel yield. This chapter assesses individual HEFA feedstocks for potential differences in HEFA processing and HEFA jet fuel yield.

Results reveal strong interactions between feedstock and processing configuration choices. In essential HEFA process steps, feed choices affect jet fuel yield and hydrogen demand, both of which affect options to further boost jet yield with intentional hydrocracking. Both feedstock and processing choices can increase hydrogen demand, which can affect processing to boost jet fuel yield where hydrogen supply is limited. Feed-driven and process strategy-driven impacts on hydrogen demand overlap, however, feed rankings for hydrogen differ from those for jet yield, and differ among processing configurations. From the lowest to highest impact combinations of feedstock and processing options, jet fuel yield and hydrogen demand increase dramatically.

Palm oil, livestock fat, and fish oil have relatively high jet fuel yields without intentional hydrocracking, and relatively high potentials to enable further boosting jet fuel yields with intentional hydrocracking (IHC).

2.1 HEFA feedstock limitations and supply options

HEFA biofuel technology relies on the fatty acids of triacylglycerols in biomass lipids for its feedstocks, as described in Chapter 1. Sources of these in relevant concentrations and quantities are limited to farmed or fished food system lipids resources. Among its other problems, which are addressed in a subsequent chapter, this technological inflexibility limits feedstock choices for refiners seeking to increase HEFA jet fuel yield.

Historically used lipid biofuel feedstock supplies include palm oil, soybean oil, distillers corn oil, canola (rapeseed) oil, and cottonseed oil among the significant HEFA oil crop feeds; livestock fats, including beef tallow, pork lard, and poultry fats; and fish oils—for which we

analyze data on anchovy, herring, menhaden, salmon, and tuna oils.[1] Additionally, though it is a secondary product from various mixtures of these primary lipid sources, and its supply is too limited to meet more than a small fraction of current HEFA demand,[2] we include used cooking oil (UCO) in our analysis.[1]

2.2 Feedstock properties that affect HEFA jet fuel production

2.2.1 Feedstock carbon chain length

Jet fuel is a mixture of hydrocarbons that are predominantly in the range of eight to sixteen carbon atoms per molecule. In fuel chemistry shorthand, a hydrocarbon with 8 carbons is "C8" and one with 16 carbons is "C16," so the jet fuel range is C8–C16. Similarly, a fatty acid chain with 16 carbons is a C16 fatty acid. Thus, since fuels produced by the essential HEFA process steps—hydrodeoxygenation (HDO) and isomerization—reflect the chain lengths of fatty acids in the feed,[2] the ideal HEFA jet fuel feed would be comprised of C8–C16 fatty acids. But there is no such HEFA feedstock.

In fact, the majority of fatty acids in HEFA lipids feeds, some 53% to 95% depending on the feed, have chain lengths outside the jet fuel range.[1] This explains the low jet fuel yield problem with relying on HEFA technology for Sustainable Aviation Fuel (SAF) described in Chapter 1. However, that 53–95% variability among feeds also reveals that refiners could make more HEFA jet fuel from some HEFA feedstocks than from others.

2.2.2 Feedstock-driven process hydrogen demand

Options to increase HEFA jet fuel yield using intentional hydrocracking could be limited by hydrogen supplies available to refiners, and HDO, an essential HEFA process step, consumes hydrogen to saturate carbon double bonds in feeds and remove hydrogen from them (Chapter 1). HDO accounts for the majority of HEFA process hydrogen demand, and some HEFA feeds have more carbon double bonds, somewhat higher oxygen content, or both, compared with other HEFA feeds.[2] Thus, some HEFA feeds consume more process hydrogen, and thereby have more potential to affect jet fuel yield by limiting high-yield processing options, than other feeds.

2.3 Ranking HEFA feedstocks for jet fuel production

2.3.1 Effects on HDO yield

Table 1 summarizes results of our research for the chain length composition of fatty acids in HEFA feedstocks.[1] This table ranks feeds by their jet fuel range (C8–C16) fractions. Since fuels produced by the essential HDO and isomerization steps in HEFA processing reflect the chain lengths of HEFA feeds, the volume percentages shown in Table 1 represent potential jet fuel yield estimates for the processing strategy without intentional hydrocracking (No-IHC).

Table 1. Chain length* composition of fatty acid chains in HEFA feedstocks, ranked by jet fuel fraction.

	Jet fuel fraction (C8–C16) (volume % on whole feed)	Diesel fraction (C15–C18) (vol. %)	> C16 (vol. %)	>C18 (vol. %)
Palm oil	46.5	95.6	53.5	0.5
Menhaden oil	42.3	59.8	57.7	31.2
Tallow fat	33.3	95.2	66.7	0.4
Herring oil	32.7	49.3	67.3	42.7
Poultry fat	32.7	98.1	67.3	1.1
Anchovy oil	32.6	52.2	67.4	40.9
Tuna oil	31.5	48.9	68.5	44.5
Lard fat	30.0	96.5	70.0	2.1
Salmon oil	27.5	49.7	72.5	44.0
UCO 10th P.*	26.8	97.9	73.2	1.1
Cottonseed oil	25.7	98.7	74.3	0.4
Corn oil (DCO)*	13.6	98.9	86.4	1.1
UCO 90th P.*	12.9	99.2	87.1	0.8
Soybean oil	11.7	99.5	88.3	0.4
Canola oil	4.8	96.8	95.2	3.1
Yield-wtd. Average	**26.3**	**97.4**	**73.7**	**1.0**

***Cx:** fatty acid chain of x carbons. **UCO:** used cooking oil. **10th P.:** 10th Percentile. **DCO:** Distillers corn oil. Data from Table 8, except world yield data by feed type for yield-weighted average shown from Table 7. Percentages do not add; fractions overlap.

Potential feed-driven effects on jet fuel yield shown in Table 1 range tenfold among feeds, from approximately 4.8% on feed volume for canola oil to approximately 46.5% for palm oil. For context, since supplies of some feeds shown are relatively low, it may be useful to compare high jet fuel yield feeds with soybean oil, the most abundant HEFA feed produced in the U.S.[2] Palm oil, the top ranked feed for jet fuel yield, could potentially yield nearly four times as much HEFA jet fuel as soybean oil, while menhaden fish oil and tallow might yield 3.6 times and 2.8 times as much jet fuel as soy oil, respectively. Again, this is for the No-IHC processing strategy.

2.3.2 Effects on IHC strategies yields

Feed-driven jet fuel yield effects could allow intentional hydrocracking (IHC) to further boost HEFA jet fuel yield, depending on the IHC processing strategy that refiners may choose. At 49.4 wt.% on feed (Chapter 1), or approximately 58 volume percent given the greater density of the feed than the fuel, IHC jet fuel yield exceeds those of the feed-driven effects shown in Table 1. But IHC adds substantially to the already-high hydrogen demand for essential HEFA process steps (Chapter 1). In this context, the eight highest-ranked feeds for jet fuel yield in Table 1 may allow a refiner without the extra hydrogen supply capacity to use IHC on its entire feed to use Selective-IHC on 53.5% to 70% of its feed. This indirect effect of feed-driven jet fuel yield on process configuration choices has the potential to further boost HEFA jet fuel yield.

Direct feedstock-driven effects on process hydrogen demand, which can vary by feed as described above, must be addressed along with this indirect effect. *See* Table 2 below.

Table 2. Hydrogen demand for hydrodeoxygenation (HDO) of HEFA feedstocks, grouped by HDO jet fuel and diesel hydrocarbon yields. Data in kilograms hydrogen per barrel of feed fraction (kg H_2/b)

Feedstock grouping	Jet fraction (C8–C16)[a]		Diesel fraction (C15–C18)[a]		Longer chains (> C18)[a b]	
	HDO kg/b[c]	Sat kg/b[d]	HDO kg/b[c]	Sat kg/b[d]	HDO kg/b[c]	Sat kg/b[d]
High jet/high diesel						
Palm oil	4.38	< 0.01	4.77	0.64	3.52	0.15
Tallow fat	4.53	0.14	4.70	0.62	3.62	0.19
Poultry fat	4.58	0.25	5.04	0.92	3.99	0.67
Lard fat	4.43	0.11	4.84	0.75	5.39	1.68
UCO (10th Pc.)	4.52	0.20	5.02	0.92	4.30	0.75
Cottonseed oil	4.30	0.02	5.47	1.34	3.51	0.16
High jet/low diesel						
Menhaden oil	4.72	0.28	5.07	0.85	8.64	4.83
Herring oil	4.77	0.30	5.09	0.89	6.11	2.52
Anchovy oil	4.72	0.28	5.22	1.02	8.07	4.31
Tuna oil	4.67	0.24	4.81	0.64	8.06	4.34
Salmon oil	4.51	0.09	5.18	1.01	7.99	4.27
Low jet/high diesel						
Corn (DCO) oil	4.27	0.01	5.60	1.48	4.87	1.38
UCO (90th Pc.)	4.35	0.09	5.56	1.45	3.38	0.00
Soybean oil	4.28	0.01	5.70	1.59	3.31	0.00
Canola oil	4.35	0.07	5.45	1.37	3.98	0.55

a. Feedstock component fractions based on carbon chain lengths of fatty acids in feeds. **b.** Fatty acid chains with more than 18 carbons (> C18), which might be broken into two hydrocarbon chains in the jet fuel range (C8–C16) by intentional hydrocracking (IHC). **c.** HDO: hydrodeoxygenation; hydrogen consumed in HDO reactions, including saturation. **d.** Sat: saturation, H_2 needed to saturate carbon double bonds in the feedstock component, included in HDO total as well and broken out here for comparisons between types of feeds. *See* Table 8 for details of data, methods, and data sources. Note that fatty acids with 15–16 carbons (C15–C16) are included in both the jet fuel and the diesel fuel ranges. **UCO:** Used cooking oil, a highly variable feed; the 10th and 90th percentiles of this range of variability are shown.

2.3.3 Effects on process hydrogen demand

Table 2 shows process hydrogen demand for HDO, and the portion of HDO accounted for by saturation of carbon double bonds, for fractions of each feedstock. The important detail this illustrates is that saturation of carbon double bonds—especially in the larger-volume diesel fraction and, for fish oils, the longer chain fraction—explains most of the differences in direct effects on hydrogen demand among feeds. At less than 1% to more than half of HDO hydrogen demand, saturation drives differences in hydrogen demand among feed fractions (Table 2). Further, these differences peak in the diesel and longer chain fractions of feeds (*Id.*), and the combined volumes of these diesel and longer chain fractions are both high for all feeds and variable among feeds (Table 1).

Since HDO is an essential step in all HEFA processing strategies (Chapter 1), this evidence that process hydrogen demand varies among feeds because of the processing characteristics of whole feeds means we can compare hydrogen demand across processing strategies based on whole feeds. Table 3 shows results from this comparison across processing strategies.

Table 3. Hydrogen demand in the no intentional hydrocracking (No-IHC), Selective IHC and Isom-IHC processing strategies by feed grouping and feed. ***kg H_2/b:*** *kilograms hydrogen/barrel whole feed*

Feedstock grouping	No-IHC [a] (kg H_2/b)	Selective-IHC [b] (kg H_2/b)	Isom-IHC [c] (kg H_2/b)
High jet/high diesel			
Palm oil	4.79	5.79	6.60
Tallow fat	4.71	6.11	6.70
Poultry fat	5.03	6.28	6.85
Lard fat	4.85	6.13	6.65
UCO (10th P.)	5.01	6.37	6.83
Cottonseed oil	5.44	6.84	7.28
High jet/low diesel			
Menhaden oil	6.18	7.30	8.02
Herring oil	5.50	6.76	7.33
Anchovy oil	6.37	7.67	8.23
Tuna oil	6.29	7.62	8.16
Salmon oil	6.40	7.78	8.25
Low jet/high diesel			
Corn (DCO) oil	5.58	7.19	7.42
UCO (90th P.)	5.55	7.17	7.39
Soybean oil	5.68	7.33	7.52
Canola oil	5.40	7.16	7.24
Feed-wtd. Average	5.24	6.62	7.07

a. Intentional hydrocracking (IHC) is not used. **b.** Intentional hydrocracking (IHC) is selective because in this strategy HDO output is separately isomerized, and only the non-jet fuel hydrocarbons from HDO are fed to IHC. **c.** Isomerization and IHC are accomplished in the same process step in this strategy; all HDO output, including the jet fuel fraction, is fed to intentional hydrocracking in this strategy. *See* Table 8 for details of data, methods, and data sources;[1] Table 7 for world feed data used to derive feed-weighted averages. **UCO:** Used cooking oil, a highly variable feed; 10th and 90th percentiles of range shown.

2.3.4 Interactions between feedstock and processing choices

Feedstock and process strategy choices combined can impact HEFA process hydrogen demand dramatically (Table 3). As expected, IHC increases hydrogen demand for all feeds, however, feed-driven and process strategy-driven effects overlap. The maximum feed-driven impact in the No-IHC strategy (6.40 kg H_2/b) exceeds the minimum (5.79 kg H_2/b) in the Selective-IHC strategy (*Id.*). Similarly, the maximum feed-driven impact in the Selective-IHC strategy (7.78 kg H_2/b) exceeds the minimum (6.60 kg H_2/b) in the Isom-IHC strategy (*Id.*). Hydrogen demand increases by approximately 75% from the lowest impact (4.71 kg H_2/b) to the highest impact (8.25 kg H_2/b) combination of feedstock and processing strategy (*Id.*).

Feed rankings for hydrogen demand differ from feed rankings for jet fuel yield (tables 1, 3). Palm oil ranks at the top for jet fuel yield and at or near the bottom for hydrogen demand while in contrast, fish oils are among the highest ranked feeds for both jet yield and hydrogen demand. Livestock fats are among the highest ranked feeds for jet fuel yield and among the lowest ranked feeds for hydrogen demand. The lowest ranked feeds for jet fuel yield, soybean and canola oils, are medium-ranked to high-ranked feeds for hydrogen demand.

Relatively lower hydrogen demand for palm oil and livestock fats across the columns in Table 3 further illustrates how interactions of feedstock and processing strategies can contribute to increased jet fuel yields. For example, the relative Isom-IHC hydrogen demand reduction achievable by switching from soybean oil to tallow (-0.82 kg/b; -10.9%) or from soybean oil to palm oil (-0.92 kg/b; -12.2%) can help to support the highest jet fuel yield processing strategy in situations where refinery hydrogen production capacity is marginally limited.

Results in Table 3 also reveal that some feedstocks switch rankings between the Selective-IHC strategy and other processing strategies. In one example, canola oil feedstock demands more hydrogen than cottonseed oil feedstock for Selective-IHC but slightly less than cottonseed oil for the No-IHC and Isom-IHC strategies (Table 3). This corresponds to the greater fraction of canola oil than cottonseed oil sent to intentional hydrocracking for the Selective-IHC strategy (*see* Table 1, > C16 vol. %).

Another example: Only some 57.7% of the total Menhaden oil feed volume goes to intentional hydrocracking for Selective-IHC, as compared with 88.3% of the soybean oil feed (*Id.*). Consequently, Menhaden oil demands less hydrogen than soybean oil for Selective-IHC but more hydrogen than soybean oil for the other processing strategies (Table 3).

Putting these direct and indirect feed-driven effects together, consider switching from soybean oil to tallow for Selective-IHC at a 50,000 to 80,000 b/d refinery—which is in the range of projects now proposed in California.[2] The direct effect on HDO from this soy oil-to-tallow switch, shown in the No-IHC column of Table 3 (-0.97 kg H_2/b), carries over to Selective-IHC. The indirect effect sends 21.6% less of the total tallow feed to hydrogen-intensive cracking for Selective IHC than that of soy oil (Table 1, > C16 fractions), further boosting hydrogen savings from the switch to -1.22 kg/b on total feed (Table 3). At feed rates of 50,000–80,000 b/d, this might save the refiner construction and operating costs for 61,000 to 97,600 kg/d of hydrogen capacity. Expressed as volume in millions of standard cubic feet per day (MMSCFD), that is the equivalent of a 24 to 38 MMSCFD hydrogen plant.

At the same time that switching from soy with No-IHC to tallow with Selective-IHC could enable the higher-yield processing strategy, however, net process hydrogen demand would increase by 0.43 kg/b (Table 3), an increase in this example of 8.4 to 13.5 MMSCFD.

Thus, examining feed and processing interactions reveals that switching to feeds with higher jet-range fractions, lower HDO hydrogen demand, or both enables refiners with limited hydrogen supplies to use intentional hydrocracking and thereby further boost jet fuel yields. More broadly, these results show refiners can make more HEFA jet fuel from some feedstocks than from others, but that doing so could result in substantially increased hydrogen demand for some combinations of feedstock and processing choices.

3. Does switching from one HEFA feedstock to another change processing carbon intensity differently when refiners target jet fuel instead of diesel production?

Switching feedstocks and production targets can affect the per-barrel emissions—the *carbon intensity*—of HEFA refining dramatically. The vast majority of direct CO_2 emission from HEFA refining emits from petroleum refinery steam reformers that refiners repurpose to supply HEFA process hydrogen demand.[2] The reformer emissions further increase with increasing hydrogen production.[2] As shown in Chapter 2, refiners could switch feeds to boost HEFA jet fuel yield in ways that increase refinery hydrogen demand differently compared with targeting HEFA diesel yield. This chapter evaluates the carbon intensity (CI) impacts of HEFA refining that could result from targeting HEFA jet fuel yield instead of diesel yield, and weighs their significance against the CI of petroleum refining.

3.1 CO_2 co-production and emission from hydrogen production by steam reforming

3.1.1 How steam reforming makes hydrogen

Steam reforming is a fossil fuel hydrogen production technology that co-produces CO_2. The process reacts a mixture of superheated steam and hydrocarbons over a catalyst to form hydrogen and CO_2. Hydrocarbons used include methane from natural gas, and it is often called steam methane reforming (SMR), but crude refiners use hydrocarbon byproducts from refining such as propane, along with methane from purchased natural gas, as feeds for the steam reformers that they could repurpose for HEFA processing.

3.1.2 How steam reforming emits CO_2

Both its CO_2 co-product and CO_2 formed in its fuel combustion emit from steam reforming. An energy-intensive process, steam reforming burns fuel to superheat process steam and feed, and burns more fuel for energy to drive pumps and support process reactions. Steam reforming fuel combustion emissions are reformer-specific and vary by plant. Based on verified permit data for 11 San Francisco Bay Area crude refinery steam reforming plants, we estimate median

fuel combustion emissions of approximately 3.93 grams of CO_2 emitted per gram of hydrogen produced (g CO_2/g H_2), conservatively assuming methane fuel.[2] Co-product emissions are larger still, and vary by feed, with approximately 5.46 g CO_2/g H_2 emitting from methane feed and 6.56 g CO_2/g H_2 emitting from propane feed.[2] The coproduct and combustion emissions are additive.

3.1.3 Steam reforming CO_2 emission estimate

HEFA refinery steam reforming can be expected to use a feed and fuel mix that includes the propane byproduct from the process reactions discussed in Chapter 1 and natural gas methane. Based on process chemistry we conservatively assume 79% methane/21% propane feed with 100% methane fuel. From these figures we estimate typical HEFA steam reforming emissions of approximately 9.82 g CO_2/g H_2. This estimate is for repurposed crude refinery steam reformers, which are aging and may not be as efficient as newer steam reformers.[2] For context, however, our estimate is within 2.5% of a recent independent estimate of median emissions from newer merchant steam methane reforming plants, when compared on a same-feed basis.[2]

Thus, repurposed refinery steam reforming emits CO_2 at nearly ten times its weight in hydrogen supplied. With the high hydrogen demand for HEFA processing shown in Chapter 2, that is a problem. Since steam reforming emissions increase with increased production to meet increased hydrogen demand, the refining CI values reported below are based on the emission factor described above (9.82 g CO_2/g H_2) and the hydrogen demand data from Chapter 2.

3.2 Feedstock effects on CI resulting from HDO hydrogen demand

Hydrodeoxygenation (HDO) is an essential step, and is the major hydrogen consuming step, in all HEFA processing strategies (chapters 1 and 2). The data in Table 4 represent the HEFA processing strategy that uses HDO without intentional hydrocracking (No-IHC).

3.2.1 Feedstock HDO chemistry impact on HEFA refining CI

Table 4 shows effects of feedstock HDO chemistry on HEFA steam reforming emissions. Steam reforming-driven CI (kg/b: kg CO_2 per barrel feed) is substantially higher for whole feeds than for their jet fuel fractions. This is because the non-jet fractions need more hydrogen to saturate carbon double bonds and their combined volumes are larger than that of the jet fuel fraction (tables 1 and 2). Further, the extent of these differences between fractions varies among feeds (*Id.*). This is why feeds change ranks between the columns in Table 4. For example, the jet fuel fraction of palm oil has higher CI than that of soybean oil even though the whole feed data show that soybean oil is a higher CI feed. This variability among feed fractions also is why fish oil CI is high for both the jet fraction and the whole feed.

3.2.2 Need to account for whole feed impact

Does Table 4 show that palm oil could be a higher refining CI feed than soybean oil? No. Since the HDO step is essential for removing oxygen from the whole feed to co-produce both HEFA jet fuel and HEFA diesel, choosing any feed results in the CI impact of that whole feed.

Table 4. Hydrogen steam reforming emissions associated with the jet fuel fraction *v.* whole HEFA feeds in the HDO (No IHC) refining strategy; comparison of feed ranks by emission rate.

Jet fuel fraction (C8–C16)		Whole feed (≥ C8)	
Feed (rank)	CO_2 (kg/b feed)	Feed (rank)	CO_2 (kg/b feed)
Herring oil	46.8	Salmon oil	62.8
Menhaden oil	46.4	Anchovy oil	62.5
Anchovy oil	46.4	Tuna oil	61.7
Tuna oil	45.9	Menhaden oil	60.7
Poultry fat	45.0	Soybean oil	55.8
Tallow fat	44.5	Distillers corn oil	54.8
UCO (10th Percentile)	44.4	UCO (90th Percentile)	54.4
Salmon oil	44.3	Herring oil	54.0
Lard fat	43.5	Cottonseed oil	53.4
Palm oil	43.0	Canola oil	53.1
Canola oil	42.7	Poultry fat	49.4
UCO (90th Percentile)	42.7	UCO (10th Percentile)	49.2
Cottonseed oil	42.2	Lard fat	47.6
Soybean oil	42.0	Palm oil	47.1
Distillers corn oil	41.9	Tallow fat	46.2

C8–C16: fatty acid chains with 8 to 16 carbon atoms. **≥ C8:** fatty acid chains with 8 or more carbon atoms. **Menhaden:** a fish. **UCO:** used cooking oil, a variable feed; 10th and 90th percentiles shown. Data from Table 2 at 9.82 g CO_2/g H2 steam reforming.

While the jet fuel fraction data in this table helps to inform why feed quality impacts refining CI, we need to account for those CI impacts of whole feeds shown in Table 4.

3.2.3 High-jet feeds can increase or decrease HDO-driven CI

HDO-driven CI findings for whole feeds reveal mixed CI results for high-jet fuel yield feedstocks in No-IHC processing. Fish oils rank highest for steam reforming-driven CI while livestock fats and palm oil rank lowest (Table 4). Thus, for this processing strategy, switching feeds to boost jet fuel yield can increase or decrease refining CI. However, No-IHC also is the processing strategy that HEFA refiners use to maximize diesel yield rather than jet fuel yield. Feedstock quality interacts with other processing choices in different ways that could further boost HEFA refining CI along with jet fuel yield, as shown below.

3.3 Feedstock effects on CI resulting from Selective-IHC hydrogen demand

3.3.1 Process strategy impact of high-jet feeds

High jet yield feeds result in less input to Selective-IHC, enabling marginally hydrogen-limited refiners to further boost jet fuel yield via Selective-IHC, but this requires additional hydrogen (chapters 1 and 2). Intentional hydrocracking (IHC) thus increases hydrogen steam reforming rates and emissions, increasing refining CI for all feeds, as shown in Table 5. This impact overlies the HDO impact, so that feed CI values overlap between columns. For example, the tuna oil No-IHC CI (61.7 kg/b) exceeds the tallow Selective-IHC CI (60.0 kg/b), and the anchovy oil Selective-IHC CI (75.3 kg/b) exceeds the soy oil Isom-IHC CI (73.9 kg/b).

Table 5. Hydrogen steam reforming emissions from the No-IHC, Selective-IHC, and Isomerization IHC refining strategies: comparisons of whole HEFA feed ranks by emission rate.

No-IHC		Selective-IHC		Isomerization-IHC	
Feed (rank)	(kg CO_2/b)	Feed (rank)	(kg CO_2/b)	Feed (rank)	(kg CO_2/b)
Salmon oil	62.8	Salmon oil	76.4	Salmon oil	81.0
Anchovy oil	62.5	Anchovy oil	75.3	Anchovy oil	80.8
Tuna oil	61.7	Tuna oil	74.8	Tuna oil	80.1
Menhaden oil	60.7	Soybean oil	72.0	Menhaden oil	78.8
Soybean oil	55.8	Menhaden oil	71.6	Soybean oil	73.9
Corn oil–DCO	54.8	Corn oil-DCO	70.6	Corn oil-DCO	72.8
UCO 90th P.	54.4	UCO 90th P.	70.4	UCO 90th P.	72.6
Herring oil	54.0	Canola oil	70.3	Herring oil	72.0
Cottonseed oil	53.4	Cottonseed oil	67.2	Cottonseed oil	71.5
Canola oil	53.1	Herring oil	66.4	Canola oil	71.1
Poultry fat	49.4	UCO 10th P.	62.5	Poultry fat	67.2
UCO 10th P.	49.2	Poultry fat	61.7	UCO 10th P.	67.1
Lard fat	47.6	Lard fat	60.2	Tallow fat	65.7
Palm oil	47.1	Tallow fat	60.0	Lard fat	65.3
Tallow fat	46.2	Palm oil	56.9	Palm oil	64.8

IHC: Intentional hydrocracking. **No-IHC:** CO_2 from hydrodeoxygenation (HDO). **Selective-IHC:** CO_2 from HDO plus IHC of HDO output hydrocarbons > C16. **Isomerization-IHC:** CO_2 from HDO plus IHC of all HDO output (> C8). **Menhaden:** a fish. **UCO:** used cooking oil, 10th, 90th percentiles shown. **DCO:** distillers corn oil. Figures shown exclude emissions associated with H_2 losses, depropanation, and inadvertent cracking. Data from Table 3 at 9.82 g CO2/g H2 steam reforming.

3.3.2 Feed chemistry effects on feed rankings for CI

Feedstock CI rankings differ between No-IHC and Selective-IHC processing (Table 5). This is a feed quality impact driven primarily by the different volumes of non-jet fractions sent to IHC among feeds. It boosts the CI of soybean oil from 4.9 kg/b below to 0.4 kg/b above the CI of menhaden oil with the addition of Selective-IHC (*Id.*). With 88.3% of its volume outside the jet fuel range compared with 57.7% of menhaden oil (Table 1, > C16 fractions), soy oil sends 30.6% more feed to Selective-IHC than menhaden oil. More IHC feed requires more hydrogen, boosting steam reforming emissions more with soy than with menhaden oil. Similarly, canola oil sends 27.9% more feed to Selective-IHC than herring oil (*Id.*). This boosts canola oil CI from 0.9 kg/b below to 3.9 kg/b above herring oil CI with the addition of Selective-IHC (Table 5).

3.3.3 How livestock fat feeds could affect soy oil and canola oil refining CI

When switching from soy or canola oil to livestock fat enables a refiner to boost jet fuel yield by repurposing its refinery for Selective-IHC processing, that intentional hydrocracking can boost jet yield from soy and canola oil feeds as well. Thus, instead of shutting down when, for any reason at any time, livestock fat becomes too scarce or expensive, the refiner could make jet fuel by going back to soybean oil or canola oil feedstock. This could increase refining CI by 16.2 kg/b (29%) for soy oil, and 17.2 kg/b (32%) for canola oil, based on our results for the Selective-IHC *versus* No-IHC processing strategies in Table 5.

3.4 Feedstock effects on CI resulting from Isom-IHC hydrogen demand

Livestock fat and palm oil could maximize jet fuel yield by enabling Isom-IHC processing, since these feeds minimize HDO hydrogen demand (chapters 1 and 2). Their relatively lower non-jet fractions do not contribute to this effect on Isom-IHC because, in contrast to Selective-IHC, Isom-IHC processes the entire feed stream output from HDO. Direct effects of feed quality variability on Isom-IHC cracking are relatively weak, since HDO both saturates and removes oxygen from Isom-IHC inputs. Thus, the relative feed rankings for CI from No-IHC processing carry over to the Isom-IHC feed rankings with only minor differences (Table 5). However, by cracking of the entire HDO output, Isom-IHC further boosts hydrogen demand, thus hydrogen steam reforming emissions, resulting in the highest HEFA refining CI for all feeds (*Id.*).

Across feeds and process options, from the lowest to the highest impact combinations of feeds and processing, HEFA refining CI increases by 34.8 kg CO_2/b (75%), and CI increases in 122 (79.7%) of 153 feed switching combinations that could boost jet fuel yield (tables 1, 3, 5).

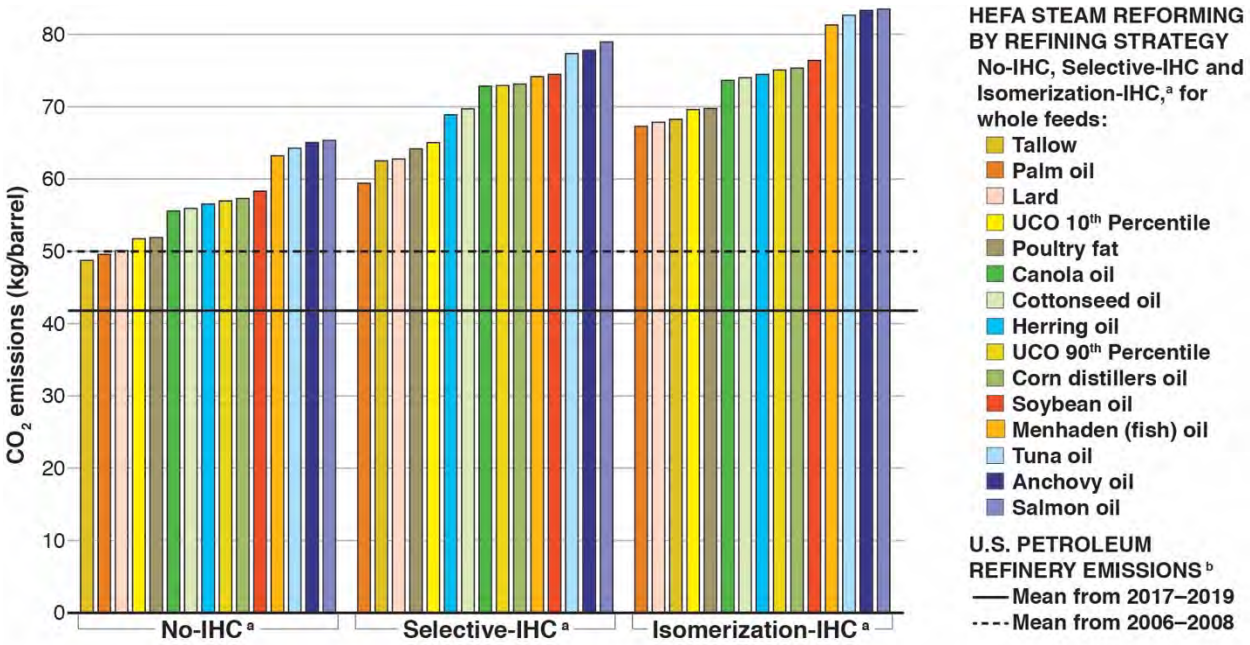
3.5 Comparison with petroleum refining CI by feedstock and processing strategy

Chart 1 plots results for feedstock-related impacts on the variability of HEFA refining CI from HEFA steam reforming emissions against the CI of U.S. petroleum refining. Our results in Table 5 are shown by processing strategy and, within each strategy, each feed is represented by a color-coded column. The height of the column represents the contribution of steam reforming to HEFA refining CI for that particular feed and processing strategy. The solid black line shown at approximately 41.8 kg/b (kg CO_2/barrel crude processed) represents the average U.S. petroleum refining CI from 2015 through 2017.[6] We use this (41.8 kg/b) as our benchmark. For added context, average U.S. petroleum refining CI from 2006–2008,[7] a period when the U.S. refinery crude slate was denser and higher in sulfur than during 2015–2017[8] resulting in higher historic U.S. crude refining industry CI,[7] is represented by the dashed line at 50 kg/b in the chart.

Please note what HEFA emissions Chart 1 does and does not show. It shows HEFA refining steam reforming emissions only. This helps us focus on our question about refining CI impacts from HEFA feedstock switching to target jet fuel, which are directly related to HEFA steam reforming rates. It *does not* show total direct emissions from HEFA refining.

3.5.1 HEFA refining CI impacts are significant compared with crude refining

Other HEFA refining emissions besides those from steam reforming—from fuel combustion to heat and pressurize HEFA hydro-conversion reactors, precondition and pump their feeds, and distill and blend their products—could add roughly 21 kg/b of additional HEFA refining CI.[2] Thus, for a rough comparison of petroleum refining CI with total HEFA refining CI, imagine adding 21 kg/b to the top of each column in Chart 1. HEFA refining CI approaches or exceeds *double* the CI of petroleum refining. Clearly, expanding HEFA jet fuel would increase the CI of hydrocarbon fuels processing substantially.



1. HEFA Steam Reforming Emissions *v.* Total U.S. Petroleum Refining Emissions, kg CO_2/barrel feed input.

a. HEFA steam reforming emissions only: values shown exclude CO_2 emitted by other HEFA refining process and support equipment. This contrasts with the petroleum refining emissions shown, which include all direct emissions from crude refining. Including all direct emissions from HEFA refining could increase the HEFA estimates shown by approximately 21 kg/barrel.[2] The "No-IHC" strategy excludes intentional hydrocracking (IHC); the "Selective-IHC" strategy adds emission from producing hydrogen consumed by intentional hydrocracking of feed fractions comprised of hydrocarbons outside the jet fuel range; the "Isomerization-IHC" strategy adds emissions from intentional hydrocracking of whole feeds in the isomerization step of HEFA fuels production. HEFA data shown include feed-driven emissions in Table 5 plus additional steam reforming emissions (2.5 kg/b) from producing the additional hydrogen that is lost to unintended side-reaction cracking, solubilization, scrubbing and purging (*see* Table 8).[1]

b. U.S. petroleum refinery emissions including total direct CO_2 emitted from steam reforming and all other petroleum refinery process and support equipment at U.S. refineries. Mean from 2015 through 2017 based on total refinery emissions and distillation inputs reported by the U.S. Energy Information Administration (EIA).[6] Mean from 2006 through 2008 represents a period of historically high-carbon U.S. refining industry crude inputs.[7 8]

3.5.2 High-jet feed impacts on processing targeting jet fuel can increase refining CI

Feeds that enable intentional hydrocracking to boost jet fuel yield could increase HEFA refining CI significantly (Chart 1). Here we report feed switching CI increments compared with No-IHC processing of soy and canola oils to target diesel yield (*see* Table 5) as percentages of our petroleum crude refining benchmark: Switching to Selective IHC with anchovy and salmon oils increases CI by 47% to 56% (of crude refining CI) while switching to Selective IHC with menhaden oil increases CI by 38% to 44%. Switching to Isom-IHC with tallow increases CI by 24% to 30% while switching to Isom-IHC with palm oil increases HEFA refining CI by 21% to 28% of crude refining CI. Switching to Selective-IHC with tallow increases CI by 10% to 17%. Only Selective-IHC with palm oil has similar CI to that of No-IHC with soy oil (+3%).

3.5.3 High-jet feed CI impacts are mixed in processing targeting HEFA diesel yield

Compared with No-IHC processing of soy or canola oils, which are the combinations of processing and feeds that maximize HEFA diesel yield, No-IHC with fish oils could increase refining CI while No-IHC with palm oil or livestock fats could decrease CI. For example,

switching to anchovy oil could increase No-IHC HEFA refining CI over that of canola and soy oils by 16% to 23% of crude refining CI while switching to tallow could decrease it by 16% to 23% of crude refining CI. But there is a caveat to those estimates.

In theory, feeding tallow to No-IHC processing could boost jet fuel yield to one-third of feedstock volume (Table 1) while lowering CI by 6.8 or 9.5 kg/b below canola or soy oil in No-IHC processing, the strategies refiners use to maximize HEFA diesel yield. However, this would require three barrels of tallow feed per barrel of jet fuel yield, emphasizing a crucial assumption about HEFA biofuel as a sustainable jet fuel solution—it assumes a sustainable feedstock supply. That assumption could prove dangerously wrong, as shown in Chapter 4.

4. HEFA jet fuel feedstock and carbon sinks: Could the feedstocks that maximize HEFA jet fuel instead of diesel yield have comparatively high indirect climate impacts?

Increasing demand for limited supplies of feedstocks that refiners could use to boost HEFA jet fuel yield and make more HEFA jet fuel risks increasing deforestation and other serious indirect climate impacts. HEFA biofuel feedstocks are purpose-derived lipids also needed for food and other uses,[9] [10] are globally traded, and can increase in price with increased biofuel demand for their limited supply.[2] Ecological degradation caused by expanded production and harvesting of the extra lipids for biofuels has, in documented cases, led to emissions from natural carbon sinks due to biofuels. Those emissions have traditionally been labeled as an "indirect land use impact," but as shown above, refiners seeking to maximize HEFA jet fuel production also could use fish oil feedstocks. The term "indirect carbon impacts," meant to encompass risks to both terrestrial and aquatic carbon sinks, is used in this chapter.

4.1 Natural carbon sinks that HEFA jet fuel feedstock acquisition could affect

Feedstocks that increase HEFA jet fuel production could have indirect impacts on land-based carbon sinks, aquatic carbon sinks, or both. At the same time the impact mechanisms differ between terrestrial and aquatic ecosystems. Part 4.1.1 below discusses carbon sink risks due to land degradation, and part 4.1.2 discusses carbon sink risks due to fishery depletion.

4.1.1 Land degradation risks: Carbon sinks in healthy soils and forests

Even before new Sustainable Aviation Fuel plans raised the potential for further expansion of HEFA feedstock acquisition, biofuel demand for land-based lipids production was shown to cause indirect carbon impacts. A mechanism for these impacts was shown to be global land use change linked to prices of commodities tapped for both food and fuel.[11] Instead of cutting carbon emissions, increased use of some biofuel feedstocks could boost crop prices, driving crop and pasture expansion into grasslands and forests, and thereby degrading natural carbon sinks to result in biofuel emissions which could exceed those of petroleum fuels.[11]

Indirect carbon impacts of lipid feedstocks which further HEFA biofuel expansion could tap have been observed and documented in specific cases. International price dynamics involving palm oil, soybean oil, biofuels and food were linked as factors in the deforestation of Southeast Asia for palm oil plantations.[12] Soy oil prices were linked to deforestation of the Amazon and Pantanal in Brazil for soybean plantations.[13] [14] [15] Demand-driven changes in European and U.S. prices were shown to act across the oil crop and animal fat feedstocks for HEFA biofuels.[16] Rapeseed (canola) and soy biofuels demand drove palm oil expansion in the Global South as palm oil imports increased for other uses of those oils displaced by biofuels in the Global North.[17] Indirect land use impacts of some soy oil—and most notably, palm oil—biofuels were found to result in those biofuels emitting more carbon than petroleum fuels they are meant to replace.[17] [18] [19] Current U.S. policy discourages palm oil-derived biofuel for this reason.[20]

As of 2021, aerial measurements suggest that combined effects of deforestation and climate disruption have turned the southeast of the great Amazonian carbon sink into a carbon source.[21] Market data suggest that plans for further HEFA biofuels expansion have spurred an increase in soybean and tallow futures prices.[22] [23] [24] A joint report by two United Nations-sponsored bodies, the Intergovernmental Panel on Climate Change and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, warns that expansion of industrial biofuel feedstock plantations risks inter-linked biodiversity and climate impacts.[25]

Moreover, these risks are mutually reinforcing. Potential pollinator declines,[26] climate heating-driven crop losses,[27] biofuel policy-driven food insecurity,[28] and the prospect that, once a biofuel also needed for food is locked into place, retroactive limits on land use conversion could worsen food insecurity,[11] reveal another aspect of this carbon sink risk. Namely, the assumption asserted by HEFA biofuel proponents, that we can "grow our way out" of limits on biomass diversion to biofuels by increasing crop yields and reverse course later if that does not work, risks lasting harm.

4.1.2 Fishery depletion risks: The biological carbon pump in world oceans

Increasing demand for fish products could further drive fisheries depletion, thereby risking substantial emissions from the oceanic carbon sink. This potential impact, like that on terrestrial carbon sinks, has received intensifying scientific attention in recent years, but appears to remain less widely known to the general public. Fished species have crucial roles in the mechanisms that send carbon into the oceanic carbon sink, as shown below.

Oceans account for 71% of the Earth surface[29] and remove roughly one-fourth to one-third of total carbon emissions from all human activities annually.[30] [31] A portion of the CO_2 exchange between air and water at the sea surface is sequestered in the deep seas via inter-linked shallow, mid-reach, and benthic ecosystems that comprise a "biological pump" in which fished species play key roles. *See* Illustration 1.

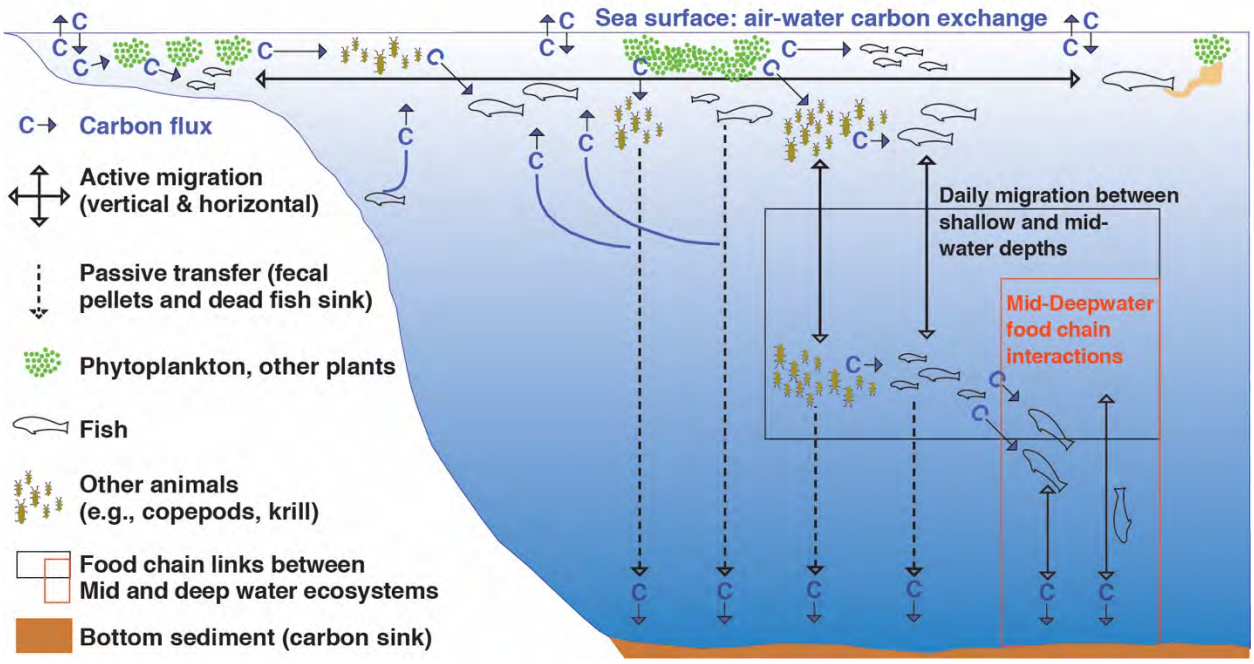


Illustration 1. Biological pump to the deep oceans carbon sink

Fish have key roles in the inter-linked shallow, mid-reach, and benthic ecosystems that drive a "biological pump" which sends carbon into the deep seas. In well-lit shallow waters, photosynthesis converts CO_2 into organic carbon that is taken up by plants, then by animals in aquatic food webs, and horizontal migration of faster-swimming species fertilizes phytoplankton blooms in the nutrient-poor open oceans, reinforcing the carbon uptake. Some of this carbon falls to the deep sea in fecal pellets and carcasses of fish and other animals (dashed lines shown), while respiration releases CO_2 from aquatic animals and from bacterial degradation of fecal matter (upward-curving lines), some of which re-enters the atmosphere at the sea surface. Active vertical migration (solid vertical lines) further drives the biological pump. A substantial portion of both fish and their invertebrate prey biomass feeds near the surface at night and in much deeper mid-reaches of the ocean during daylight—where deep-sea fish species migrate and feed as well (black and red boxes). Here in the mid-reaches, a greater portion of the carbon in fecal pellets and dead fish sinks to the bottom, and active migration feeding by deep sea fish transfers additional carbon to the deep sea. The organic carbon that reaches the deep sea can be sequestered in sediments for hundreds to thousands of years.

In well-lit shallow waters, photosynthesis converts CO_2 into organic carbon that is taken up by plants and then by animals in ocean food webs. (Illustration, top.) Horizontal migration of faster-swimming species fertilizes phytoplankton blooms in the nutrient-poor open oceans, reinforcing the carbon uptake (*Id.*).[25] [31] Some of this carbon sinks to the deep sea in fecal pellets and carcasses of fish and other animals (dashed lines shown)[25] [32] but not all of it; some of the CO_2 released in respiration by aquatic animals and bacterial degradation of fecal matter re-enters the atmosphere at the sea surface (upward-curving lines).[30] [32] That sea surface carbon exchange emphasizes the role of active vertical migration (solid vertical lines) in the biological pump.

For both fish and their invertebrate prey, a substantial portion of their ocean biomass feeds near the surface at night and in much deeper mid-reaches of the ocean during daylight[25]—where deep-sea fish species migrate and feed as well.[32] Here in the mid-reaches, a greater portion of the carbon in fecal pellets and dead fish sinks to the bottom, and active migration feeding by

deep sea fish transfers additional carbon to the deep sea.[25 30 32] The organic carbon that reaches the deep sea can be sequestered in sediments for hundreds to thousands of years.[25 30 32]

Although impacts are not yet fully quantified,[25] at present—even at "maximum sustainable yield"—fishery depletion impacts the oceanic carbon sink by removing roughly half of the fisheries biomass that would otherwise be in world oceans.[25 31] This exports the carbon in fish from ocean sequestration to land, where that exported carbon then enters the atmosphere.[25 31] Fished species are targeted selectively, disrupting ecosystems involved in the biological pump and potentially reducing both the passive and the active transport of carbon to deep sea carbon sequestration.[25 32] Worse, as demands for limited fisheries catches have grown, bottom trawling, which directly disrupts and releases carbon from ocean sediments, may already have reduced the oceanic carbon sink by as much as 15–20%.[25] In this context fish oil demand, while only a small fraction of total fisheries catch, is still supplied more from whole fish than from fish byproducts, and is projected to grow by a few percentage points through 2030.[10] Thus, potential additional fish oil demand for biofuel poses an indirect carbon impact risk.

4.2 Historic impact assessments for high jet fuel yield HEFA feedstocks

HEFA refiners could maximize jet fuel instead of diesel production using palm oil, fish oil, or livestock fats for feedstocks, as shown in Chapter 2 above. Historic demand for these specific feedstocks has resulted in relatively high indirect carbon impacts from one of them, and raises questions about future impacts from increased demand for the other two high jet fuel yield feeds.

4.2.1 Palm oil: High jet fuel yield, high impact and current use restriction

With 46.5% of its fatty acid feedstock volume comprised of carbon chains in the jet fuel range, palm oil ranks first among major HEFA feedstocks for the potential to increase HEFA jet fuel production. *See* Table 1. Palm oil also has perhaps the highest known potential among HEFA feedstocks for indirect land use impacts on natural carbon sinks (§ 4.1.1). Some palm oil-derived biofuels have reported fuel chain carbon intensities that exceed those of the petroleum fuels they are meant to replace (*Id.*). However, current U.S. policy restricts the use of palm oil-derived biofuels to generate carbon credits due in large part to this high indirect carbon impact.[20] Future biofuel demand could affect the efficacy of this use restriction.

4.2.2 Fish oil: High jet fuel yield and low carbon impact assumed for residual supply

Fish oils rank second, fourth, sixth, seventh and ninth for jet fuel-range fractions at 42.3%, 32.7%, 32.6% and 27.5% of their feed volumes. *See* Table 1. Moreover, their relatively low diesel fractions (48.9–59.8%) and relatively high feed fractions with carbon chains longer than the ideal diesel range, which could be broken into twin jet fuel hydrocarbons (*Id.*), might favor jet fuel production by intentional hydrocracking strategies. Current biofuel use of fish oil is low, and is assumed to be residual biomass, and thus to have relatively low indirect carbon impact. However, that assumption is based on historic fish oil usage patterns at historic biofuel demand. If HEFA refiners seek to maximize jet fuel production by tapping fish oil in larger amounts, this

has a potential to result in high indirect carbon sink risk by further depleting fisheries that contribute to the biological pump which sequesters carbon in the deep sea (§ 4.1.2).

4.2.3 Livestock fat: High jet fuel yield and low carbon impact assumed for residual supply

Tallow, poultry fat, and lard rank third, fifth, and eighth for jet fuel-range fractions at 33.3%, 32.7%, and 30% of their feed volumes, respectively. *See* Table 1. For these livestock fats, HEFA feedstock acquisition impact and supply estimates are linked by the assumption that only "waste" residues of livestock fat biomass will be used for biofuels.[33] [34] This results in lower estimates for feedstock acquisition impacts by assuming that impacts from using farm and pastureland to feed the livestock are assigned to other uses of the livestock, such as food. At the same time, this assumption limits the supply for biofuels to only "waste" which, it is assumed, will not result in using more land for livestock feed in response to increased HEFA feedstock demand. These current assumptions—that increased demand will not cause land use impacts because it will not increase livestock production—limit current estimates of both supply and indirect carbon impact. Again, however, the current assumptions driving indirect carbon impact estimates are based on historic lipids usage patterns, which may change with increasing HEFA feedstock demand.

4.3 Feedstock acquisition risks to carbon sinks could be substantial at usage volumes approaching the current HEFA jet fuel blend limit

Impacts of these differences among feedstocks—and HEFA feedstock acquisition impacts overall—depend in large part upon future HEFA demand for limited current feedstock supplies. Moreover, indirect carbon impacts can include impacts associated with displacing other needs for these lipid sources, notably to feed humans directly and to feed livestock or aquaculture fish. This section compares potential HEFA SAF feedstock demand with limited current lipid supplies to assess potential indirect carbon impacts of specific and combined HEFA feedstocks.

4.3.1 Potential future HEFA jet fuel feedstock demand in the U.S.

SAF implementation could drive dramatic HEFA feedstock demand growth. In 2019, the most recent year before COVID-19 disrupted air travel, U.S. SAF consumption was estimated at 57,000 barrels,[35] only 0.009% of the 636 million barrels/year (MM b/y) U.S. jet fuel demand.[36] Since SAF must be blended with petroleum jet fuel and can be a maximum of half the total jet fuel,[35] implementation of SAF goals could result in future jet biofuel production of as much as 318 MM b/y assuming no growth in jet fuel demand. This would represent SAF growth to approximately 5,580 *times* the 2019 SAF biomass demand. HEFA technology is on track to claim the major share of this prospective new biomass demand.

Since 2011, "renewable" diesel production used in California alone, a surrogate for U.S. HEFA biofuel use,[35] grew by a factor of 65 times to 2.79 MM b/y as of 2013, by 142 times to 6.09 MM b/y as of 2016, and 244 times to 10.5 MM b/y as of the end of 2019.[37] Planned new HEFA capacity targeting the California fuels market and planned for production by 2025 totals approximately 124 MM b/y,[38] another potential increase of more than tenfold from 2019–2025.

Financial incentives for oil companies to protect their otherwise stranded refining assets are a major driver of HEFA growth—for example, in the two biggest biorefineries to be proposed or built worldwide to date.[2] More crude refining asset losses can thus spur more HEFA growth.[2]

Further idling of crude refining assets is indeed likely. Climate constraints drive the need to replace gasoline, with most credible expert assessments showing approximately 90% of gasoline to be replaced in mid-century climate stabilization scenarios.[39] [40] [41] [42] More efficient electric vehicles with lower total ownership costs will force gasoline replacement as vehicle stock rolls over, and this independent driver could replace approximately 80% of U.S. gasoline vehicles by mid-century.[2] Designed and built to co-produce gasoline and maximize gasoline production, U.S. crude refineries cannot produce distillates alone and will be idled as gasoline is replaced.[2]

Refiners can—and would be highly incentivized to—protect those otherwise stranded assets by repurposing their crude refining equipment for HEFA biofuel production. Assuming the low end of the mid-century crude refining asset loss projections noted above, 80% of existing U.S. refinery hydrogen production capacity could be repurposed to supply approximately 2.66 million metric tons per year (MM t/y) of hydrogen for HEFA production at idled and repurposed crude refineries. *See* Table 6 below.

Depending on the mix of HEFA jet fuel processing strategies that the prospective new HEFA refining fleet might employ, this much repurposed hydro-conversion capacity could make enough HEFA jet fuel to replace 36% to 39% of total U.S. jet fuel demand, assuming no growth from 2019 demand. *Id.* Notably, if the existing[37] and planned[38] capacity through 2025 is built and tooled for the same jet fuel yields, this mid-century projection implies a threefold HEFA capacity growth rate from 2026–2050, slower than the tenfold growth planned from 2019–2025.

In order to "book-end" an uncertainty previewed in chapters 1 and 2 above, Table 6 shows two potential HEFA jet fuel growth scenarios. Scenario S-1 assumes a future U.S. HEFA refining fleet with 30% of refineries using the No-IHC strategy and 70% using the Isom-IHC strategy. This scenario assumes many refiners that repurpose for HEFA production lack existing equipment to repurpose for intentional hydrocracking separately and in addition to the hydro-deoxygenation and isomerization reactors needed for all HEFA processing, and refiners choose not to build new hydrocracking capacity into their asset repurposing projects. Scenario S-2 assumes the opposite: many refiners have that existing capacity or choose to build new capacity into their repurposing projects, resulting in a mix with 20% of refineries using the No-IHC strategy, 70% using the Selective-IHC strategy, and 10% using the Isom-IHC strategy.

Relying mainly on Selective-IHC, which cuts hydrogen demand compared with Isom-IHC, Scenario S-2 makes more jet fuel from the same amount of repurposed hydrogen capacity, but nevertheless, at 71–72 MM t/y, feedstock demand is very high in both scenarios (Table 6).

Table 6. Potential HEFA jet fuel growth scenarios to mid-century in the U.S.

t: metric ton **MM t/y:** million metric tons/year

Total U.S. crude refining hydrogen plants capacity in 2021 (MM t/y) [a]					3.32
Assumption by 2050: 80% repurposed for HEFA biofuel (MM t/y)					2.66
Scenario S-1: No use of selective and intentional hydrocracking (Selective-IHC) [a]					
Process strategy		No-IHC	Selective-IHC	Isom-IHC	Total
Refineries breakdown	(% feed)	30 %	0 %	70 %	100 %
Hydrogen input [b]	(kg/t feed)	9.04	0.00	28.5	37.5
Feed input [b]	(MM t/y)	21.3	0.00	49.7	71.0
Jet fuel yield [c]	(MM t/y)	4.75	0.00	24.5	29.3
HEFA jet fuel production in the U.S. as a percentage of total 2019 U.S. jet fuel demand:					36 %
Scenario S-2: High use of selective and intentional hydrocracking (Selective-IHC) [a]					
Process strategy		No-IHC	Selective-IHC	Isom-IHC	Total
Refineries breakdown	(% feed)	20 %	70 %	10 %	100 %
Hydrogen input [b]	(kg/t feed)	6.02	26.6	4.06	36.7
Feed input [b]	(MM t/y)	14.5	50.7	7.25	72.4
Jet fuel yield [c]	(MM t/y)	3.23	25.0	3.58	31.8
HEFA jet fuel production in the U.S. as a percentage of total 2019 U.S. jet fuel demand:					39 %

Absent policy intervention, given renewable incentives and assuming severe feed supply limitations are overcome, U.S. HEFA jet fuel production could replace 36–39% of current U.S. petroleum jet fuel, and demand 71–72 million tons/year of lipids feedstock annually, by mid-century. Crude refiners could be highly incentivized to repurpose assets, which would be stranded by climate constraints and electric vehicles, for HEFA biofuels; less clear is the mix of processing strategies the repurposed HEFA refining fleet would use. Refiners could boost jet fuel yield by intentional hydrocracking of HEFA isomerization feeds (Isom-IHC), or do so while limiting hydrogen costs by intentional hydrocracking of selected feed fractions separately from the isomerization step needed for all fractions (Selective-IHC). However, some refineries lack existing equipment for one or both IHC options and may not choose to build onto repurposed equipment. Scenarios in this table span a conservatively wide range of fleet-wide processing strategies in order to "book-end" this uncertainty, resulting in the feed and fuel ranges shown above. The 80% petroleum capacity idling assumed by 2050[2] is generally consistent with highly credible techno-economic analyses, which, however, generally assume a different biofuel technology and feedstock source.[40–42] **a.** U.S. refinery hydrogen capacity from *Oil & Gas Journal*.[5] **b.** Hydrogen and feed inputs based on feed-weighted data from Table 3 and a feed blend SG of 0.914. **c.** Jet fuel yields based on yield-wtd. data from Table 1 at 0.775/0.914 jet/feed SG (No-IHC) and Pearlson et al. (IHC).[3] U.S. jet fuel demand in 2019 from USEIA (636.34 MM bbl),[36] or 81.34 MM t/y at the petroleum jet fuel density in the survey reported by Edwards (0.804 SG).[43] Diesel is the major HEFA jet fuel coproduct. Figures shown may not add due to rounding.

4.3.2 Limited HEFA jet fuel feedstock supplies in the U.S. and world

Current feedstock supplies limit the sustainability of HEFA jet fuel as a substantial component of U.S. jet fuel at rates well below the 50% SAF blend limit. Total current U.S. lipids production for all uses could supply only 29% of the feedstock needed for HEFA jet fuel to replace 36% to 39% of 2019 U.S. jet fuel use, as shown for scenarios S-1 and S-2 in Table 7 below. Other uses of these lipids crucially involve direct and indirect human needs for food, and in these scenarios, U.S. HEFA biofuel alone displaces one-third of all other existing lipids usage globally (Table 7).

Further, at even half the HEFA jet fuel production rates shown in Table 7, current global production of no one lipid source can supply the increased biofuel feedstock demand without displacing significant food system resources. This observation reveals the potential for impacts that cut across multiple prospective HEFA feedstock sources.

Table 7. HEFA feedstock demand in potential U.S. petroleum jet fuel replacement scenarios compared with total current U.S. and world production for all uses of lipids.

MM t/y: million metric tons/year

U.S. Feedstock Demand Scenarios [a]	No 100% Replacement NA: blend limit		36% Scenario S-1 71.0 MM t/y		39% Scenario S-2 72.4 MM t/y	
Current Feed-stock Supply	U.S. (MM t/y)	World (MM t/y)	Supply / Demand (%) U.S.	World	Supply / Demand (%) U.S.	World
Palm oil [b]	0.00	70.74	0%	99%	0%	98%
Fish oil [c]	0.13	1.00	0.18%	1.4%	0.18%	1.4%
Livestock fat [d]	4.95	14.16	7%	20%	7%	20%
Soybean oil [e]	10.69	55.62	15%	78%	15%	77%
Other oil crops [e]	5.00	73.07	7%	103%	7%	101%
Total Supply	20.77	214.59	29%	309%	29%	302%

Total current U.S. production for all uses of lipids also tapped for biofuel could supply only 29% of potential U.S. HEFA jet fuel feedstock demand in 2050. **a.** HEFA feedstock demand data from Table 6. **b.** Palm oil data from Oct 2016–Sep 2020.[44] **c.** Fish oil data from 2009–2019 (U.S.)[45] and unspecified recent years (world).[46] **d.** Livestock fat data from various dates (US)[9] and 2018 (world).[47] **e.** Soybean oil, palm oil, and other oil crops data from unspecified dates for used cooking oil (US),[9] Oct 2016–Sep 2020 for oil crops also used for biofuel (US),[48] and Oct 2016–Sep 2020 for oilseed crops (world).[44]

4.3.3 Feed-specific and total feed-blend indirect carbon impact potentials

As shown in Table 7 and discussed above, the scale of potential HEFA feedstock demand affects the answer to our question about whether feedstocks refiners could use to increase HEFA jet fuel yield could result in relatively more serious indirect carbon impacts.

Palm oil: High volume displacement and international fueling impacts potential

With the highest global availability of any current HEFA feed (Table 7), palm oil is likely to fill in for current uses of other HEFA feeds that growing U.S. feedstock demand for HEFA jet fuel would displace from those uses. This could occur regardless of restrictions on palm oil biofuel, increasing the indirect carbon impacts associated with palm oil expansion. Deforestation in Southeast Asia caused by palm oil expansion has been linked to biofuel demand for soy and rapeseed (canola) oils in the U.S. and Europe at past, much lower, biofuel feedstock demand, as described in section 4.1.1. Its high global availability also increases the likelihood that, despite U.S. policy, palm oil derived HEFA jet fuel could burn in many commercial flights. Jets may fuel this palm biofuel in various nations—including fueling for the return legs of international flights originating in the U.S. Palm oil can thus be considered a high jet fuel yield and relatively high indirect carbon impact HEFA feedstock.

Fish oil: Unique risk at low HEFA feed blend volume

In contrast to palm oil, fish oil is an extremely low availability HEFA feedstock and is unique among HEFA feeds in raising risks to the oceanic carbon sink. Equally important, fish oil has hard-to-replace aquaculture and pharmaceutical uses.[10] At 1.4% of current world supply for HEFA jet fuel demand scenarios in Table 7, fish oil is unlikely to be targeted as a major

HEFA feedstock industry wide. But this also means that existing uses of fish oil that are hard to replace could be fully displaced, driving further fisheries depletion, even if fish oil comprises as little as 1.4% of potential future HEFA feeds. Increased fishing pressure for fish oil is difficult to discount in demand scenarios approaching those shown (*Id.*), as significant upward pressure on lipids prices could impact lipids markets globally. Indeed, world fish oil demand for all uses is projected to grow and continue to be produced in substantial part from whole fish catch.[10] That fish biomass would essentially be extracted from the oceanic carbon sink to emit carbon from land-based uses, however, the larger and more uncertain impact could be on the effectiveness of ocean carbon sequestration via the biological pump (§ 4.1.2).

Available information thus identifies the potential for a future fish oil biofuel impact which may or may not materialize but nevertheless poses significant risk. Fish oil can be considered a high jet fuel yield and relatively high indirect carbon risk HEFA feedstock.

Livestock fat: likely displacement and possible supply growth impacts

While total current livestock fat production could supply only 20% of potential HEFA feedstock demand (Table 7), its relatively high jet fuel yield and relatively low (assumed) indirect carbon impacts could make livestock fat an important fraction of the expanding HEFA feeds mix. This would displace its existing uses, where the fats would likely be replaced by expanded demand for other lipids with relatively higher indirect carbon impacts. High-availability replacements such as palm and soy oils (*Id.*) would likely fill those displaced uses, and both palm and soy oils have relatively high indirect carbon impacts (§ 4.1.1).

Additionally—and notwithstanding the likelihood that livestock protein production would remain the priority—it is possible that the unprecedented growth in livestock fat demand might alter the balance among choices for producing human protein intake in favor of this high jet fuel yield "byproduct" feedstock. This balance is dynamic, as suggested by trends either toward or away from vegetarian diets in various human populations globally, such that this possibility is difficult to discount given the potential for unprecedented livestock fat demand growth. And if HEFA demand were to drive livestock production growth, livestock production is, in fact, a high carbon emission enterprise.[31 49] In view of these likely and possible impacts, livestock fat can be considered a high jet fuel yield and relatively high indirect carbon risk HEFA feedstock.

Feed blends: limited residue supply worsens indirect carbon impacts

Impacts and risks of high jet fuel yield feedstock add to those of feed blends that could be used for HEFA jet fuel, and limited global "residue" feedstock supply heightens these impacts.

HEFA feedstock demand to replace just 18% of 2019 U.S. jet fuel use—half that shown in Table 7—would far exceed current total U.S. production for *all uses* of lipids also tapped for biofuels. One implication of this is the need to consider food and fuel uses of the global lipids supply by other nations. Importantly, at 4.28% of world population, the U.S. per capita share of world production for low impact "residue" feeds from livestock fat and fish oil (Table 7) is less

than 0.65 MM t/y, less than 1% of potential U.S. HEFA jet fuel feedstock demand (*Id.*). The limited supply of low impact "residue" feedstocks, in turn, limits alternatives to palm oil or livestock production growth that can feed potential HEFA jet fuel growth. Current major feed alternatives for HEFA jet fuel are limited to soybean oil and other oil crops (*Id.*).

For example, what if U.S. palm biofuel is prohibited, livestock and fish oil production do not grow, and U.S. HEFA "residue" feedstock acquisition grows to eight times its per capita share (5.2 MM t/y)? At half of its minimum potential mid-century growth, HEFA feedstock demand for SAF in the U.S. would be approximately 35.5 MM t/y (Table 7). This 5.2 MM t/y of low-impact feed would meet only 15% of that demand and leave 30.3 MM t/y of that demand unmet. Supplying the 30.3 MM t/y of unmet demand for just half of potential U.S. HEFA jet fuel growth could induce growth of 23.5% in current combined global production for soy and other oil crops, excluding palm oil (*Id.*).

Moreover, the excess U.S. use of limited global residue supply in the example above could have an impact. It could displace the lower-impact HEFA jet fuel feed for SAF fueled in other nations, which could replace residue feeds with higher indirect carbon impact feeds. This would only shift emissions to HEFA jet fueling elsewhere, without providing a global climate benefit.

Thus, even if U.S. policy effectively discourages palm oil biofuel and livestock production does not grow, the potential HEFA jet fuel expansion could be expected to spur an expansion of soybean, corn, and other plant oil crops. Significant indirect carbon impacts have been linked to biofuels demand for soybean and other plant oil feedstocks at past biofuel demand levels that were substantially lower than current and potential future HEFA demand (§ 4.1.1). While this complicates the answer to our question about indirect carbon impacts of feeds to boost HEFA jet fuel yield, importantly, it further informs our answer. It shows that these heightened impacts and risks would add to significant potential impacts of increased total HEFA feedstock demand.

In plausible future SAF implementation scenarios, among the relatively high jet fuel yield feedstocks, palm oil could have relatively serious indirect carbon impacts, and both fish oil and livestock fat could pose relatively serious but currently uncertain indirect carbon impact risks. Those impacts and risks would add to significant potential carbon sink impacts from the blends of feedstocks that could supply HEFA refineries, in which lower impact "residue" feedstocks could supply only a small fraction of total HEFA feedstock growth. Natural limits on total supply for the type of feedstock that HEFA technology can process appear to make replacing any significant portion of current petroleum jet fuel use with this type of biofuel unsustainable.

5. Limitations and suggestions for future work

Two types of data limitations which may affect potential outcomes for SAF were identified in the course of this research. The first involves HEFA technology: interchangeability among other uses of its feedstocks; and its potential future evolution. These HEFA-specific limitations are discussed in Section 5.1 below. The second involves other alternatives to petroleum jet fuel combustion which, though they are outside the scope of this report, warrant mention due to limitations of HEFA technology identified by this research. These are discussed briefly as suggested priorities for future work in Section 5.2.

5.1 HEFA biofuel impact assessment data limitations

5.1.1 Limited cross-feed displacement quantification data

HEFA feedstocks are not "wastes." All of them are lipids, and more specifically, triacylglycerols of fatty acids, which can be converted to functionally similar biological or chemical uses by many biological processes (e.g., digesting food) and chemical processes (e.g., HEFA processing with hydrocracking). Further, these lipids have interchangeable and largely competing uses now, including food for human populations, livestock feeds, pet food, aquaculture feeds, and feedstocks for making soap, wax, lubricants, plastics, natural pigments, cosmetic products and pharmaceutical products.[9] [10] Accordingly, increased biofuel demand for one source of these lipids displaces another existing use of that feedstock, thereby increasing demand and prices for other sources of lipids as well. Indeed, this has occurred, leading to indirect land use impacts that increased carbon emissions associated with biofuels (§ 4.1.1).

For example, if diverting tallow from soap making to HEFA jet fuel forces soap makers to use more palm oil, that jet fuel indirectly emits carbon associated with that extra production of palm oil. The livestock fat biofuel would cause an indirect carbon impact that current biofuel impact accounting practices for "waste" residue feedstocks assume it does not cause.

However, the hypothetical extreme wherein all lipids are 100% fungible, and any increase in HEFA demand for any of these feedstocks would have the same indirect impact by increasing collective demand for all other feeds by the same amount, also seems unrealistic. Some types of lipids, such as those that increase jet fuel production and those people eat directly, could attract relatively higher demand and command relatively higher prices. At present, *how much* demand increase for each lipid source increases indirect carbon impacts associated with cross-feed demand increase has not yet been quantified by universally accepted estimates.

Herein, we take the view that the uses of lipids also tapped for HEFA biofuels are fungible to a significant extent which varies among specific lipids sources and uses. In this view, indirect carbon impacts of future demand for palm oil exceed those of other HEFA feeds which would not be favored by refiners seeking to boost jet fuel production, but by amounts that are not yet fully quantifiable. That quantitative uncertainty results from the data limitations discussed above and explains why this report does not attempt to quantify the feed-specific indirect carbon impacts documented in Chapter 4.

5.1.2 Renewable fuel hydrogen specification error

Splitting water with electricity supplied by solar or wind power—renewable powered electrolysis—produces zero-emission hydrogen fuel. Unfortunately, renewable fuel standards incentivize HEFA fuels even though much of the hydrogen in those hydrocarbons is produced from non-renewable fossil fuels. This is a mistake. This mistake has led to an important limitation in the data for assessing the future potential of HEFA jet fuel.

Hydrogen steam reforming repurposed from crude refining drives the high CI of HEFA refining and its variability among HEFA feedstocks and processing strategies (Chapter 3). Renewable-powered electrolysis could eliminate those steam reforming emissions and result in HEFA refining CI lower than that of petroleum refining.[2] However, the combination of public incentives to refiners for HEFA biofuel, and their private incentives to avoid costs of stranded steam reforming assets they could repurpose and electrolysis they need not build to reap those public incentives, has resulted in universal reliance on steam reforming in HEFA processing. Would the public incentives outweigh the private incentives and cut refining CI if this mistake were corrected, or would the companies decide that another alternative to HEFA jet fuel is more profitable? Since current fuel standards allow them to maximize profits by avoiding the question, there are no observational data to support either potential outcome.

Additionally, if refiners were to replace their steam reformers with renewable-powered electrolysis, energy transition priorities could make that zero-emission hydrogen more valuable for other uses than for biofuel,[2] and biomass feed costs also would weigh on their decisions.[19] Thus, for purposes of the potential impacts assessment herein, and in the absence of observational data on this question, we take the view that assuming HEFA refining without steam reforming emissions would be speculative, and would risk significant underestimation of potential HEFA jet fuel impacts.

5.1.3 Proprietary catalyst development data

Catalysts are crucial in HEFA refining, and although many catalyst data are claimed as trade secrets, their refining benefits are typically advertised, especially if new catalysts improve yields. The search for a new catalyst that can withstand the severe conditions in HEFA reactors and improve processing and yields has been intensive since at least 2013.[50 51 52 53 54 55 56]

From this we can infer two things. First, given the maturity of the hydro-conversion technology crude refiners repurpose for HEFA refining, and that long and intensive search, a newly invented catalyst formulation which improves reported HEFA jet fuel yield significantly appears unlikely. Second, given the incentive, the invention of such a new catalyst is possible. Again, however, many specific catalyst data are not reported publicly. Our findings herein are based on publicly reported, independently verifiable data. This limitation in publicly reported catalysis data thus has the potential to affect our yields analysis.

5.2 Priorities for future work

5.2.1 Cellulose biomass alternatives—what is holding them back?

Cellulosic residue biomass such as cornstalks, currently composted yard cuttings, or sawdust can be used as feedstock by alternative technologies which qualify as SAF.[19 35] Using this type of feedstock for SAF could lessen or avoid the indirect carbon impacts from excessive HEFA jet fuel demand for limited lipids biomass that are described in Chapter 4. Indeed, economy-wide analyses of the technologies and measures to be deployed over time for climate stabilization suggest prioritizing cellulosic biomass, to the extent that biofuels will be needed in some hard-to-decarbonize sectors.[42 57 58] Despite its promise, however, the deployment of cellulosic distillate biofuel has stalled compared with HEFA biofuel. Less clear are the key barriers to its growth, the measures needed to overcome those barriers, and whether or not those measures and the growth of cellulosic jet fuel resulting from them could ensure that SAF goals will be met sustainably. This points to a priority for future work.

5.2.2 Alternatives to burning jet fuel—need and potential to limit climate risks

Even complete replacement of petroleum jet fuel with SAF biofuel combustion would result in ongoing aviation emissions, and would thus rely on additional and separate carbon capture-sequestration to give us a reasonable chance of stabilizing our climate. At the current jet fuel combustion rate the scale of that reliance on “negative emission” technologies, which remain unproven at that scale, is a risky bet. Meanwhile, besides alternative aircraft propulsion systems, which are still in the development stage, there are alternatives to jet fuel combustion which are technically feasible now and can be used individually or in combination.

Technically feasible alternatives to burning jet fuel include electrified high-speed rail, fuel cell powered freight and shipping to replace air cargo, and conservation measures such as virtual business meetings and conserving personal air-miles-traveled for personal visits. While we should note that such travel pattern changes raise social issues, so does climate disruption, and

most people who will share our future climate are not frequent fliers. Importantly as well, public acceptance of new travel alternatives is linked to experiencing them. Thus, biofuel limitations, climate risks, and human factors suggest needs to prioritize the development and deployment of alternatives to petroleum jet fuel that do not burn carbon.

5.2.3 Limited safety data record for flying with new fuels

Jet biofuels appear to differ from petroleum jet fuels in their cold flow properties at high altitude, combustion properties, and potential to damage fuel system elastomer material.[19] Those that can be used as SAF have been approved subject to blending limits, which permit SAF to be "dropped-in" to conventional jet fuel up to a maximum of 50% of the blend.[59] All seven types of biofuels approved for SAF are subject to this condition.[59] SAF/petroleum jet fuel blends that do not meet this condition are deemed to present potential safety issues.[59]

However, remarkably limited historical use of SAF (§4.3.1) has resulted in a limited data record for assessing its safety in actual operation. That is important because new hazards which result in dangerous conditions over long periods of operation have repeatedly been discovered only by rigorous post-operational inspection or post-incident investigation, the histories of both industrial and aviation safety oversight show. There is an ongoing need to ensure flight safety risks of biofuels are closely monitored, rigorously investigated, transparently communicated, and proactively addressed by "inherent safety measures"[60] designed to eliminate any specific hazards identified by that future work.

Table 8. Data and methods table for feed-specific estimates.[a]

Fatty acid (FA) in HEFA oil feed						FA-specific hydrogen inputs	
common name	Shorthand	Formula[b]	Density (kg/b)*	Oxygen content (wt. %)*	Carbon double bonds	Deoxygenation[c] ($kg\ H_2/b$)	Saturation[d, e] ($kg\ H_2/b$)
Caprylic Acid	C8:0	$C_8H_{16}O_2$	145	22.2	0	8.09	0.00
Capric Acid	C10:0	$C_{10}H_{20}O_2$	142	18.6	0	6.65	0.00
Lauric Acid	C12:0	$C_{12}H_{24}O_2$	140	16.0	0	5.63	0.00
Myristic Acid	C14:0	$C_{14}H_{28}O_2$	137	14.0	0	4.84	0.00
Myristoleic Acid	C14:1	$C_{14}H_{26}O_2$	143	14.1	1	5.10	1.27
Pentadecanoic Acid	C15:0	$C_{15}H_{30}O_2$	134	13.2	0	4.45	0.00
Palmitic Acid	C16:0	$C_{16}H_{32}O_2$	135	12.5	0	4.26	0.00
Palmitoleic Acid	C16:1	$C_{16}H_{30}O_2$	142	12.6	1	4.50	1.13
Margaric Acid	C17:0	$C_{17}H_{34}O_2$	136	11.8	0	4.04	0.00
Stearic Acid	C18:0	$C_{18}H_{36}O_2$	134	11.2	0	3.79	0.00
Oleic Acid	C18:1	$C_{18}H_{34}O_2$	141	11.3	1	4.04	1.01
Linoleic Acid	C18:2	$C_{18}H_{32}O_2$	143	11.4	2	4.12	2.06
Linolenic Acid	C18:3	$C_{18}H_{30}O_2$	145	11.5	3	4.21	3.16
Stearidonic Acid	C18:4	$C_{18}H_{28}O_2$	148	11.6	4	4.33	4.33
Arachidic Acid	C20:0	$C_{20}H_{40}O_2$	131	10.2	0	3.38	0.00
Gondoic Acid	C20:1	$C_{20}H_{38}O_2$	140	10.3	1	3.65	0.91
Eicosadienoic Acid	C20:2	$C_{20}H_{36}O_2$	144	10.4	2	3.76	1.88
Homo-γ-linoleic Acid	C20:3	$C_{20}H_{34}O_2$	146	10.4	3	3.84	2.88
Arachidonic Acid	C20:4	$C_{20}H_{32}O_2$	147	10.5	4	3.88	3.88
Eicosapentaenoic Acid	C20:5	$C_{20}H_{30}O_2$	150	10.6	5	4.00	5.00
Henicosanoic Acid	C21:0	$C_{21}H_{42}O_2$	142	9.80	0	3.50	0.00
Heneicosapentaenoic Acid	C21:5	$C_{21}H_{32}O_2$	149	10.1	5	3.79	4.74
Behenic Acid	C22:0	$C_{22}H_{44}O_2$	131	9.39	0	3.09	0.00
Erucic Acid	C22:1	$C_{22}H_{42}O_2$	137	9.45	1	3.26	0.81
Docosadienoic Acid	C22:2	$C_{22}H_{40}O_2$	143	9.51	2	3.43	1.71
Docosatetraenoic Acid	C22:4	$C_{22}H_{36}O_2$	151	9.62	4	3.66	3.66
Docosapentaenoic Acid	C22:5	$C_{22}H_{34}O_2$	148	9.68	5	3.62	4.52
Docosahexaenoic Acid	C22:6	$C_{22}H_{32}O_2$	150	9.74	6	3.68	5.52
Lignoceric Acid	C24:0	$C_{24}H_{48}O_2$	140	8.68	0	3.06	0.00
Tetracosenoic Acid	C24:1	$C_{24}H_{46}O_2$	141	8.73	1	3.11	0.78

* **b (barrel):** 42 U.S. gallons; **wt. %:** weight percent on fatty acid

a. See notes to this table for feedstock-specific data sources.

b. Formula symbols; carbon: C (12.011 g/mol); hydrogen: H (1.00794 g/mol); oxygen: O (15.995 g/mol).

c. Deoxygenation: Hydrogen consumed to remove and replace oxygen and propane knuckle-fatty acid bonds.

b. Saturation: Hydrogen consumed to saturate carbon double bonds in HEFA processing.

e. Additional process hydrogen consumption in side-reaction cracking, solubilization, scrubbing **and** purge losses not shown.

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Table 8. Data and methods table for feed-specific estimates continued.[a]

Whole feed fatty acids		Selected plant oils, livestock fats and fish oils						
Fatty acid	FA	Median of sample analysis profile data reported based on C18:2, in wt. %[a]						
Common name	Shorthand	Soybean	Corn	Canola	Cottonseed	Palm	Tallow	Lard
Caprylic	C8:0					0.186		
Capric	C10:0					0.324		0.070
Lauric	C12:0					2.284	1.010	
Myristic	C14:0	0.100		0.040	0.860	1.108	3.384	1.280
Myristoleic	C14:1							
Pentadecanoic	C15:0							
Palmitic	C16:0	11.000	12.860	4.248	23.600	41.480	24.495	25.000
Palmitoleic	C16:1	0.100	0.100	0.287	0.360	0.167	4.040	3.000
Margaric	C17:0			0.069		0.059	2.020	0.330
Stearic	C18:0	4.000	1.760	1.752	2.400	4.186	17.525	12.540
Oleic	C18:1	23.400	26.950	60.752	17.740	39.706	42.121	44.000
Linoleic	C18:2	53.200	55.880	20.713	54.420	9.902	3.293	11.000
Linolenic	C18:3	7.800	1.260	8.980	0.600	0.196	1.818	0.550
Stearidonic	C18:4							
Arachidic	C20:0	0.300	0.390	0.713	0.220	0.304	0.313	0.190
Gondoic	C20:1		0.280	1.277	0.070	0.078	0.081	0.800
Eicosadienoic	C20:2							0.740
Homo-*y*-linoleic	C20:3							0.110
Arachidonic	C20:4							0.300
Eicosapentaenoic	C20:5							
Henicosanoic	C21:0							
Heneicosapentaenoic	C21:5							
Behenic	C22:0	0.100	0.120	0.307	0.110	0.039		
Erucic	C22:1			0.594				
Docosadienoic	C22:2							
Docosatetraenoic	C22:4		0.120					
Docosapentaenoic	C22:5		0.180					
Docosahexaenoic	C22:6							
Lignoceric	C24:0			0.099		0.049		
Tetracosenoic	C24:1							
Whole feed FAs	O_2 wt. %	11.50	11.50	11.35	11.71	11.99	11.80	11.66
	Deoxygenation (kg H_2 /b)	4.11	4.11	4.06	4.14	4.19	4.11	4.13
	Saturation (kg H_2 /b)	1.58	1.48	1.35	1.32	0.61	0.60	0.76
C8–C16 Fraction	(vol. %)	11.71	13.56	4.78	25.67	46.47	33.34	30.00
	Deoxygenation (kg H_2 /b)	4.27	4.26	4.28	4.28	4.38	4.39	4.32
	Saturation (kg H_2 /b)	0.01	0.01	0.07	0.02	0.004	0.14	0.12
C15–C18 Fraction	(vol. %)	99.46	98.88	96.85	98.70	95.63	95.18	96.53
	Deoxygenation (kg H_2 /b)	4.11	4.11	4.08	4.13	4.13	4.08	4.09
	Saturation (kg H_2 /b)	1.59	1.48	1.37	1.34	0.64	0.63	0.75
> C18 Fraction	(vol. %)	0.43	1.12	3.11	0.42	0.49	0.41	2.10
	Deoxygenation (kg H_2 /b)	3.31	3.49	3.43	3.35	3.37	3.43	3.70
	Saturation (kg H_2 /b)	0.00	1.38	0.55	0.16	0.15	0.19	1.68

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Table 8. Data and methods table for feed-specific estimates continued.[a]

Whole feed fatty acids		Selected plant oils, livestock fats and fish oils, *continued*					
Fatty acid	FA	Median of sample analysis profile data reported based on C18:2, wt. %[a]					
Common name	Shorthand	Poultry	Anchovy	Herring	Menhaden	Salmon	Tuna
Caprylic	C8:0						
Capric	C10:0						
Lauric	C12:0						
Myristic	C14:0	0.618	6.636	7.755	8.602	6.044	5.903
Myristoleic	C14:1	0.206					0.447
Pentadecanoic	C15:0		0.701	0.408	0.538	0.769	0.359
Palmitic	C16:0	24.206	16.355	15.306	21.505	17.143	17.670
Palmitoleic	C16:1	6.951	7.757	8.469	10.108	2.198	5.961
Margaric	C17:0	0.108	0.935	0.510	1.075	1.099	0.650
Stearic	C18:0	5.814	3.738	2.143	3.333	2.637	4.155
Oleic	C18:1	42.157	12.150	17.245	15.000	15.385	16.078
Linoleic	C18:2	18.137	1.636	1.633	2.151	1.648	1.068
Linolenic	C18:3	0.657	5.607	0.612	1.398	4.451	1.748
Stearidonic	C18:4		2.336	2.551	3.333	3.077	
Arachidic	C20:0		0.841		0.323	0.385	0.408
Gondoic	C20:1	0.392	3.738	11.224	1.075	1.978	4.922
Eicosadienoic	C20:2						0.272
Homo-*y*-linoleic	C20:3						3.437
Arachidonic	C20:4		2.103	0.408	1.720	2.967	0.184
Eicosapentaenoic	C20:5		14.486	8.776	13.441	12.637	9.282
Henicosanoic	C21:0						
Heneicosapentaenoic	C21:5		1.869		0.806	2.582	
Behenic	C22:0	0.118					0.078
Erucic	C22:1	0.098	3.224	15.102	0.645	6.099	0.311
Docosadienoic	C22:2						
Docosatetraenoic	C22:4						
Docosapentaenoic	C22:5		1.869	1.327	2.258	3.077	5.252
Docosahexaenoic	C22:6		14.252	6.327	12.366	15.385	20.670
Lignoceric	C24:0	0.098					0.845
Tetracosenoic	C24:1	0.363					0.583
Whole feed FAs	O_2 wt. %	11.70	11.33	11.22	11.53	11.11	11.20
	Deoxygenation (kg H_2 /b)	4.13	4.06	3.99	4.13	4.01	4.01
	Saturation (kg H_2 /b)	0.91	2.34	1.52	2.08	2.42	2.31
C8–C16 Fraction	(vol. %)	32.69	32.56	32.73	42.26	27.48	31.46
	Deoxygenation (kg H_2 /b)	4.33	4.45	4.47	4.45	4.42	4.44
	Saturation (kg H_2 /b)	0.25	0.28	0.30	0.28	0.09	0.24
C15–C18 Fraction	(vol. %)	98.09	52.19	49.34	59.81	49.73	48.92
	Deoxygenation (kg H_2 /b)	4.13	4.20	4.20	4.21	4.17	4.17
	Saturation (kg H_2 /b)	0.92	1.02	0.89	0.85	1.01	0.64
> C18 Fraction	(vol. %)	1.07	40.93	42.68	31.25	43.96	44.52
	Deoxygenation (kg H_2 /b)	3.31	3.76	3.59	3.81	3.72	3.72
	Saturation (kg H_2 /b)	0.67	4.31	2.52	4.83	4.27	4.34

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Table 8. Data and methods table for feed-specific estimates continued.[a]

Whole feed fatty acids		Used cooking oil (UCO) variability			
Fatty acid	FA	Percentiles on C18:2, in wt. % *			
Common name	Shorthand	10th Percentile	25th Percentile	75th Percentile	90th Percentile
Caprylic	C8:0				
Capric	C10:0				
Lauric	C12:0				
Myristic	C14:0	0.909	2.479	1.735	
Myristoleic	C14:1				
Pentadecanoic	C15:0				
Palmitic	C16:0	20.606	20.248	16.412	12.420
Palmitoleic	C16:1	4.646		1.735	
Margaric	C17:0				
Stearic	C18:0	4.848	12.810	5.235	5.760
Oleic	C18:1	53.434	38.017	29.843	26.930
Linoleic	C18:2	13.636	23.967	41.324	49.600
Linolenic	C18:3	0.808	2.066	3.500	4.930
Stearidonic	C18:4				
Arachidic	C20:0	0.121			0.750
Gondoic	C20:1	0.848			
Eicosadienoic	C20:2				
Homo-γ-linoleic	C20:3				
Arachidonic	C20:4				
Eicosapentaenoic	C20:5				
Henicosanoic	C21:0				
Heneicosapentaenoic	C21:5				
Behenic	C22:0	0.030			
Erucic	C22:1	0.071			
Docosadienoic	C22:2				
Docosatetraenoic	C22:4				
Docosapentaenoic	C22:5				
Docosahexaenoic	C22:6				
Lignoceric	C24:0	0.040			
Tetracosenoic	C24:1				
Whole feed FAs	O_2 wt. %	11.64	11.59	11.59	11.55
	Deoxygenation (kg H_2 /b)	4.11	4.09	4.12	4.10
	Saturation (kg H_2 /b)	0.91	0.95	1.29	1.44
C8–C16 Fraction	(vol. %)	26.81	23.49	20.61	12.90
	Deoxygenation (kg H_2 /b)	4.32	4.32	4.33	4.26
	Saturation (kg H_2 /b)	0.20	0.00	0.10	0.09
C15–C18 Fraction	(vol. %)	97.95	97.46	98.21	99.19
	Deoxygenation (kg H_2 /b)	4.11	4.08	4.11	4.10
	Saturation (kg H_2 /b)	0.92	0.97	1.31	1.46
> C18 Fraction	(vol. %)	1.12	0.00	0.00	0.81
	Deoxygenation (kg H_2 /b)	3.56	0.00	0.00	3.38
	Saturation (kg H_2 /b)	0.75	0.00	0.00	0.00

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Table 8. Data and methods table for feed-specific estimates continued.[a]

Data for feedstock fractions outside the jet fuel range (> C16)

Feedstock		Soybean	Corn	Canola	Cottonseed	Palm	Tallow	Lard
> C16 Fraction	(vol. %)	88.29	86.44	95.22	74.33	53.53	66.66	70.00
Deoxygenation (kg H_2 /b)		4.09	4.08	4.05	4.09	4.03	3.98	4.00
Saturation (kg H_2 /b)		1.78	1.70	1.41	1.75	1.12	0.82	1.03

Feedstock		Poultry	Anchovy	Herring	Menhaden	Salmon	Tuna
> C16 Fraction	(vol. %)	67.31	67.44	67.27	57.74	72.52	68.54
Deoxygenation (kg H_2 /b)		4.03	3.88	3.76	3.92	3.86	3.82
Saturation (kg H_2 /b)		1.22	3.29	2.10	3.33	3.25	3.21

Feedstock		Used Cooking Oil (UCO			
Percentile on C18:2 in wt.%		10th	25th	75th	90th
> C16 Fraction	(vol. %)	73.19	76.51	79.39	87.10
Deoxygenation (kg H_2 /b)		4.03	4.03	4.07	4.07
Saturation (kg H_2 /b)		1.16	1.23	1.58	1.65

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Table 8. Data and methods table for feed-specific estimates continued.[a]

Process hydrogen consumption by feedstock and processing strategy (kg/b feed)

HDO Δ ONLY	Jet range (C8–C16)			Diesel range (C15–C18)			Longer chains (> C18)		
(No-IHC)	(vol.%)	Ox (kg/b)	Sat (kg/b)	(vol.%)	Ox (kg/b)	Sat (kg/b)	(vol.%)	Ox (kg/b)	Sat (kg/b)
High jet/high diesel									
Palm oil	46.47	4.38	0.004	95.63	4.13	0.64	0.49	3.37	0.15
Tallow fat	33.34	4.39	0.14	95.18	4.08	0.63	0.41	3.43	0.19
Poultry fat	32.69	4.33	0.25	98.09	4.13	0.92	1.07	3.31	0.67
Lard fat	30.00	4.32	0.12	96.53	4.09	0.75	2.10	3.70	1.68
UCO 10th P.	26.81	4.32	0.20	97.95	4.11	0.92	1.12	3.56	0.75
Cottonseed oil	25.67	4.28	0.02	98.70	4.13	1.34	0.42	3.35	0.16
High jet/low diesel									
Menhaden oil	42.26	4.45	0.28	59.81	4.21	0.85	31.25	3.81	4.83
Herring oil	32.73	4.47	0.30	49.34	4.20	0.89	42.68	3.59	2.52
Anchovy oil	32.56	4.45	0.28	52.19	4.20	1.02	40.93	3.76	4.31
Tuna oil	31.46	4.44	0.24	48.92	4.17	0.64	44.52	3.72	4.34
Salmon oil	27.48	4.42	0.09	49.73	4.17	1.01	43.96	3.72	4.27
Low jet/high diesel									
Corn (DCO) oil	13.56	4.26	0.01	98.88	4.11	1.48	1.12	3.49	1.38
UCO 90th P.	12.90	4.26	0.09	99.19	4.10	1.46	0.81	3.38	0.00
Soybean oil	11.71	4.27	0.01	99.46	4.11	1.59	0.43	3.31	0.00
Canola oil	4.78	4.28	0.07	96.85	4.08	1.37	3.11	3.43	0.55

HDO & INTENTIONAL	HDO Δ (Ox + Sat)			Intentional Hydrocracking (IHC)			Jet target H2 Δ by processing case		
HYDROCRACKING	Jet rg.	Diesel rg.	> C18	Selective-IHC		Isom IHC	No-IHC	Select-IHC	Isom-IHC
vol. weighted data	(kg/b)	(kg/b)	(kg/b)	(b fraction)	(kg/b)	(kg/b)	(kg/b)	(kg/b)	(kg/b)
High jet/high diesel	—fractions do not add—			> C16	(factor)*	(factor)*	whole feed	whole feed	whole feed
Palm oil	2.04	4.57	0.02	0.535	1.87	1.80	4.79	5.79	6.60
Tallow fat	1.51	4.47	0.01	0.667	2.10	1.99	4.71	6.11	6.70
Poultry fat	1.50	4.95	0.04	0.673	1.85	1.82	5.03	6.28	6.85
Lard fat	1.33	4.67	0.11	0.700	1.84	1.81	4.85	6.13	6.65
UCO 10th P.	1.21	4.92	0.05	0.732	1.85	1.82	5.01	6.37	6.83
Cottonseed oil	1.10	5.40	0.01	0.743	1.88	1.84	5.44	6.84	7.28
High jet/low diesel									
Menhaden oil	2.00	3.03	2.70	0.577	1.93	1.84	6.18	7.30	8.02
Herring oil	1.56	2.51	2.61	0.673	1.87	1.83	5.50	6.76	7.33
Anchovy oil	1.54	2.72	3.30	0.674	1.93	1.86	6.37	7.67	8.23
Tuna oil	1.47	2.35	3.59	0.685	1.94	1.87	6.29	7.62	8.16
Salmon oil	1.24	2.57	3.51	0.725	1.91	1.85	6.40	7.78	8.25
Low jet/high diesel									
Corn (DCO) oil	0.58	5.53	0.05	0.864	1.86	1.84	5.58	7.19	7.42
UCO 90th P.	0.56	5.51	0.03	0.871	1.87	1.84	5.55	7.17	7.39
Soybean oil	0.50	5.67	0.01	0.883	1.86	1.84	5.68	7.33	7.52
Canola oil	0.21	5.28	0.12	0.952	1.85	1.84	5.40	7.16	7.24

Note: H_2 inputs shown exclude side-reaction cracking, solubilization, scrubbing and purge gas losses.

* IHC H_2 consumption at 1.3 wt. % feed (Pearlson et al.), in kg/b IHC input.

See table notes next page

Explanatory notes and data sources for Table 8.

Feeds shown have been processed in the U.S. except for palm oil, which is included because it is affected indirectly by U.S. feedstock demand and could be processed in the future, possibly in the U.S. and more likely for fueling international flights in various nations. Median values shown for feed composition were based on the median of the data cluster centered by the median value for C18:2 (linoleic acid) for each individual whole feed. Blend data were not available for used cooking oil (UCO), except in the form of variability among UCO samples collected, which showed UCO to be uniquely variable in terms of HEFA processing characteristics. The table reports UCO data as percentiles of the UCO sample distribution.

Data for feedstock composition were taken from the following sources:

Soybean oil[54 55 61 62 63 64 65 66]

Corn oil (distillers corn oil)[54 61 63 65 67 68 69 70]

Canola oil (includes rapeseed oil)[54 55 61–65 67 69 71 72 73]

Cottonseed oil[54 55 63 65 67]

Palm oil[54 55 62–65 67 68 74]

Tallow (predominantly beef fat)[54 64 69 71 75 76 77 78 79]

Lard (pork fat)[68 76 79]

Poultry fat[54 69 76 79 80]

Anchovy[81]

Herring[82 83]

Menhaden[54 81 82]

Salmon[81 83]

Tuna[81 84 85]

Used cooking oil (UCO)[74 78 86 87 88 89 90 91 92]

Hydrogen consumption to deoxygenate and saturate feeds was calculated from fatty acids composition data for each feed and feed fraction shown. Note that O_2 wt.% data shown are for fatty acids excluding the triacylglycerol propane knuckle; O_2 molar data rather than wt.% data were used to calculate hydrogen demand. Added hydrogen consumption by intentional hydrocracking was calculated at 1.3 wt.% on feed from Pearlson et al.[3] and the inputs to each intentional hydrocracking strategy type (Chapter 1), which were taken from the data in Table 8 and used as shown at the end of Table 8 above. Selective-IHC input volume differs among feeds, as described in chapters 1–3.

Hydrogen losses to side-reaction cracking, solubilization in process fluids, and scrubbing and purging of process gases (not shown in Table 8) result in additional hydrogen production, and thus steam reforming emissions. This was addressed for the steam reforming emissions illustrated in Chart 1 by adding 2.5 kg CO_2/b feed to the emissions shown in Table 5, based on steam reforming emissions of 9.82 g CO_2/g H_2 (Chapter 3) and assumed additional hydrogen production of 0.26 kg H_2/b feed. This is a conservative assumption for hydrogen which reflects a lower bound estimate for those losses. Hydrogen losses through side-reaction cracking, solubilization, scrubbing and purging combined would likely range from 102 SCFB (0.26 kg/b) to more than 196 SCFB (0.5 kg/b),[2] based on analysis of data from a range of published HEFA processing and petroleum processing hydro-conversion process analyses and professional judgment.[2 4 50–56 93 94 95 96]

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APPENDIX C

Karras, G., *Technical Report in Support of Comments* (Karras, 2021c)

Technical Report by Greg Karras
G. Karras Consulting (Community Energy reSource)[1]
16 December 2021

Regarding the
Martinez Refinery Renewable Fuels Project
Draft Environmental Impact Report, County
File: # CDLP20-02046
State Clearinghouse No. 2021020289

Lead Agency
Contra Costa County

Contents

Scope of Review

In October 2021 Contra Costa County ("the County") made available for public review a Draft Environmental Impact Report ("DEIR") for the Martinez Refinery Renewable Fuels Project ("project"). The project would, among other things, repurpose selected petroleum refinery process units and equipment from the shuttered Marathon Martinez refinery for processing lipidic (oily) biomass to produce biofuels. Prior to DEIR preparation, people in communities adjacent to the project, environmental groups, community groups, environmental justice groups and others raised numerous questions about potential environmental impacts of the project in scoping comments.

This report reviews the DEIR project description, its evaluations of potential impacts associated with emission-shifting on climate and air quality, refinery process changes on hazards, and refinery flaring on air quality, and its analysis of the project baseline.

[1] The author's curriculum vitae and publications list are appended hereto as Attachment 1.

1. PROJECT DESCRIPTION AND SCOPE

Accurate and complete description of the project is essential to accurate analysis of its potential environmental impacts. In numerous important instances, however, the DEIR does not provide this essential information. Available information that the DEIR does not disclose or describe will be necessary to evaluate potential impacts of the project.

1.1 Type of Biofuel Technology Proposed

Biofuels—hydrocarbons derived from biomass and burned as fuels for energy—are made via many different technologies, each of which features a different set of capabilities, limitations, and environmental consequences. *See* the introduction to *Changing Hydrocarbons Midstream*, appended hereto as Attachment 2, for examples.[2] [3] However, the particular biofuel technology that the project proposes to use is not identified explicitly in the DEIR. Its reference to "renewable fuels" provides experts in the field a hint, but even then, several technologies can make "renewable fuels,"[4] [5] and the DEIR does not state which is actually proposed.

Additional information is necessary to infer that, in fact, the project as proposed would use a biofuel technology called "Hydrotreated Esters and Fatty Acids" (HEFA).

1.1.1 Available evidence indicates that the project would use HEFA technology.

That this is a HEFA conversion project can be inferred based on several converging lines of evidence. First, the project proposes to repurpose the same hydro-conversion processing units that HEFA processing requires along with hydrogen production required by HEFA processing,[6] hydrotreating, hydrocracking and hydrogen production units.[7] Second, it does not propose to

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[2] Karras, 2021a. *Changing Hydrocarbons Midstream: Fuel chain carbon lock-in potential of crude-to-biofuel petroleum refinery repurposing;* prepared for the Natural Resources Defense Council (NRDC) by Greg Karras, G. Karras Consulting. Appended hereto as Attachment 2 (Att. 2).

[3] Attachments to this report hereinafter are cited in footnotes.

[4] Karras. 2021b. *Unsustainable Aviation Fuels: An assessment of carbon emission and sink impacts from biorefining and feedstock choices for producing jet biofuel from repurposed crude refineries;* Natural Resources Defense Council (NRDC). Prepared for the NRDC by Greg Karras, G. Karras Consulting. Appended hereto as Attachment 3.

[5] *See* USDOE, 2021. *Renewable Hydrocarbon Biofuels;* U.S. Department of Energy, accessed 29 Nov 2021 at https://afdc.energy.gov/fuels/emerging_hydrocarbon.html and appended hereto as Attachment 3 ("Renewable diesel is a hydrocarbon produced through various processes such as hydrotreating, gasification, pyrolysis, and other biochemical and thermochemical technologies").

[6] Karras, 2021a (Att. 2).

[7] DEIR p. 2-16 ("hydrogen plants at the Refinery would provide hydrogen to the Hydrotreating and Hydrocracking Units to support the hydrodeoxygenation (HDO) and isomerization reactions required" to make renewable fuels).

repurpose, build or use biomass feedstock gasification,[8] which is required by commercially proven alternative renewable fuels technologies, but is not needed for HEFA processing. Third, the project proposes to acquire and pretreat lipidic (oily) biomass such as vegetable oils, animal fats and their derivative oils,[9] a class of feedstocks required for HEFA processing but not for the alternative biomass gasification technologies, which is generally more expensive than the cellulosic biomass feedstocks those technologies can run.[10] Fourth, the refiner would be highly incentivized to repurpose idled refining assets for HEFA technology instead of using another "renewable" fuel technology, which would not use those assets.[11] Finally, in other settings HEFA has been widely identified as the biofuel technology that this and other crude-to-biofuel refinery conversion projects have in common.

With respect to the DEIR itself, however, people who do not already know what biofuel technology is proposed may never learn that from reading it, without digging deeply into the literature outside the document for the evidence described above.

1.1.2 Inherent capabilities and limitations of HEFA technology.

Failure to clearly identify the technology proposed is problematic for environmental review because choosing to rebuild for a particular biofuel technology will necessarily afford the project the particular capabilities of that technology while limiting the project to its inherent limitations.

A unique capability of HEFA technology is its ability to use idled petroleum refining assets for biofuel production—a crucial environmental consideration given growing climate constraints and crude refining overcapacity.[12] Another unique capability of HEFA technology is its ability to produce "drop-in" diesel biofuel that can be added to and blended with petroleum distillates in the existing liquid hydrocarbon fuels distribution and storage system, and internal combustion transportation infrastructure.[13] In this respect, the DEIR omits the basis for evaluating whether the project could result in combustion emission impacts by adding biofuel to the liquid combustion fuel chain infrastructure of petroleum.

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[8] DEIR Table 2-1 (new or repurposed equipment to gasify biomass excluded).
[9] DEIR p. 2-1 (proposed project would "switch to ... feedstock sources including rendered fats, soybean and corn oil, and potentially other cooking and vegetable oils ...").
[10] Karras, 2021a (Att. 2).
[11] *Id.*
[12] *Id.*
[13] *Id.*

Inherent limitations of HEFA technology that are important to environmental review include high process hydrogen demand, low fuels yield on feedstock—especially for jet fuel and gasoline blending components—and limited feedstock supply.[14]

The DEIR does not disclose or describe these uniquely important capabilities and limitations of HEFA technology, and thus the project. Environmental consequences of these undisclosed project capabilities and limitations are discussed throughout this report below.

1.1.3 Potential project hydrogen production technologies.

Despite the inherently high process hydrogen demand of proposed project biorefining the DEIR provides only a cursory and incomplete description of proposed and potential hydrogen supply technologies. The DEIR does not describe the technology used by existing onsite hydrogen plants proposed to be repurposed by the project. These hydrogen plants use fossil fueled hydrogen steam reforming technology. This fossil gas steam reforming would co-produce roughly ten tons of carbon dioxide (CO_2) emission with each ton of hydrogen supplied to project biofuel processing,[15] but the basis for knowing to evaluate that potential impact is obscured by omission in the DEIR.

The DEIR identifies a non-fossil fuel hydrogen production technology—splitting water to co-produce hydrogen and oxygen using electricity from renewable resources—then ranks its impacts in relation to the project with fossil gas steam reforming without describing either of those hydrogen alternatives adequately to support reasonable environmental comparison. Reading the DEIR, one would not know that electrolysis can produce zero-emission hydrogen while steam reforming emits some ten tons of CO_2 per ton of hydrogen produced.

Another hydrogen supply option is left undisclosed. The DEIR does not disclose that existing naphtha reforming units co-produce hydrogen[16] as a byproduct of their operation, or describe the potential that the reformers might be repurposed to process partially refined petroleum while supplying additional hydrogen for expanded HEFA biofuel refining onsite.[17]

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[14] Karras, 2021b (Att. 3).
[15] *Id.* (median value from multiple Bay Area refinery steam reforming plants of 9.82 g CO_2/g H_2 produced)
[16] *See* Chevron Refinery Modernization Project, SCH# 2011062042, DEIR Appendix 4.3–URM: Unit Rate Model, appended hereto as Attachment 5.
[17] The naphtha reformers could supply additional hydrogen for project biorefining if repurposed to process petroleum gasoline feedstocks imported to ongoing refinery petroleum storage and transfer operations.

1.2 Process Chemistry and Reaction Conditions

HEFA processing reacts lipidic (oily) biomass with hydrogen over a catalyst at high temperatures and extremely high pressures to produce deoxygenated hydrocarbons, and then restructures those hydrocarbons so that they can be burned as diesel or jet fuel.[18] Except for naming the two separate processing steps that would use hydrogen in repurposed refinery hydro-conversion process units to deoxygenate the feed (hydrodeoxygenation) and restructure the deoxygenated hydrocarbons (isomerization), the DEIR does not describe the project biofuel processing chemistry or reaction conditions. The DEIR thus does not describe environmentally significant differences in HEFA refining compared with petroleum refining, impacts of feed choices and product targets in project biofuel processing, or changes in the process conditions of repurposed refinery hydro-conversion process units.[19]

1.2.1 Key differences in processing compared with petroleum refining

HEFA technology is based on four or five central process reactions which are not central to or present in crude petroleum processing. Hydrodeoxygenation (HDO) removes the oxygen that is concentrated in HEFA feeds: this reaction is not present in refining crude, which contains little or no oxygen.[20] Depropanation is a precondition for completion of the HDO reaction: a condition that is not present in crude refining but needed to free fatty acids from the triacylglycerols in HEFA feeds.[21] Saturation of the whole HEFA feed also is a precondition for complete HDO: this reaction does not proceed to the same extent in crude refining.[22] Each of those HEFA process steps react large amounts of hydrogen with the feed.[23]

Isomerization is then needed in HEFA processing to "dewax" the long straight-chain hydrocarbons from the preceding HEFA reactions in order to meet fuel specifications, and is performed in a separate process reactor: isomerization of long-chain hydrocarbons is generally absent from petroleum refining.[24] Fuel products from those HEFA process reaction steps include

[18] Karras, 2021a (Att. 2)
[19] Karras 2021a (Att. 2) and 2021b (Att. 3) provide examples of that show the DEIR could have described changes in processing chemistry and conditions that would result from the project switch to HEFA technology in relevant detail for environmental analysis. Key points the DEIR omitted are summarized in this report section.
[20] Karras, 2021a (Att. 2).
[21] *Id.*
[22] *Id.*
[23] *Id.*
[24] *Id.*

HEFA diesel, a much smaller volume of HEFA jet fuel (without intentional hydrocracking), and little or no gasoline: petroleum crude refining in California yields mostly gasoline with smaller but still significant volumes of diesel and jet fuel.[25] The remarkably low HEFA jet fuel yield can be boosted to roughly 50% on HEFA feed mass, by adding intentional hydrocracking in or separately from the isomerization step, but at the expense of lower overall liquid fuels yield and a substantial further increase in the already-high hydrogen process demand of HEFA refining.[26]

None of these unique aspects of HEFA biofuel processing is described in the DEIR though each must be evaluated for potential project impacts as discussed below.

1.2.2 Relationships between feedstock choices, product targets and hydrogen inputs

HEFA process hydrogen demand exceeds that of petroleum refining by a wide margin generally, however, both HEFA feedstock choices and HEFA product targets can affect project hydrogen demand for biofuel processing significantly. Among other potential impacts, increased hydrogen production to supply project biorefining would increase CO_2 emissions as discussed in § 1.1.3. The DEIR, however, does not describe these environmentally relevant effects of project feed and product target choices on project biofuel refining.

Available information excluded from the DEIR suggests that choices between potential feedstocks identified in the DEIR[27] could result in a difference in project hydrogen demand of up to 0.97 kilograms per barrel of feed processed (kg H_2/b), with soybean oil accounting for the high end of this range.[28] Meanwhile, targeting jet fuel yield via intentional hydrocracking could increase project hydrogen demand by up to 1.99 kg H_2/b.[29] Choices of HEFA feedstock and product targets in combination could change project hydrogen demand by up to 2.81 kg H_2/b.[30]

Climate impacts that are identifiable from this undisclosed information appear significant. Looking only at hydrogen steam reforming impacts alone, at its 48,000 b/d capacity the feed choice (0.97 kg H_2/b), products target (1.99 kg H_2/b), and combined effect (2.81 kg H_2/b)

[25] *Id.*
[26] Karras, 2021a (Att. 2); Karras, 2021b (Att. 3).
[27] DEIR p. 2-1 (proposed project would "switch to ... feedstock sources including rendered fats, soybean and corn oil, and potentially other cooking and vegetable oils ...").
[28] Karras, 2021b (Att. 3).
[29] *Id.*
[30] *Id.*

impacts estimated above could result in emission increments of 168,000, 342,000, and 485,000 metric tons of CO_2 emission per year, respectively, from project steam reforming alone. These potential emissions compare with the DEIR significance threshold of 10,000 metric tons/year.[31] Most significantly, even the low end of the emissions range for combined feed choice and product target effects, for feeds identified by the DEIR and HEFA steam reforming alone, exceeds the average total carbon intensity of U.S. petroleum crude refining by 4.4 kg CO_2/b (10%) while the high end exceeds that U.S. crude refining CI by 32 kg CO_2/b (77%).[32] [33]

The DEIR project description obscures these potential impacts of the project, among others.

1.2.3 Changes in process conditions of repurposed equipment

With the sole exception of maximum fresh feed input, the DEIR does not disclose design specifications for pre-project or post-project hydro-conversion process unit temperature, pressure, recycle rate, hydrogen consumption, or any other process unit-specific operating parameter. This is especially troubling because available information suggests that the project could increase the severity of the processing environment in the reactor vessels of repurposed hydro-conversion process units significantly.

In one important example, the reactions that consume hydrogen in hydro-conversion processing are highly exothermic: they release substantial heat.[34] Further, when these reactions consume more hydrogen the exothermic reaction heat release increases, and HEFA refining consumes more hydrogen per barrel of feed than petroleum refining.[35] Hydro-conversion reactors of the types to be repurposed by the project operate at temperatures of some 575–780 ºF and pressures of some 600–2,800 pound-force per square inch in normal conditions, when processing petroleum.[36] These severe process conditions could become more severe processing HEFA feeds. The project could thus introduce new hazards. Sections 3 and 4 herein review potential process hazards and flare emission impacts which could result from the project, but yet again, information the DEIR does not disclose or describe will be essential to full impacts evaluation.

[31] HEFA emission estimates based on per-barrel steam reforming CO_2 emissions from Table 5 in Attachment 3.
[32] *Id.*
[33] Average U.S. petroleum refining carbon intensity from 2015–2017 of 41.8 kg CO_2/b crude from Attachments 2, 3.
[34] Karras, 2021a (Att. 2).
[35] *Id.*
[36] *Id.*

1.3 Process Inputs

The project would switch the oil refinery from crude petroleum to a new and very different class of oil feeds—triacylglycerols of fatty acids. Switching to new and different feedstock has known potential to increase refinery emissions[37] and to create new and different process hazards[38] [39] and feedstock acquisition impacts.[40] Such impacts are known to be related to either the chemistries and processing characteristics of the new feeds, as discussed above, or to the types and locations of extraction activities to acquire the new feeds. However, the DEIR does not describe the chemistries, processing characteristics, or types and locations of feed extraction sufficiently to evaluate potential impacts of the proposed feedstock switch.

1.3.1 Change and variability in feedstock chemistry and processing characteristics

Differences in project processing impacts caused by differences in refinery feedstock, as discussed above, are caused by differences in the chemistries and processing characteristics among feeds that the DEIR does not disclose or describe. For example, feed-driven differences in process hydrogen demand discussed above both boost the carbon intensity of HEFA refining above that of petroleum crude refining, and boost it further still for processing one HEFA feed instead of another. The first impact is driven mainly by the uniformly high oxygen content of HEFA feedstocks, while the second—also environmentally significant, as shown—is largely driven by differences in the number of carbon double bonds among HEFA feeds.[41] This difference in chemistries among HEFA feeds which underlies that significant difference in their processing characteristics can be quantified based on available information. Charts 1.A–1.F, excerpted from Attachment 2, show the carbon double bond distributions across HEFA feeds.

The DEIR could have reported and described this information that allows for process impacts of potential project feedstock choices to be evaluated, but unfortunately, it did not.

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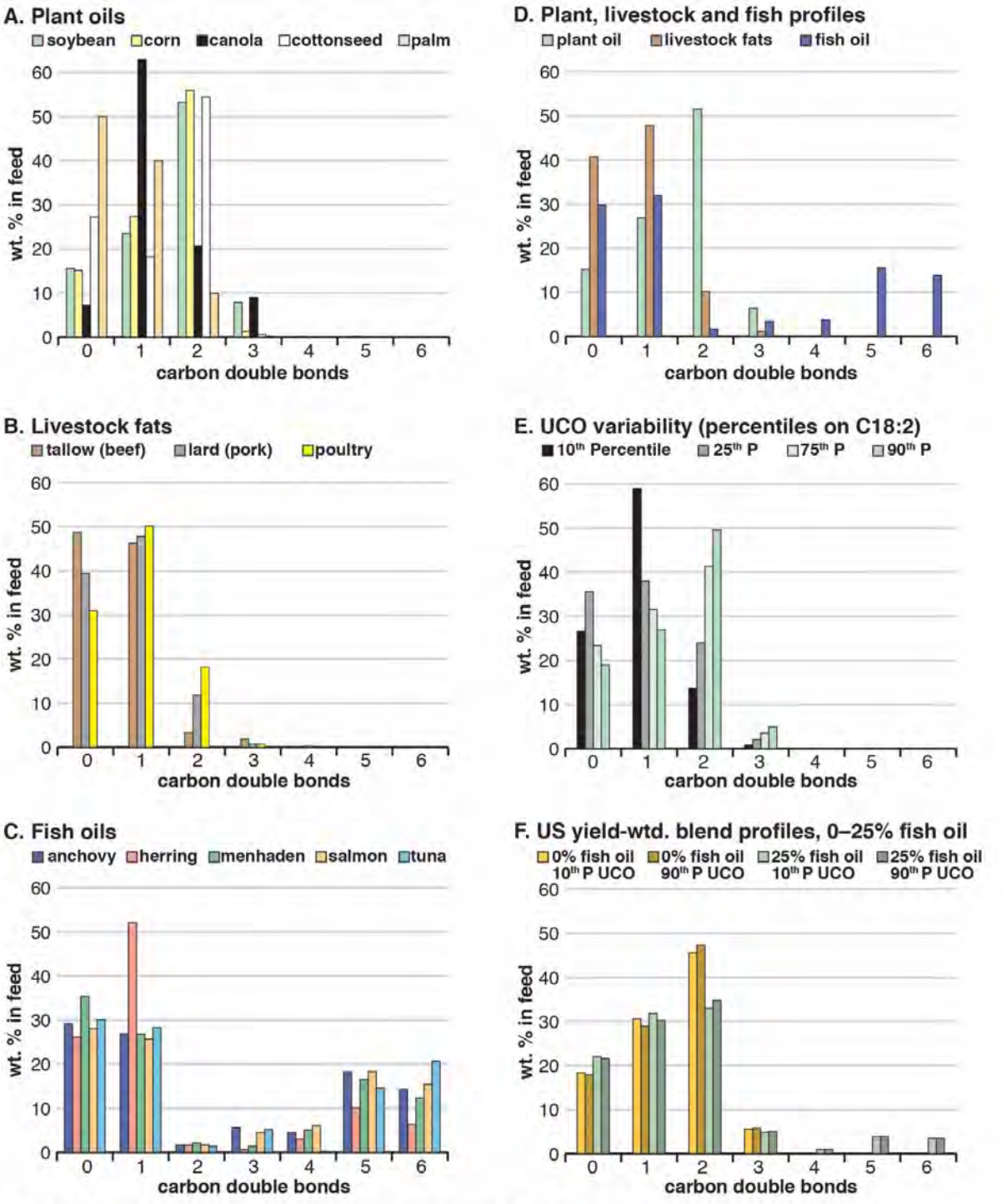
[37] *See* Karras, 2010. Combustion Emissions from Refining Lower Quality Oil: What is the global warming potential? *Environ. Sci. Technol.* 44(24): 9584–9589. DOI: 10.1021/es1019965. Appended hereto as Attachment 6.
[38] *See* CSB, 2013. *Interim Investigation Report, Chevron Richmond Refinery Fire;* U.S. Chemical Safety Board: Washington, D.C. https://www.csb.gov/file.aspx?Documentid=5913. Appended hereto as Attachment 7.
[39] *See* API, 2009. *Guidelines for Avoiding Sulfidation (Sulfidic) Corrosion Failures in Oil Refineries;* API Recommended Practice 939-C. First Edition, May 2009. American Petroleum Institute: Washington, D.C. Appended hereto as Attachment 8.
[40] *See* Krogh et al., 2015. *Crude Injustice on the Rails: Race and the disparate risk from oil trains in California;* Communities for a Better Environment and ForestEthics. June 2015. Appended hereto as Attachment 9.
[41] *See* Karras, 2021a (Att. 2); Karras, 2021b (Att. 3).



1. HEFA feed fatty acid profiles by number of carbon double bonds.
Carbon double bonds require more hydrogen in HEFA processing. **A–C.** Plant oil, animal fat and fish oil profiles. **D.** Comparison of weighted averages for plant oils (US farm yield-wtd. 70/20/7/3 soy/corn/canola/cottonseed blend), livestock fats (40/30/30 tallow/lard/poultry blend) and fish oils (equal shares for species in Chart 1C). **E.** UCO: used cooking oil, a highly variable feed. **F.** US yield-weighted blends are 0/85/10/5 and 25/60/10/5 fish/plant/livestock/UCO oils. Profiles are median values based on wt.% of linoleic acid. *See* Table A1 for data and sources.[1]

1.3.2 Types and locations of potential project biomass feed extraction

HEFA biofuel technology is limited to lipidic (oily) feedstocks produced almost exclusively by land-based agriculture, and some of these feeds are extracted by methods that predictably cause deforestation and damage carbon sinks in Amazonia and Southeast Asia.[42] However, the DEIR does not describe the types and locations of potential project biomass feed extraction activities.

1.4 **Project Scale**

Despite the obvious relationship between the scale of an action and its potential environmental impacts, the DEIR does not describe the scale of the project in at least two crucial respects. First, the DEIR does not describe its scale relative to other past and currently operating projects of its kind. This omission is remarkable given that available information indicates the project could become among the largest HEFA refineries to be built worldwide—second perhaps only to the concurrently proposed HEFA conversion project in nearby Rodeo.[43]

Second, the DEIR does not describe the scale of proposed feedstock demand. Again, the omission is remarkable. As documented in Attachment 3 hereto, total U.S. production (yield) for all uses of the specific types of lipids which also have been tapped as HEFA feedstocks—crop oils, livestock fats and, to a much lesser degree, fish oils, can be compared with the 48,000 b/d (approximately 2.55 million metric tons/year) proposed project feedstock capacity. *See* Table 1.

This feedstock supply-demand comparison (Table 1) brings into focus the scale of the project, and the related project proposed by Phillips 66 in Rodeo, emphasizing the feedstock supply limitation of HEFA technology discussed in § 1.1.2. Several points bear emphasis for context: The table shows total U.S. yields for *all uses* of lipids that also have been HEFA feedstocks, including use as food, livestock feed, pet food, and for making soap, wax, cosmetics, lubricants and pharmaceutical products, and for exports.[44] These existing uses represent commitments of finite resources, notably cropland, to human needs. Used cooking oils derived from primary sources shown are similarly spoken for and in even shorter supply. Lastly, HEFA feeds are limited to lipids (shown) while most other biofuels are not, but multiple other HEFA refineries are operating or proposed besides the two Contra Costa County projects shown.

[42] *See* Karras, 2021a (Att. 2); Karras, 2021b (Att. 3).
[43] Karras, 2021a (Att. 2).
[44] Karras, 2021b (Att. 3).

Table 1. Project Feed Demand *v.* U.S. Total Yield of Primary HEFA Feed Sources for All Uses.

MM t/y: million metric tons/year

HEFA Feed-stock Type	U.S. Yield [a] (MM t/y)	Project and County-wide feedstock demand (% of U.S. Yield)		
		Marathon Project [b]	Phillips 66 Project [b]	Both Projects
Fish oil	0.13	1961 %	3269 %	5231 %
Livestock fat	4.95	51 %	86 %	137 %
Soybean oil	10.69	24 %	40 %	64 %
Other oil crops	5.00	51 %	85 %	136 %
Total yield	20.77	12 %	20 %	33 %

a. Total U.S. production for all uses of oils and fats also used as primary sources of HEFA biofuel feedstock. Fish oil data for 2009–2019, livestock fat data from various dates, soybean oil and other oil crops data from Oct 2016–Sep 2020, from data and sources in Att. 3. **b.** Based on project demand of 2.55 MM t/y (48,000 b/d from DEIR), related project demand of 4.25 MM t/y (80,000 b/d from related project DEIR), given the typical specific gravity of soy oil and likely feed blends (0.916) from Att. 2.

In this context, the data summarized in Table 1 indicate the potential for environmental impacts. For example, since the project cannot reasonably be expected to displace more than a fraction of existing uses of any one existing lipids resource use represented in the table, it would likely process soy-dominated feed blends that are roughly proportionate to the yields shown.[45] This could result in a significant climate impact from the soybean oil-driven increase in hydrogen steam reforming emissions discussed in § 1.2.2.

Another example: Feedstock demand from the Contra Costa County HEFA projects alone represents one-third of current total U.S. yield for all uses of the lipids shown in Table 1, including food and food exports. Much smaller increases in biofuel feedstock demand for food crops spurred commodity price pressures that expanded crop and grazing lands into pristine areas globally, resulting in deforestation and damage to natural carbon sinks.[46] The unprecedented cumulative scale of potential new biofuel feedstock acquisition thus warrants evaluation of the potential for the project to contribute to cumulative indirect land use impacts at this new scale.

The DEIR, however, does not attempt either impact evaluation suggested in these examples. Its project description did not provide a sufficient basis for evaluating feedstock acquisition impacts that are directly related to the scale of the project, which the DEIR did not disclose or describe.

[45] Data in Table 1 thus rebut the unsupported DEIR assertion that future project feeds are wholly speculative.
[46] *See* Karras, 2021a (Att. 2); Karras, 2021b (Att. 3).

1.5 Project Operational Duration

The anticipated and technically achievable operational duration of the project, hence the period over which potential impacts of project operation could occur, accumulate, or worsen, is not disclosed or described in the DEIR. This is a significant deficiency because accurate estimation of impacts that worsen over time requires an accurately defined period of impact review.

Contra Costa County could have accessed many data on the operational duration of the project. The refiner would have designed and financed the project based on a specified operational duration. Since this is necessary data for environmental review it could have and should have been requested and supplied. Technically achievable operational duration data for the types of process units the project proposes to use were publicly available as well. For example, process unit-specific operational data for Bay Area refineries, including the subject refinery, have been compiled, analyzed and reported by Communities for a Better Environment.[47] Information to estimate the anticipated operational duration of the project also can be gleaned from technical data supporting pathways to achieve state climate protection goals,[48] which include phasing out petroleum and biofuel diesel in favor of zero-emission vehicles.

1.6 Project Fuels Market

Potential interactions between the project and the liquid combustion fuels market in California are described in the DEIR,[49] however, it describes potential impacts resulting from imports while omitting any discussion of exports from California refineries or the conditions under which these exports could occur. That description is incomplete and inaccurate. California refineries are net fuel exporters due in large part to structural conditions of statewide overcapacity coupled with declining in-state petroleum fuels demand.[50] [51] [52] The incomplete description of the project fuels market setting can lead to flawed environmental impacts evaluation, as discussed in §§ 2 and 5.

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[47] Karras, 2020. *Decommissioning California Refineries: Climate and Health Paths in an Oil State;* A Report for Communities for a Better Environment. Prepared by Greg Karras. Includes Supporting Material Appendix. www.energy-re-source.com/decomm Appended hereto as Attachment 10.
[48] Karras, 2021a (Att. 2).
[49] DEIR pp. 2-17, 3-3, 3-6, 3.6-9, 3.8-13, 3.9-16, 4-12, 5-4, 5-13.
[50] Karras, 2020 (Att. 10).
[51] USEIA, 2015. West Coast Transportation Fuels Markets; U.S. Energy Information Administration: Washington, D.C. https://www.eia.gov/analysis/transportationfuels/padd5/ Appended hereto as Attachment 11.
[52] USEIA, *Supply and Disposition: West Coast (PADD 5);* U.S. Energy Information Administration: Washington, D.C. ww.eia.gov/dnav/pet/pet_sum_snd_d_r50_mbbl_m_cur.htm. Appended hereto as Attachment 12.

1.7 Project Scope

The DEIR does not describe or disclose a project component that would build intentional hydrocracking capacity into the project to enable increasing HEFA jet fuel production. The 1st Stage Hydrocracker would be repurposed for intentional hydrocracking, unlike the 2nd Stage Hydrocracker, which would be repurposed for isomerization.[53] Unlike that isomerization unit and the #2 and #3 hydro-deoxygenation units, the 1st Stage Hydrocracker could crack up to 24,000 b/d of fresh feed and could not operate independently.[54] This would transform the HEFA refinery into a "Selective Intentional Hydrocracking" configuration that could boost jet fuel yield from roughly half of total project feedstock, and boost it from as little as 13% to as much as 49% by mass on that half of the project feedstock.[55] But in doing so, this hydrocracking-to-boost-jet-yield component would increase refinery hydrogen and resultant project impacts.[56]

The undisclosed project component would be interdependent with disclosed components of the project. The intentional hydrocracking would depend on the project feed acquisition, feed pretreatment, hydrodeoxygenation, and isomerization infrastructure proposed, without which it could not proceed.[57] Disclosed project components, in turn, would depend upon this undisclosed component to boost jet fuel yield and maintain the viability of the biorefinery. In fact boosting the very low jet yield in the absence of intentional cracking[58] could well be a "stay in business" need for the refinery as more efficient battery-electric and fuel-cell-electric vehicles[59] phase out diesel in favor of zero-emission vehicles (ZEVs) pursuant to California state plans and policies.[60]

Crucially, the equipment modifications to implement this hydrocracking-to-boost-jet-yield component are included in the project,[61] but instead of disclosing and describing it for review, the DEIR frames the "potential" for the project to target jet fuel as only an afterthought.[62]

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[53] DEIR pp. 2-20, 2-21; Table 2-1. Refinery Equipment Modifications.
[54] *Id.*
[55] *See* process description data in Karras, 2021b (Att. 3).
[56] *Id.*
[57] *Id.*
[58] *Id.*
[59] *See* Karras, 2021a (Att. 2).
[60] *Id.*
[61] DEIR pp. 2-20, 2-21; Table 2-1. Refinery Equipment Modifications.
[62] DEIR p. 6-3 ("The Project would convert ... to the production of renewable fuels, including renewable diesel, renewable propane, renewable naphtha *and potentially renewable jet fuel" [emphasis added]*).

CONCLUSION: The DEIR provides an incomplete, inaccurate, and truncated or at best unstable description of the proposed project. Available information that the DEIR does not describe or disclose will be necessary for sufficient review of environmental impacts that could result from the project.

2. THE DEIR DID NOT CONSIDER A SIGNIFICANT POTENTIAL CLIMATE EMISSION-SHIFTING IMPACT LIKELY TO RESULT FROM THE PROJECT

Instead of replacing fossil fuels, adding renewable diesel to the liquid combustion fuel chain in California resulted in refiners protecting their otherwise stranded assets by increasing exports of petroleum distillates burned elsewhere, causing a net increase in greenhouse gas[63] emissions. The DEIR improperly concludes that the project would decrease net GHG emissions[64] without disclosing this emission-shifting, or evaluating its potential to further increase net emissions. A series of errors and omissions in the DEIR further obscures causal factors for the emission shifting by which the project would cause and contribute to this significant potential impact.

2.1 The DEIR Does Not Disclose or Evaluate Available Data Which Contradict its Conclusion That the Project Would Result in a Net Decrease in GHG Emissions

State law warns against "a reduction in emissions of greenhouse gases within the state that is offset by an increase in emissions of greenhouse gases outside the state."[65] However, the DEIR does not evaluate this emission-shifting impact of the project. Relevant state data that the DEIR failed to disclose or evaluate include volumes of petroleum distillates refined in California[66] and total distillates—petroleum distillates and diesel biofuels—burned in California.[67] Had the DEIR evaluated these data the County could have found that its conclusion regarding net GHG emissions resulting from the project was unsupported.

As shown in Chart 2, distillate fuels refining for export continued to expand in California as biofuels that were expected to replace fossil fuels added a new source of carbon to the liquid combustion fuel chain. Total distillate volumes, including diesel biofuels burned in-state,

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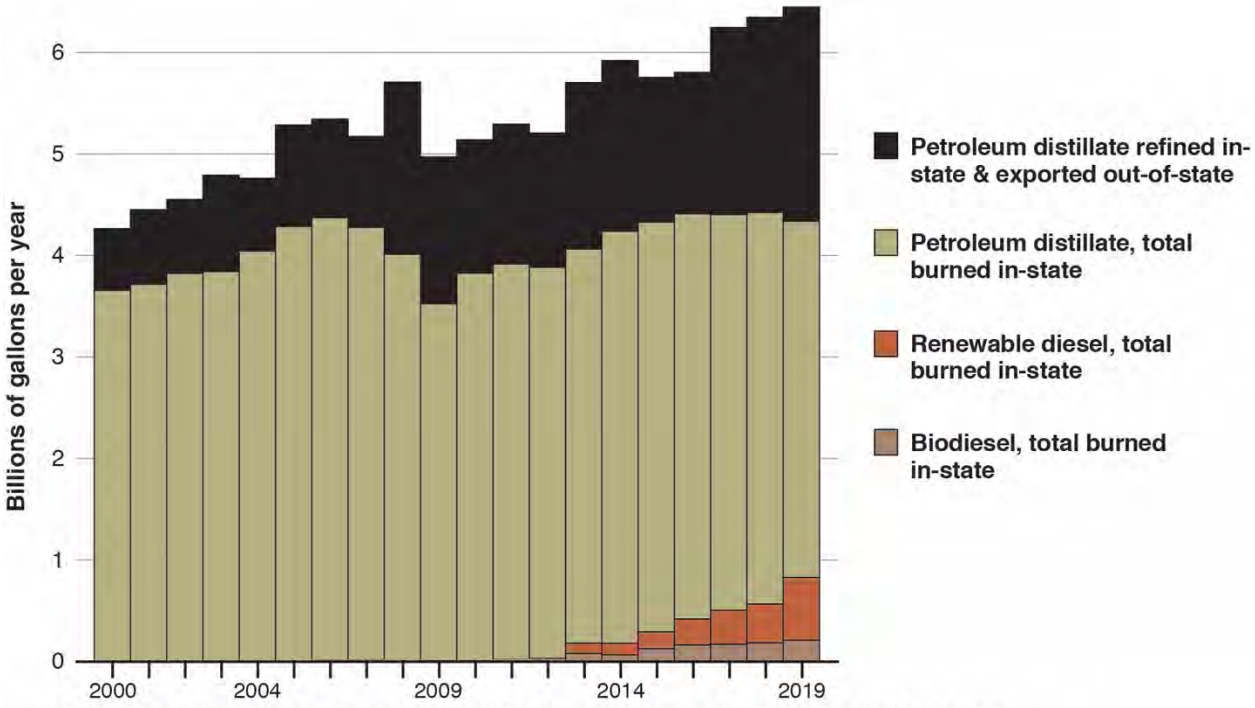
[63] "Greenhouse gas (GHG)," in this section, means carbon dioxide equivalents (CO_2e) at the 100-year horizon.
[64] "Project would result in an overall decrease in emissions ... [including] indirect GHG emissions" (DEIR p. 3.8-20) and "GHG emissions from stationary and mobile sources" (DEIR p. 3.8-22).
[65] CCR §§ 38505 (j), 38562 (b) (8).
[66] CEC *Fuel Watch*. Weekly Refinery Production. California Energy Commission: Sacramento, CA. https://ww2.energy.ca.gov/almanac/petroleum_data/fuels_watch/output.php Appended hereto as Attachment 13.
[67] CARB GHG Inventory. *Fuel Activity for California's Greenhouse Gas Inventory by Sector and Activity; 14th ed.: 2000 to 2019;* California Air Resources Board: Sacramento, CA. Appended hereto as Attachment 14.

petroleum distillates burned in-state, and petroleum distillates refined in-state and exported to other states and nations, increased from approximately 4.3 billion gallons per year to approximately 6.4 billion gallons per year between 2000 and 2019.[68] [69]



Distillate fuel shares associated with all activities in California, 2000–2019.
Growth in total distillates excluding jet fuel and kerosene from State data.

CHART 2. Data from CEC Fuel Watch (Att. 13) and CARB GHG Inventory (Att. 14).

Petroleum distillates refining for export (black in the chart) expanded after in-state burning of petroleum distillate (olive) peaked in 2006, and the exports expanded again from 2012 to 2019 with more in-state use of diesel biofuels (dark red and brown). From 2000 to 2012 petroleum-related factors alone drove an increase in total distillates production and use associated with all activities in California of nearly one billion gallons per year. Then total distillates production and use associated with activities in California increased again, by more than a billion gallons per year from 2012 to 2019, with biofuels accounting for more than half that increment. These state data show that diesel biofuels did not replace petroleum distillates refined in California during the eight years before the project was proposed. Instead, producing and burning more renewable diesel *along with* the petroleum fuel it was supposed to replace emitted more carbon.

[68] *Id.*
[69] CEC Fuel Watch (Att. 13).

2.2 The DEIR Presents an Incomplete and Misleading Description of the Project Market Setting that Focuses on Imports and Omits Structural Overcapacity-driven Exports, Thereby Obscuring a Key Causal Factor in the Emission-shifting Impact

The DEIR describes potential GHG emissions resulting from imports for the proposed project[70] while ignoring fuels exports from California refineries and conditions under which these exports occur. As a result the DEIR fails to disclose that crude refineries here are net fuels exporters, that their exports have grown as in-state and West Coast demand for petroleum fuels declined, and that the structural overcapacity resulting in this export emissions impact would not be resolved and could be worsened by the project.

Due to the concentration of petroleum refining infrastructure in California and on the U.S. West Coast, including California and Puget Sound, WA, these markets were net exporters of transportation fuels before renewable diesel flooded into the California market.[71] Importantly, before diesel biofuel addition further increased refining of petroleum distillates for export, the structural overcapacity of California refineries was evident from the increase in their exports after in-state demand peaked in 2006. *See* Chart 2 above. California refining capacity, especially, is overbuilt.[72] Industry reactions seeking to protect those otherwise stranded refining assets through increased refined fuels exports as domestic markets for petroleum fuels declined resulted in exporting fully 20% to 33% of statewide refinery production to other states and nations from 2013–2017.[73] West Coast data further demonstrate the strong effect of changes in domestic demand on foreign exports from this over-built refining center.[74] *See* Table 2.

Table 2. West Coast (PADD 5) Finished Petroleum Products: Decadal Changes in Domestic Demand and Foreign Exports, 1990–2019.

Total volumes reported for ten-year periods

	Volume (billions of gallons)		Decadal Change (%)	
Period	Demand	Exports	Demand	Exports
1 Jan 1990 to 31 Dec 1999	406	44.2	—	—
1 Jan 2000 to 31 Dec 2009	457	35.1	+13 %	–21 %
1 Jan 2010 to 31 Dec 2019	442	50.9	–3.3 %	+45 %

Data from USEIA, *Supply and Disposition* (Att. 12).

[70] DEIR p. 4-12
[71] USEIA, 2015 (Att. 11).
[72] Karras, 2020 (Att. 10).
[73] *Id.*
[74] USEIA, *Supply and Disposition* (Att. 12).

Comparisons of historic with recent California and West Coast data further demonstrate that this crude refining overcapacity for domestic petroleum fuels demand that drives the emission-shifting impact is unresolved and would not be resolved by the proposed project and the related Contra Costa County crude-to-biofuel conversion project. Fuels demand has rebounded, at least temporarily, from pre-vaccine pandemic levels to the range defined by pre-pandemic levels, accounting for seasonal and interannual variability. In California, from April through June 2021 taxable fuel sales[75] approached the range of interannual variability from 2012–2019 for gasoline and reached the low end of this pre-COVID range in July, while taxable jet fuel and diesel sales exceeded the maximum or median of the 2012–2019 range in each month from April through July of 2021. *See* Table 3.

Table 3. California Taxable Fuel Sales Data: Return to Pre-COVID Volumes

Fuel volumes in millions of gallons (MM gal.) per month

	Demand in 2021	Pre-COVID range (2012–2019) Minimum	Median	Maximum	Comparison of 2021 data with the same month in 2012–2019
Gasoline (MM gal.)					
Jan	995	1,166	1,219	1,234	Below pre-COVID range
Feb	975	1,098	1,152	1,224	Below pre-COVID range
Mar	1,138	1,237	1,289	1,343	Below pre-COVID range
Apr	1,155	1,184	1,265	1,346	Approaches pre-COVID range
May	1,207	1,259	1,287	1,355	Approaches pre-COVID range
Jun	1,196	1,217	1,272	1,317	Approaches pre-COVID range
Jul	1,231	1,230	1,298	1,514	Within pre-COVID range
Jet fuel (MM gal.)					
Jan	10.74	9.91	11.09	13.69	Within pre-COVID range
Feb	10.80	10.13	11.10	13.58	Within pre-COVID range
Mar	13.21	11.23	11.95	14.53	Exceeds pre-COVID median
Apr	13.84	10.69	11.50	13.58	Exceeds pre-COVID range
May	15.14	4.84	13.07	16.44	Exceeds pre-COVID median
Jun	17.08	8.67	12.75	16.80	Exceeds pre-COVID range
Jul	16.66	11.05	13.34	15.58	Exceeds pre-COVID range
Diesel (MM gal.)					
Jan	203.5	181.0	205.7	217.8	Within pre-COVID range
Feb	204.4	184.1	191.9	212.7	Exceeds pre-COVID median
Mar	305.4	231.2	265.2	300.9	Exceeds pre-COVID range
Apr	257.1	197.6	224.0	259.3	Exceeds pre-COVID median
May	244.5	216.9	231.8	253.0	Exceeds pre-COVID median
Jun	318.3	250.0	265.0	309.0	Exceeds pre-COVID range
Jul	248.6	217.8	241.5	297.0	Exceeds pre-COVID median

Data from CDTFA, (Att. 15). Pre-COVID statistics are for the same months in 2012–2019. The multiyear monthly comparison range accounts for seasonal and interannual variability in fuels demand. Jet fuel totals may exclude fueling in California for fuels presumed to be burned outside the state during interstate and international flights.

[75] CDTFA, various years. *Fuel Taxes Statistics & Reports;* Cal. Dept. Tax and Fee Admin: Sacramento, CA. https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm. Appended hereto as Attachment 15.

West Coast fuels demand in April and May 2021 approached or fell within the 2010–2019 range for gasoline and jet fuel and exceeded that range for diesel.[76] *See* Table 4. In June and July 2021 demand for gasoline exceeded the 2010–2019 median, jet fuel fell within the 2010–2019 range, and diesel fell within the 2010–2019 range or exceeded the 2010–2019 median.[77] Despite this several-month surge in demand the year after the Marathon Martinez refinery closed, California and West Coast refineries supplied the rebound in fuels demand while running well below capacity. Four-week average California refinery capacity utilization rates from 20 March through 6 August 2021 ranged from 81.6% to 87.3% (Table 5), similar to those across the

Table 4. West Coast (PADD 5) Fuels Demand Data: Return to Pre-COVID Volumes

Fuel volumes in millions of barrels (MM bbl.) per month

	Demand in 2021	Pre-COVID range (2010–2019) Minimum	Median	Maximum	Comparison of 2021 data with the same month in 2010–2019
Gasoline (MM bbl.)					
Jan	38.59	42.31	45.29	49.73	Below pre-COVID range
Feb	38.54	40.94	42.75	47.01	Below pre-COVID range
Mar	45.14	45.23	48.97	52.53	Approaches pre-COVID range
Apr	44.97	44.99	47.25	50.20	Approaches pre-COVID range
May	48.78	46.79	49.00	52.18	Within pre-COVID range
Jun	48.70	45.61	48.14	51.15	Exceeds pre-COVID median
Jul	50.12	47.33	49.09	52.39	Exceeds pre-COVID median
Jet fuel (MM bbl.)					
Jan	9.97	11.57	13.03	19.07	Below pre-COVID range
Feb	10.35	10.90	11.70	18.33	Below pre-COVID range
Mar	11.08	11.82	13.68	16.68	Below pre-COVID median
Apr	11.71	10.83	13.78	16.57	Within pre-COVID range
May	12.12	12.80	13.92	16.90	Approaches pre-COVID range
Jun	14.47	13.03	14.99	17.64	Within pre-COVID range
Jul	15.31	13.62	15.46	18.41	Within pre-COVID range
Diesel (MM bbl.)					
Jan	15.14	12.78	14.41	15.12	Exceeds pre-COVID range
Feb	15.01	12.49	13.51	15.29	Exceeds pre-COVID median
Mar	17.08	14.12	15.25	16.33	Exceeds pre-COVID range
Apr	15.76	14.14	14.93	16.12	Exceeds pre-COVID median
May	16.94	15.11	15.91	17.27	Exceeds pre-COVID median
Jun	14.65	14.53	16.03	16.84	Within pre-COVID range
Jul	16.94	15.44	16.40	17.78	Exceeds pre-COVID median

Data from USEIA *Supply and Disposition* (Att. 12). "Product Supplied," which approximately represents demand because it measures the disappearance of these fuels from primary sources, i.e., refineries, gas processing plants, blending plants, pipelines, and bulk terminals. PADD 5 includes AK, AZ, CA, HI, NV, OR, and WA. Pre-COVID statistics are for the same month in 2010–2019, thus accounting for seasonal and interannual variability.

[76] USEIA, *Supply and Disposition* (Att. 12).
[77] *Id.*

Table 5. Total California Refinery Capacity Utilization in Four-week Periods of 2021.

barrel (oil): 42 U.S. gallons **barrels/calendar day:** see table caption below

Four-week period	Calif. refinery crude input (barrels/day)	Operable crude capacity (barrels/calendar day)	Capacity utilized (%)
12/26/20 through 01/22/21	1,222,679	1,748,171	69.9 %
01/23/21 through 02/19/21	1,199,571	1,748,171	68.6 %
02/20/21 through 03/19/21	1,318,357	1,748,171	75.4 %
03/20/21 through 04/16/21	1,426,000	1,748,171	81.6 %
04/17/21 through 05/14/21	1,487,536	1,748,171	85.1 %
05/15/21 through 06/11/21	1,491,000	1,748,171	85.3 %
06/12/21 through 07/09/21	1,525,750	1,748,171	87.3 %
07/10/21 through 08/06/21	1,442,750	1,748,171	82.5 %
08/07/21 through 09/03/21	1,475,179	1,748,171	84.4 %
09/04/21 through 10/01/21	1,488,571	1,748,171	85.1 %
10/02/21 through 10/29/21	1,442,429	1,748,171	82.5 %

Total California refinery crude inputs from Att. 13. Statewide refinery capacity as of 1/1/21, after the Marathon Martinez refinery closure, from Att. 16. Capacity in barrels/calendar day accounts for down-stream refinery bottlenecks, types and grades of crude processed, operating permit constraints, and both scheduled and unscheduled downtime for inspection, maintenance, and repairs.

West Coast, and well below maximum West Coast capacity utilization rates for the same months in 2010–2019 (Table 6).[78] [79] [80] Moreover, review of Table 5 reveals 222,000 b/d to more than 305,000 b/d of spare California refinery capacity during this fuels demand rebound.

Table 6. West Coast (PADD 5) Percent Utilization of Operable Refinery Capacity.

Month	Capacity Utilized **in 2021**	Pre-COVID range for same month in 2010–2019		
		Minimum	Median	Maximum
January	73.3 %	76.4 %	83.7 %	90.1 %
February	74.2 %	78.2 %	82.6 %	90.9 %
March	81.2 %	76.9 %	84.8 %	95.7 %
April	82.6 %	77.5 %	82.7 %	91.3 %
May	84.2 %	76.1 %	84.0 %	87.5 %
June	88.3 %	84.3 %	87.2 %	98.4 %
July	85.9 %	83.3 %	90.7 %	97.2 %
August	87.8 %	79.6 %	90.2 %	98.3 %
September	—	80.4 %	87.2 %	96.9 %
October	—	76.4 %	86.1 %	91.2 %
November	—	77.6 %	85.3 %	94.3 %
December	—	79.5 %	87.5 %	94.4 %

Utilization of operable capacity in barrels/calendar day from Att. 17. PADD 5 includes AK, AZ, CA, HI, NV, OR, and WA. Pre-COVID data for the same month in 2010–2019 accounts for seasonal and interannual variability.

[78] CEC Fuel Watch (Att. 13).
[79] USEIA *Refinery Capacity by Individual Refinery*. Data as of January 1, 2021; U.S. Energy Information Administration: Washington, D.C. www.eia.gov/petroleum/refinerycapacity. Appended hereto as Attachment 16.
[80] USEIA *Refinery Utilization and Capacity*. PADD 5 data as of Sep 2021. U.S. Energy Inf. Administration: Washington, D.C. www.eia.gov/dnav/pet/pet_pnp_unc_dcu_r50_m.htm Appended hereto as Attachment 17.

Spare California refining capacity during this period when fuels demand increased to reach pre-COVID levels and crude processing at the Marathon Martinez refinery was shut down (222,000 to 305,000 b/cd) exceeded the total 120,200 b/cd crude capacity of the Phillips 66 San Francisco Refinery.[81] The project would worsen this growing condition of overcapacity that drives refined fuels export emission-shifting by producing and selling even more California-targeted HEFA diesel into the California fuels market.

Accordingly, the project can be expected to worsen in-state petroleum refining overcapacity, and hence the emission shift, by adding a very large volume of HEFA diesel to the California liquid combustion fuels mix. Indeed, providing "renewable" fuels production for the California market is a project objective.[82] The DEIR, however, does not disclose or evaluate this causal factor for the observed emission-shifting impact of recent "renewable" diesel additions.

2.3 The DEIR Does Not Describe or Evaluate Project Design Specifications That Could Cause and Contribute to Significant Emission-shifting Impacts

Having failed to describe the unique capabilities and limitations of the proposed biofuel technology (§§ 1.1.1, 1.1.2), the DEIR does not evaluate how fully integrating renewable diesel into petroleum fuels refining, distribution, and combustion infrastructure could worsen emission shifting by more directly tethering biofuel addition here to petroleum fuel refining for export. Compounding its error, the DEIR does not evaluate the impact of another basic project design specification—project fuels production capacity. The DEIR does not estimate how much HEFA diesel the project could add to the existing statewide distillates production oversupply, or how much that could worsen the emission shifting impact. Had it done so, using readily available state default factors for the carbon intensities of these fuels, the County could have found that the project would likely cause and contribute to significant climate impacts. *See* Table 7 below.

Accounting for yields on feeds targeting renewable diesel[83] and typical feed and fuel densities shown in Table 7, operating at its 48,000 b/d the project could make approximately 1.62 million gallons per day of renewable diesel, resulting in export of the equivalent petroleum distillates

[81] Though USEIA labels the San Francisco Refinery site as Rodeo, both the Rodeo Facility and the Santa Maria Facility capacities are included in the 120,200 barrels/calendar day (b/cd) cited: USEIA *Refinery Capacity by Individual Refinery* (Att. 16).
[82] DEIR p. 2-2.
[83] Pearlson et al., 2013. A techno-economic review of hydroprocessed renewable esters and fatty acids for jet fuel production. *Biofuels, Bioprod. Bioref.* 7: 89–96. DOI: 10.1002/bbb.1378. Appended hereto as Attachment 18.

volume. State default factors for full fuel chain "life cycle" emissions associated with the type of renewable diesel proposed account for a range of potential emissions, from lower emission ("residue") to higher emission ("crop biomass") feeds, which is shown in the table.[84]

The net emission shifting impact of the project based on this range of factors could thus be approximately 3.46 to 4.99 *million* metric tons (Mt) of CO_2e emitted per year. Table 7. Those potential project emissions would exceed the 10,000 metric tons per year (0.01 Mt/year) significance threshold in the DEIR by 345 to 498 times.

A *conservative* estimate of net cumulative emissions from this impact of the currently proposed biofuel refinery projects in the County, *if* state goals to replace all diesel fuels are achieved more quickly than anticipated, is in the range of approximately 74 Mt to 107 Mt over ten years. *Id.* .

Table 7. Potential GHG Emission Impacts from Project-induced Emission Shifting: Estimates Based on Low Carbon Fuel Standard Default Emission Factors.

RD: renewable diesel **PD:** petroleum distillate **CO_2e:** carbon dioxide equivalents **Mt:** million metric tons

Estimate Scope	Marathon Project	Phillips 66 Project	Both Projects
Fuel Shift (millions of gallons per day) [a]			
RD for in-state use	1.623	1.860	3.482
PD equivalent exported	1.623	1.860	3.482
Emission factor (kg CO_2e/galllon) [b]			
RD from residue biomass feedstock	5.834	5.834	5.834
RD from crop biomass feedstock	8.427	8.427	8.427
PD (petroleum distillate [ULSD factor])	13.508	13.508	13.508
Fuel-specific emissions (Mt/year) [c]			
RD from residue biomass feedstock	3.46	3.96	7.42
RD from crop biomass feedstock	4.99	5.72	10.7
PD (petroleum distillate)	8.00	9.17	17.2
Net emission shift impact [d]			
Annual minimum (Mt/year)	3.46	3.96	7.42
Annual maximum (Mt/year)	4.99	5.72	10.7
Ten-year minimum (Mt)	34.6	39.6	74.2
Ten-year maximum (Mt)	49.9	57.2	107

a. Calculated based on DEIR project feedstock processing capacities,* yield reported for refining targeting HEFA diesel by Pearlson et al., 2013, and feed and fuel specific gravities of 0.916 and 0.775 respectively. **b.** CARB default emission factors from tables 2, 4, 7-1, 8 and 9, Low Carbon Fuel Standard Regulation, CCR §§ 95484–95488. **c.** Fuel-specific emissions are the products of the fuel volumes and emission factors shown. **d.** The emission shift impact is the net emissions calculated as the sum of the fuel-specific emissions minus the incremental emission from the petroleum fuel *v.* the same volume of the biofuel. Net emissions are thus equivalent to emissions from the production and use of renewable diesel that *does not* replace petroleum distillates, as shown. Annual values compare with the DEIR significance threshold (0.01 Mt/year); ten-year values provide a conservative estimate of cumulative impact assuming expeditious implementation of State goals to replace all diesel fuels.
* Phillips 66 Project data calculated at 55,000 b/d feed rate, less than its proposed 80,000 b/d project feed capacity.

[84] Low Carbon Fuel Standard Regulation, tables 2, 4, 7-1, 8 and 9. CCR §§ 95484–95488.

2.4 The DEIR Does Not Consider Air Quality or Environmental Justice Impacts From GHG Co-Pollutants that Could Result from Project Emission Shifting

Having neglected to consider emission shifting that could result from the project, the DEIR does not evaluate air quality or environmental justice impacts that could result from GHG co-emissions. Had it considered the emission-shifting impact the County could have evaluated substantial relevant information regarding potential impacts of GHG co-pollutants.

Among other relevant available information: Pastor and colleagues found GHG co-pollutants from large industrial GHG emitters in general, and refineries in particular, caused substantially increased particulate matter emission burdens in low-income communities of color throughout the state.[85] Clark and colleagues found persistent disparately elevated exposures to refined fuels combustion emissions among people of color along major roadways in California and U.S.[86] Zhao and colleagues showed that exposures to the portion of those emissions that could result from climate protection decisions to use more biofuel, instead of more electrification of transportation among other sectors, would cause very large air pollution-induced premature death increments statewide.[87]

Again, however, the DEIR did not evaluate these potential project emission-shifting impacts.

CONCLUSION: A reasonable potential exists for the project to result in significant climate and air quality impacts by increasing the production and export of California-refined fuels instead of replacing petroleum fuels. This impact would be related to the particular type and use of biofuel proposed. Resultant greenhouse gases and co-pollutants would emit in California from excess petroleum and biofuel refining, and emit in California as well as in other states and nations from petroleum and biofuel feedstock extraction and end-use fuel combustion. The DEIR does not identify, evaluate, or mitigate these significant potential impacts of the project.

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[85] Pastor et al., 2010. *Minding the Climate Gap: What's at stake if California's climate law isn't done right and right away;* College of Natural Resources, Department of Environmental Science, Policy, and Management, University of California, Berkeley: Berkeley, CA; and Program for Environmental and Regional Equity, University of Southern California: Los Angeles, CA. Appended hereto as Attachment 19.

[86] Clark et al, 2017. Changes in transportation-related air pollution exposures by race-ethnicity and socioeconomic status: Outdoor nitrogen dioxide in the United States in 2000 and 2010. *Environmental Health Perspectives* 097012-1 to 097012-10. 10.1289/EHP959. Appended hereto as Attachment 20.

[87] Zhao et al., 2019. Air quality and health co-benefits of different deep decarbonization pathways in California. *Environ. Sci. Technol.* 53: 7163–7171. DOI: 10.1021/acs.est.9b02385. Appended hereto as Attachment 21.

3. THE DEIR DOES NOT PROVIDE A COMPLETE OR ACCURATE ANALYSIS OF PROCESS HAZARDS AND DOES NOT IDENTIFY, EVALUATE, OR MITIGATE SIGNIFICANT POTENTIAL PROJECT HAZARD IMPACTS

Oil refining is an exceptionally high-hazard industry in which switching to a new and different type of oil feed has known potential to introduce new hazards, intensify existing hazards, or both. Switching from crude petroleum to HEFA feedstock refining introduces specific new hazards that could increase the incidence rate of refinery explosions and uncontrolled fires, hence the likelihood of potentially catastrophic consequences of the project over its operational duration. The DEIR does not identify, evaluate, or mitigate these specific process hazards or significant potential process hazard impacts. A series of errors and omissions in the DEIR further obscures these process hazards and impacts.

3.1 The DEIR Does Not Provide a Complete or Accurate Analysis of Project Hazards

The DEIR does not include, and does not report substantively on results from, any of several standard process hazard analysis requirements applicable to petroleum crude refining. It does not include or report substantive results of any Process Hazard Analysis (PHA),[88] Management of Change analysis, Hierarchy of Hazard Controls Analysis, Inherent Safety Measure, or written recommendations to prioritize inherent safety measures and then include safeguards as added layers of protection[89] from any potential project process hazard. Instead the DEIR concludes that project refining hazard impacts will be less than significant[90] based on a series of unsupported and incomplete or inaccurate assertions.

3.1.1 Incomplete and inaccurate evaluation of process material explosion and fire hazard

The DEIR seeks to quantify combustible and flammable material hazards from whole feedstocks but does not evaluate explosion or fire hazards associated with conversion of feedstocks in the refinery. This incomplete evaluation contributes to the inaccurate DEIR impact conclusion. HEFA feeds are converted to hydrocarbon gases which may be indistinguishable, in terms of explosivity, combustibility or flammability, from petroleum products in process reactors operating at high temperatures and extreme pressures, and this occurs at greater hydrogen concentrations than those conditions in petroleum refining. §§ 1.2.1–1.2.3.

[88] A PHA is a hazard evaluation to identify, evaluate, and control the hazards involved in a process.
[89] *See* California refinery process safety management regulation, CCR § 5189.
[90] DEIR pp. 3.9-17, 3.9-18.

3.1.2 Unsupported and inaccurate comparison of project refining to petroleum refining

The DEIR assumes project processing will be "similar" to historic crude processing at the refinery to conclude that reduced feedstock throughput volumes and fewer operating process units[91] will reduce project process hazards. Its conclusion incorrectly equates the hazards of different types of equipment and process reactions without factual support. Available data it ignores suggest the types of process units to be repurposed experience hazard incidents more often than many other types of petroleum refining units, and show that switching to HEFA feeds could further increase process hazards in the repurposed equipment, as discussed in § 3.2 below.

3.1.3 Unsupported and incomplete evaluation of applicable process hazard control mandates

The DEIR concludes "continued compliance" with multiple "federal, state and local regulations and proper operation and maintenance of equipment" will ensure that process hazard impacts "would be less than significant."[92] However, the DEIR does not specify which provisions of existing process safety regulations and requirements applicable to petroleum refining might no longer be applicable to the proposed project biomass refining. The DEIR thus omits discussion of whether the project will be exempt from requirements to fully analyze and prioritize inherent safety measures—the essential, and most effective type, of process hazard protection, which is designed to eliminate specified hazards.[93] These omissions render its conclusion unsupported.

3.1.4 Incomplete and inaccurate evaluation of existing and available hazard control measures

The DEIR provides an incomplete and inaccurate review of available process safety measures. It gives only cursory mention to safeguards[94] such as equipment maintenance, contingency plans, and a safety plan to be updated for the project.[95] Then, it does not disclose that safeguards are relatively ineffective safety measures, or that crude refining safety standards require analysis of specific hazards to prioritize inherent safety measures because of this problem with safeguards.[96] Omitting the requirement to prioritize inherent safety measures in combination with safeguards[97] further obscures the need for evaluation of *specific* process hazards, which the DEIR omits.

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[91] DEIR p. 3.9-17; DEIR Appendix-HAZ pp. 23, 25.
[92] DEIR pp. 3.9-17, 3.9-18; DEIR Appendix-HAZ p. 27.
[93] California refinery process safety management regulation, CCR § 5189.
[94] Surprisingly, nowhere in its 456 pages does Volume I of the DEIR discuss flares, one of the most frequently needed emergency safeguards against escalating hazards in process units to be repurposed by the project.
[95] DEIR Appendix-HAZ pp. 25, 27; DEIR pp. 3.9-17, 3.9-18.
[96] California refinery process safety management regulation, CCR § 5189.
[97] *Id.*

3.1.5 Improper reliance on unspecified future process hazard mitigation measures

The DEIR conclusion that there would be no significant process hazard to mitigate[98] is based on unspecified future hazard mitigation. "The facility's plan would be updated to reflect the changes in operations associated with the proposed Project. ... Update of the facility's current Safety Plan (Injury and Illness Prevention Program [Marathon 2020]) to reflect changed conditions ... would assist in reducing hazards of explosive or otherwise hazardous materials."[99]

In fact, the less-than-significant hazard conclusion in the DEIR assumes future actions to address hazards of project changes in refining—actions to be specified in plans to address those project changes which, it says, have not yet been developed. However, inherently safer measures which may be feasible to introduce during project design, review, and construction may no longer be feasible after the project is approved or built.[100] The DEIR does not identify or evaluate this potential for deferring hazard mitigation analysis to foreclose mitigation.

3.2 The DEIR Does Not Identify or Evaluate Significant Process Hazard Impacts, Including Refinery Explosions and Fires, That Could Result from the Project

Had the DEIR provided a complete and accurate process hazard evaluation the County could have identified significant impacts that would result from project process hazards.[101]

3.2.1 The DEIR does not disclose or evaluate available information which reveals that the project could increase refinery explosion and fire risks compared with crude refining

After a catastrophic pipe failure ignited in the Richmond refinery sending 15,000 people to hospital emergency rooms, a feed change was found to be a causal factor in that disaster—and failures by Chevron and public safety officials to take hazards of that feed change seriously were found to be its root causes. The oil industry knew that introducing a new and different crude into an existing refinery can introduce new hazards. More than this, as it has long known, side effects of feed processing can cause hazardous conditions in the same types of hydro-conversion units now proposed to be repurposed for HEFA biomass feeds, and feedstock changes are among the most frequent causes of dangerous upsets in these hydro-conversion reactors.[102]

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[98] DEIR pp. 3.9-18, 3.9-19,
[99] *Id.*
[100] CSB, 2013 (Att. 7).
[101] My recent work has included in-depth review and analysis of process hazards associated with crude-to-biofuel refinery conversions; summaries of this work are excerpted from Karras, 2021a (Att. 2) in §§ 3.2.1–3.2.5 herein.
[102] Karras, 2021a (Att. 2).

Differences between the new biomass feedstock proposed and crude oil are more extreme than those among crudes which Chevron ignored the hazards of before its August 2012 fire in Richmond, and involve oxygen in the feed, rather than sulfur as in that disaster. This categorical difference between oxygen and sulfur, rather than a degree of difference in feed sulfur content, risks further minimizing the accuracy, or even feasibility, of predictions based on historical data. At 10.8–11.5 wt. %, HEFA feeds have very high oxygen content, while the petroleum crude fed to refinery processing has virtually none.[103] Carbonic acid forms from that oxygen in HEFA processing.[104] Carbonic acid corrosion is a known hazard in HEFA processing.[105] But this corrosion mechanism, and the specific locations it attacks in the refinery, differ from those of the sulfidic corrosion involved in the 2012 Richmond incident. Six decades of industry experience with sulfidic corrosion cannot reliably guide—and could misguide—the refiner as it attempts to find, then fix, damage from this new hazard before it causes equipment failures.[106]

Worse, high-oxygen HEFA feedstock can boost hydrogen consumption in hydro-conversion reactors dramatically. That creates more heat in reactors already prone to overheating in petroleum refining. Switching repurposed hydrocrackers and hydrotreaters to HEFA feeds would introduce this second new oxygen-related hazard.[107]

A specific feedback mechanism underlies this hazard. The hydro-conversion reactions are exothermic: they generate heat.[108] [109] [110] When they consume more hydrogen, they generate more heat.[111] Then they get hotter, and crack more of their feed, consuming even more hydrogen,[112] [113] so "the hotter they get, the faster they get hot."[114] And the reactions proceed at

[103] *Id.*
[104] Chan, 2020. *Converting a Petroleum Diesel Refinery for Renewable Diesel;* White Paper / Renewable Diesel. Burns McDonnell. www.burnsmcd.com. Appended hereto as Attachment 22.
[105] *Id.*
[106] Karras, 2021a (Att. 2).
[107] *Id.*
[108] Robinson and Dolbear, 2007. Commercial Hydrotreating and Hydrocracking. *In:* Hydroprocessing of heavy oils and residua. Ancheyta, J., and Speight, J., eds. CRC Press, Taylor & Francis Group: Boca Raton, FL. ISBN-13: 978-0-8493-7419-7. Appended hereto as Attachment 23.
[109] van Dyk et al., 2019. Potential synergies of drop-in biofuel production with further co-processing at oil refineries. *Biofuels Bioproducts & Biorefining* 13: 760–775. DOI: 10.1002/bbb.1974. Appended hereto as Attachment 24.
[110] Chan, 2020 (Att. 22).
[111] van Dyk et al., 2019 (Att. 24).
[112] *Id.*
[113] Robinson and Dolbear, 2007 (Att. 23).
[114] *Id.*

extreme pressures of 600–2,800 pound-force per square inch,[115] so the exponential temperature rise can happen fast.

Refiners call these runaway reactions, temperature runaways, or "runaways" for short. Hydro-conversion runaways are remarkably dangerous. They have melted holes in eight-inch-thick, stainless steel, walls of hydrocracker reactors,[116] and worse. Consuming more hydrogen per barrel in the reactors, and thereby increasing reaction temperatures, HEFA feedstock processing can be expected to increase the frequency and magnitude of runaways.[117]

High temperature hydrogen attack or embrittlement of metals in refining equipment with the addition of so much more hydrogen to HEFA processing is a third known hazard.[118] And given the short track record of HEFA processing, the potential for other, yet-to-manifest, hazards cannot be discounted.[119]

On top of all this, interdependence across the process system—such as the critical need for real-time balance between hydro-conversion units that feed hydrogen and hydrogen production units that make it—magnifies these hazards. Upsets in one part of the system can escalate across the refinery. Hydrogen-related hazards that manifest at first as isolated incidents can escalate with catastrophic consequences.[120]

3.2.2 The DEIR does not disclose or evaluate available information about potential consequences of hydrogen-related hazards that the project could worsen

Significant and sometimes catastrophic incidents involving the types of hydrogen processing proposed by the project are unfortunately common in crude oil refining, as reflected in the following incident briefs posted by *Process Safety Integrity*[121] report:

- Eight workers are injured and a nearby town is evacuated in a 2018 hydrotreater reactor rupture, explosion and fire.
- A worker is seriously injured in a 2017 hydrotreater fire that burns for two days and causes an estimated $220 million in property damage.

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[115] *Id.*
[116] *Id.*
[117] Karras, 2021a (Att 2).
[118] Chan, 2020 (Att. 22).
[119] Karras, 2021a (Att. 2).
[120] *Id.*
[121] Process Safety Integrity *Refining Incidents;* accessed Feb–Mar 2021; available for download at: https://processsafetyintegrity.com/incidents/industry/refining. Appended hereto as Attachment 25.

- A reactor hydrogen leak ignites in a 2017 hydrocracker fire that causes extensive damage to the main reactor.
- A 2015 hydrogen conduit explosion throws workers against a steel refinery structure.
- Fifteen workers die, and 180 others are injured, in a series of explosions when hydrocarbons flood a distillation tower during a 2005 isomerization unit restart.
- A vapor release from a valve bonnet failure in a high-pressure hydrocracker section ignites in a major 1999 explosion and fire at the Chevron Richmond refinery.
- A worker dies, 46 others are injured, and the community must shelter in place when a release of hydrogen and hydrocarbons under high temperature and pressure ignites in a 1997 hydrocracker explosion and fire at this Martinez refinery, then owned by Tosco.
- A Los Angeles refinery hydrogen processing unit pipe rupture releases hydrogen and hydrocarbons that ignite in a 1992 explosion and fires that burn for three days.
- A high-pressure hydrogen line fails in a 1989 fire which buckles the seven-inch-thick steel of a hydrocracker reactor that falls on other nearby Richmond refinery equipment.
- An undetected vessel overpressure causes a 1987 hydrocracker explosion and fire.

These incidents all occurred in the context of crude oil refining. For the reasons described in this section, there is cause for concern that the frequency and severity of these types of hydrogen-related incidents could increase with HEFA processing.

3.2.3 The DEIR does not disclose or evaluate the limited effectiveness of current and proposed safeguards against hydrogen-related hazards that the project could worsen

Refiners have the ability to use extra hydrogen to quench, control, and guard against runaway reactions, a measure which has proved partially effective and appears necessary for hydro-conversion processing to remain profitable. As a safety measure, however, it has proved ineffective so often that hydro-conversion reactors are equipped to depressurize rapidly to flares.[122] [123] And that last-ditch safeguard, too, has repeatedly failed to prevent catastrophic incidents. The Richmond and Martinez refineries were equipped to depressurize to flares, for example, during the 1989, 1997, 1999 and 2012 incidents described above.[124]

3.2.4 The DEIR does not disclose or evaluate available site-specific data informing the frequency with which hydrogen-related hazards of the project could manifest

In fact, precisely because it is a last-ditch safeguard, to be used only when all else fails, flaring reveals how frequently these hazards manifest as potentially catastrophic incidents. Despite

[122] Robinson and Dolbear, 2007 (Att. 23).
[123] Chan, 2020 (Att. 22).
[124] Karras, 2021a (Att. 2).

current safeguards, hydro-conversion and hydrogen-related process safety hazards which their HEFA conversion projects could worsen contribute to significant flaring incidents at the Marathon Martinez and Phillips 66 refineries frequently.

Table 8 summarizes specific examples of causal analysis reports for significant flaring which show that hydrogen-related hazard incidents occurred at the refineries a combined total of 100 times from January 2010 through December 2020. This is a conservative estimate, since incidents can cause significant impact without causing environmentally significant flaring. Nevertheless, it represents, on average, and accounting for the Marathon plant closure since 28 April 2020, a hydrogen-related incident frequency at one of these refineries every 39 days.[125]

Sudden unplanned or emergency shutdowns of major hydro-conversion or hydrogen production plants occurred in 84 of these 100 reported process safety hazard incidents.[126] Such sudden forced shutdowns of *both* hydro-conversion and hydrogen production plants occurred in 22 of these incidents.[127] In other words, incidents escalated to refinery-level systems involving multiple plants frequently—a foreseeable consequence, given that both hydro-conversion and hydrogen production plants are susceptible to upset when the critical balance of hydrogen production supply and hydrogen demand between them is disrupted suddenly. In four of these incidents, consequences of underlying hazards included fires in the refinery.[128]

3.2.5 The DEIR did not identify significant hydrogen-related process hazard impacts that could result from the project

Since switching to HEFA refining is likely to further increase the frequency and magnitude of these already-frequent significant process hazard incidents, and flaring has proven unable to prevent every incident from escalating to catastrophic proportions, catastrophic consequences of HEFA process hazards are foreseeable.[129] The DEIR did not identify, evaluate, or mitigate these significant potential impacts of the project.

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[125] *Id.*; and BAAQMD *Causal Analysis Reports for Significant Flaring;* Bay Area Air Quality Management District: San Francisco, CA. Reports submitted by Marathon and formers owners of the Marathon Martinez Refinery, and submitted by Phillips and former owners of the Phillips 66 San Francisco Refinery at Rodeo, pursuant to BAAQMD Regulation 12-12-406. Appended hereto as Attachment 26.
[126] Karras, 2021a (Att. 2); BAAQMD *Causal Analysis Reports for Significant Flaring* (Att. 26).
[127] Karras, 2021a (Att. 2); BAAQMD *Causal Analysis Reports for Significant Flaring* (Att. 26).
[128] Karras, 2021a (Att. 2); BAAQMD *Causal Analysis Reports for Significant Flaring* (Att. 26).
[129] Karras, 2021a (2021).

Table 8. Examples from 100 hydrogen-related process hazard incidents at the Phillips 66 Rodeo and Marathon Martinez refineries, 2010–2020.

Date [a]	Refinery	Hydrogen-related causal factors reported by the refiner [a]
3/11/10	Rodeo	A high-level safety alarm during a change in oil feed shuts down Unit 240 hydrocracker hydrogen recycle compressor 2G-202, forcing the sudden shutdown of the hydrocracker
5/13/10	Martinez	A hydrotreater charge pump bearing failure and fire forces #3 HDS hydrotreater shutdown [b]
9/28/10	Martinez	A hydrocracker charge pump trip leads to a high temperature excursion in hydrocracker reactor catalyst beds that forces sudden unplanned hydrocracker shutdown [c]
2/17/11	Martinez	A hydrogen plant fire caused by process upset after a feed compressor motor short forces the hydrogen plant shutdown; the hydrocracker shuts down on sudden loss of hydrogen
9/10/12	Rodeo	Emergency venting of hydrogen to the air from one hydrogen plant to relieve a hydrogen overpressure as another hydrogen plant starts up ignites in a refinery hydrogen fire
10/4/12	Rodeo	A hydrocracker feed cut due to a hydrogen makeup compressor malfunction exacerbates a reactor bed temperature hot spot, forcing a sudden hydrocracker shutdown [d]
1/11/13	Martinez	Cracked, overheated and "glowing" hydrogen piping forces an emergency hydrogen plant shutdown; the loss of hydrogen forces hydrocracker and hydrotreater shutdowns
4/17/15	Martinez	Cooling pumps trip, tripping the 3HDS hydrogen recycle compressor and forcing a sudden shutdown of the hydrotreater as a safety valve release cloud catches fire in this incident [e]
5/18/15	Rodeo	A hydrocracker hydrogen quench valve failure forces a sudden hydrocracker shutdown [f]
5/19/15	Martinez	A level valve failure, valve leak and fire result in an emergency hydrotreater shutdown
3/12/16	Rodeo	A Unit 240 level controller malfunction trips off hydrogen recycle compressor G-202, which forces an immediate hydrocracker shutdown to control a runaway reaction hazard [g]
1/22/17	Martinez	An emergency valve malfunction trips its charge pump, forcing a hydrocracker shutdown
5/16/19	Martinez	A recycle compressor shutdown to fix a failed seal valve forces a hydrocracker shutdown [h]
6/18/19	Martinez	A control malfunction rapidly depressurized hydrogen plant pressure swing absorbers
11/11/19	Rodeo	A failed valve spring shuts down hydrogen plant pressure swing absorbers in a hydrogen plant upset; the resultant loss of hydrogen forces a sudden hydrotreater shutdown [i]
2/7/20	Martinez	An unprotected oil pump switch trips a recycle compressor, shutting down a hydrotreater
3/5/20	Rodeo	An offsite ground fault causes a power sag that trips hydrogen make-up compressors, forcing the sudden shutdown of the U246 hydrocracker [j]
10/16/20	Rodeo	A pressure swing absorber valve malfunction shuts down a hydrogen plant; the emergency loss of hydrogen condition results in multiple process unit upsets and shutdowns [k]

a. Starting date of the environmentally significant flaring incident, as defined by Bay Area Air Quality Management District Regulations § 12-12-406, which requires causal analysis by refiners that is summarized in this table. An incident often results in flaring for more than one day. The 100 "unplanned" hydro-conversion flaring incidents these examples illustrate are provided in Attachment 26 (*see* Att. 2 for list). Notes b–k below further describe some of these examples with quotes from refiner causal reports. **b.** "Flaring was the result of an 'emergency' ... the #3 HDS charge pump motor caught fire ... ." **c.** "One of the reactor beds went 50 degrees above normal with this hotter recycle gas, which automatically triggered the 300 lb/minute emergency depressuring system." **d.** "The reduction in feed rates exacerbated an existing temperature gradient ...higher temperature gradient in D-203 catalyst Bed 4 and Bed 5 ... triggered ... shutdown of Unit 240 Plant 2." **e.** "Flaring was the result of an Emergency. 3HDS had to be shutdown in order to control temperatures within the unit as cooling water flow failed." **f.** "Because hydrocracking is an exothermic process ... [t]o limit temperature rise... [c]old hydrogen quench is injected into the inlet of the intermediate catalyst beds to maintain control of the cracking reaction." **g.** "Because G-202 provides hydrogen quench gas which prevents runaway reactions in the hydrocracking reactor, shutdown of G-202 causes an automatic depressuring of the Unit 240 Plant 2 reactor ... ." **h.** "Operations shutdown the Hydrocracker as quickly and safely as possible." **i.** "[L]oss of hydrogen led to the shutdown of the Unit 250 Diesel Hydrotreater." **j.** "U246 shut down due to the loss of the G-803 A/B Hydrogen Make-Up compressors." **k.** "Refinery Emergency Operating Procedure (REOP)-21 'Emergency Loss of Hydrogen' was implemented."

3.2.6 The DEIR did not identify or evaluate the potential for deferred mitigation of process hazards to foreclose currently feasible hazard prevention measures

As the U.S. Chemical Safety Board found in its investigation of the 2012 Richmond refinery fire: "It is simpler, less expensive, and more effective to introduce inherently safer features during the design process of a facility rather than after the process is already operating. Process upgrades, rebuilds, and repairs are additional opportunities to implement inherent safety concepts."[130] Thus, licensing or building the project without first specifying inherently safer features to be built into it has the potential to render currently feasible mitigation measures infeasible at a later date. The DEIR does not address this potential. Examples of specific inherently safer measures which the DEIR could have but did not identify or analyze as mitigation for project hazard impacts include, but are not limited to, the following:

Feedstock processing hazard condition. The County could adopt a project condition to forgo or minimize the use of particularly high process hydrogen demand feedstocks. Since increased process hydrogen demand would be a causal factor for the significant process hazard impacts (§§ 3.2.1–3.2.5) and some HEFA feedstocks increase process hydrogen demand significantly more than other others (§§ 1.2.2, 1.3.1), avoiding feedstocks with that more hazardous processing characteristic would lessen or avoid the hazard impact.

Product slate processing hazard condition. The County could adopt a project condition to forgo or minimize particularly high-process hydrogen demand product slates. Minimizing or avoiding HEFA refining to boost jet fuel yield, which significantly increases hydrogen demand (§§ 1.2.1, 1.2.2), would thereby lessen or avoid further intensified hydrogen reaction hazard impacts.

Hydrogen input processing hazard condition. The County could adopt a project condition to limit hydrogen input per barrel, which could lessen or avoid the process hazard impacts from particularly high-process hydrogen demand feedstocks, product slates, or both.

Hydrogen backup storage processing hazard condition. The County could adopt a project condition to store hydrogen onsite for emergency backup use. This would lessen or avoid hydro-conversion plant incident impacts caused by the sudden loss of hydrogen inputs when hydrogen plants malfunction, a significant factor in escalating incidents as discussed in §§ 3.2.1 and 3.2.4.

[130] CSB, 2013 (Att. 7).

Rather than suggesting how or whether the subject project hazard impact could adequately be mitigated, the examples illustrate that the DEIR could have analyzed mitigation measures that are feasible now, and whether deferring those measures might render them infeasible later.

CONCLUSION: There is a reasonable potential for the proposed changes in refinery feedstock processing to result in specific hazard impacts involving hydro-conversion processing, including explosion and uncontrolled refinery fire, in excess of those associated with historic petroleum crude refining operations. The DEIR did not identify, evaluate, or mitigate these significant process hazard impacts that could result from the project.

4. AIR QUALITY AND HAZARD RELEASE IMPACTS OF PROJECT FLARING THAT AVAILABLE EVIDENCE INDICATES WOULD BE SIGNIFICANT ARE NOT IDENTIFIED, EVALUATED, OR MITIGATED IN THE DEIR

For the reasons discussed above, the project would introduce new hazards that can be expected to result in new hazard incidents that involve significant flaring, and would be likely increase the frequency of significant flaring. Based on additional available evidence, the episodic releases of hazardous materials from flares would result in acute exposures to air pollutants and significant impacts. The DEIR does not evaluate the project flaring impacts or their potential significance and commits a fundamental error which obscures these impacts.

4.1 The DEIR Did Not Evaluate Environmental Impacts of Project Flaring

Use of refinery flare systems—equipment to rapidly depressurize process vessels and pipe their contents to uncontrolled open-air combustion in flares—is included in the project.[131] The DEIR reports this,[132] and identifies a flare maintenance turnaround during 2018.[133] However, the DEIR does not discuss potential environmental impacts of project flaring anywhere in its 456 pages. The DEIR does not disclose or mention readily available data showing frequently recurrent significant flaring at the refinery that is documented and discussed in §3.2.4 above, or any other site-specific flare impact data. This represents an enormous gap in its environmental analysis.

[131] DEIR pp. 2-22, 3.3-1, Figure 2-9.
[132] DEIR pp. 2-22, 3.3-1, Figure 2-9.
[133] DEIR p. 3-5, Table 3-5.

4.2 The DEIR Did Not Identify, Evaluate, or Mitigate Significant Potential Flare Impacts That Could Result from the Project

Had the DEIR assessed available flare frequency, magnitude and causal factors data, the County could have found that project flaring impacts would be significant, as discussed below.

4.2.1 The DEIR did not consider incidence data that indicate the potential for significant project flaring impacts

Flaring emits a mix of many toxic and smog forming air pollutants—particulate matter, hydrocarbons ranging from polycyclic aromatics to methane, sulfur dioxide, hydrogen sulfide, and others—from partially burning off enormous gas flows. Most of the 100 significant flaring incidents documented and described in subsection 3.2.4 above flared more than two million standard cubic feet (SCF) of vent gas each, and many flared more than ten million SCF.[134] The plumes cross into surrounding communities, where people experience acute exposures to flared pollutants repeatedly, at levels of severity and at specific locations which vary with the specifics of the incident and atmospheric conditions at the time when flaring recurs.

In 2005, flaring was linked to episodically elevated localized air pollution by analyses of a continuous, flare activity-paired, four-year series of hourly measurements in the ambient air near the fence lines of four Bay Area refineries.[135] By 2006, the regional air quality management district independently confirmed the link, assessed community-level impacts, and set environmental significance thresholds for refinery flares.[136] [137] These same significance thresholds were used to require Marathon and Phillips 66 to report the flare incident data described in subsection 3.2.4 and in this subsection above.[138] [139]

Thus, each of the hundred hydrogen-related flaring incidents since 2010 at the Marathon Martinez and Phillips 66 Rodeo refineries *individually* exceeded a relevant significance threshold

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[134] Karras, 2021a (Att. 2).
[135] Karras and Hernandez, 2005. *Flaring Hot Spots: Assessment of episodic local air pollution associated with oil refinery flaring using sulfur as a tracer;* Communities for a Better Environment: Oakland and Huntington Park, CA. Appended hereto at Attachment 27.
[136] Ezersky, 2006. *Staff Report: Proposed Amendments to Regulation 12, Miscellaneous Standards of Performance, Rule 12, Flares at Petroleum Refineries;* 3 March 2006. Planning and Research Division, Bay Area Air Quality Management District: San Francisco, CA. *See esp.* pp. 5–8, 13, 14. Appended hereto as Attachment 28.
[137] BAAQMD Regulations, § 12-12-406. Bay Area Air Quality Management District: San Francisco, CA. *See* Regulation 12, Rule 12, at: https://www.baaqmd.gov/rules-and-compliance/current-rules
[138] *Id.*
[139] BAAQMD *Causal Analysis Reports for Significant Flaring* (Att. 26).

for air quality. New hazard incidents, and hence flare incidents, can be expected to result from repurposing the same process units that flared without removing the underlying causes for that flaring,[140] which is what implementing the project would do. Consequently, the proposed project can be expected to result in significant episodic air pollution impacts.

4.2.2 The DEIR did not consider causal evidence that indicates project flare incident rates have the potential to exceed those of historic petroleum crude refining

Further, the project would do more than repurpose the same process units that flare without removing the underlying causes for that flaring. The project would switch to new and very different feeds with new corrosion and mechanical integrity hazards, new chemical hydrogen demands and extremes in reaction heat runaways, in processes and systems prone to potentially severe damage from these very causal mechanisms; damage it would attempt to avoid by flaring. *See* Section 3. It is thus reasonably likely that compared with historic crude refining, the new HEFA process hazards might more frequently manifest in refinery incidents (*Id.*), hence flaring.

4.2.3 The DEIR did not assess flare impact frequency, magnitude, or causal factors

As stated, the DEIR does not discuss potential environmental impacts of project flaring. It does not disclose, discuss, evaluate or otherwise address any of the readily available data, evidence or information described in this subsection (§ 4.2).

4.3 An Exposure Assessment Error in the DEIR Invalidates its Impact Conclusion and Obscures Project Flare Impacts

A fundamental error in the DEIR obscures flare impacts. The DEIR ignores acute exposures to air pollution from episodic releases entirely to conclude that air quality impacts from project refining would not be significant based only on long-term annual averages of emissions.[141]

The danger in the error may best be illustrated by example: The same mass of hydrogen sulfide emission into the air that people nearby breathe without perceiving even its noxious odor when it is emitted continuously over a year can kill people *in five minutes* when that "annual average" emits all at once in an episodic release.[142] Acute and chronic exposure impacts differ.

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[140] *See* Section 3 herein; Karras, 2021a (Att. 2).
[141] DEIR pp. 3.3-14 to 3.3-16, 3.3-25 to 3.3-40, Appendix AQ_GHG. *See* also DEIR pp. 3-3 to 3-6.
[142] Based on H_2S inhalation thresholds of 0.025–8.00 parts per million for perceptible odor and 1,000–2,000 ppm for respiratory paralysis followed by coma and death within seconds to minutes of exposure. *See* Sigma-Aldrich, 2021. *Safety Data Sheet: Hydrogen Sulfide;* Merck KGaA: Darmstadt, DE. Appended hereto as Attachment 29.

4.3.1 The DEIR air quality analysis failed to consider the environmental setting of the project

An episodic refinery release can cause locally elevated ambient air pollution for hours or days with little or no effect on refinery emissions averaged over the year. At the same time, people in the plume released cannot hold their breath more than minutes and can experience toxicity due to inhalation exposure. In concluding the project would cause no significant air quality impact without considering impacts from acute exposures to episodic releases, the DEIR failed to properly consider these crucial features of the project environmental setting.

4.3.2 The DEIR air quality analysis failed to consider toxicological principles and practices

The vital need to consider both exposure concentration and exposure duration has been a point of consensus among industrial and environmental toxicologists for decades. This consensus has supported, for example, the different criteria pollutant concentrations associated with a range of exposure durations from 1-hour to 1-year in air quality standards that the DEIR itself reports.[143] Rather than providing any factual support for concluding impacts are not significant based on analysis that excludes acute exposures to episodic releases, the science conclusively rebuts that analytical error in the DEIR.

4.3.3 The DEIR air quality analysis failed to consider authoritative findings and standards that indicate project flaring would exceed a community air quality impact threshold

Crucially, the Bay Area Air Quality Management District adopted the significance threshold for flaring discussed above based on *one-hour* measurements and modeling of flare plumes, which, it found, "show an impact on the nearby community."[144] On this basis the District further found that its action to adopt that significance threshold "will lessen the emissions impact of flaring on those who live and work within affected areas."[145] Thus the factual basis for finding flaring impacts significant is precisely the evidence that the DEIR ignores in wrongly concluding that project refining impacts on air quality are not significant.

CONCLUSION: The project is likely to result in a significant air quality impact associated with flaring, and has reasonable potential to worsen this impact compared with historic petroleum

[143] DEIR p. 3.3-8; Table 3.3-2.
[144] Ezersky, 2006 (Att. 28).
[145] *Id.*

crude refining operations at the site. The DEIR does not identify, evaluate, or analyze measures to lessen or avoid this significant potential impact.

5. THE DEIR OBSCURES THE SIGNIFICANCE OF PROJECT IMPACTS BY ASSERTING AN INFLATED FUTURE BASELINE WITHOUT FACTUAL SUPPORT

The baseline condition for comparison with project impacts includes the existing petroleum storage and transfer operation at the project site. The DEIR, however, compares project impacts with those of a petroleum refinery with crude feed capacity more than three times the biomass feed capacity of the proposed project. It argues for this "future baseline" by stating such a crude refinery operated and was permitted to operate at the site historically, but provides no factual support for speculating that those historic conditions will become future conditions at the site. The DEIR does not disclose or evaluate evidence which strongly suggests that a future return to historic crude refining at the site is unlikely. As a result of these errors the DEIR inflates the project baseline and systematically understates the significance of project impacts.

5.1 The DEIR Does Not Describe Existing Baseline Conditions That Suggest its Conclusion Linking Project and Onsite Crude Refining Outcomes is Unfounded

5.1.1 Petroleum storage and transfer rather than refining is the existing project site condition

From before the project was proposed until now, the existing primary use of the proposed project site has been and is for petroleum storage and transfer operations.[146] The DEIR, however, concludes that the project baseline is petroleum crude refining at historic rates.[147] The project baseline asserted by and applied in the DEIR does not represent existing conditions.

5.1.2 Petroleum crude refining at the site has been shuttered with no plans to restart

Marathon shuttered crude refining operations at the refinery on 28 April 2020.[148] In July 2020, Marathon asserted that closure was permanent with no plans to restart the refinery.[149] The DEIR

[146] *See* DEIR p. 2-22; Table 2-1 (existing petroleum storage for distribution to be maintained).
[147] DEIR pp. 3-3 through 3-7.
[148] April 28, 2020 Flare Event Causal Analysis for Tesoro Refining and Marketing Company, subsidiary of Marathon Petroleum, Martinez Refinery Plant #B2758, submitted to the Bay Area Air Quality Management District dated June 29, 2020. Accessed from www.baaqmd.gov/about-air-quality/research-and-data/flare-data/flare-causal-reports. *See* BAAQMD *Causal Analysis Reports for Significant Flaring* (Att. 26).
[149] BAAQMD, 2021. Workshop Report, Draft Amendments to Regulation 6, Rule 5: Particulate Emissions from Petroleum Refinery Fluidized Catalytic Cracking Units. January 2021. Bay Area Air Quality Management District: San Francisco, CA. *See* p. 14 FN; captions of tables 1, 2, 6, 8–10.

contradicts this public assertion by the project proponent without identifying, evaluating, or otherwise addressing the contradiction.

5.1.3 The project launched after crude refining ceased permanently at the site

Marathon was "evaluating the possibility" of this project in August 2020,[150] began "detailed engineering" for the project during October–December 2020,[151] and "approved these plans" on February 24, 2021.[152] All of that occurred after the April 2020 crude refining closure and July 2020 announcement that closure was permanent, but the DEIR does not disclose or address this evidence that decisions by the refiner regarding onsite crude refining predated and were not linked to decisions about the project. In addition, the DEIR does not discuss or explain the discrepancy between the Project Description, which does not propose restarting crude refining as an alternative to the project, and the opposite assumption in its baseline analysis.

5.2 The DEIR Does Not Disclose or Evaluate Available Evidence that Future Restart of Onsite Crude Refining is Unlikely due to Factors Independent from the Project

Converging lines of evidence which the DEIR does not disclose or evaluate strongly suggest that the shuttered crude refinery is unlikely to restart whether or not the project proceeds.

5.2.1 Available evidence indicates that the crude refinery closed during a refining assets consolidation that proceeded before, and independently from, plans for the project

Available evidence indicates that the refinery closed as part of a consolidation of refining assets. Refining assets follow the rule of returns to scale. Over time, smaller refineries expand or close.[153] Consolidation, in which fewer refineries build to greater capacity, has been the trend for decades across the U.S.[154] The increase in total capacity concentrated in fewer plants[155] further reveals returns to scale as a factor in this consolidation. Access to markets also is a factor. The domestic market for engine fuels refined here is primarily in California and limited

[150] August 25, 2020 email from A. Petroske, Marathon, to L. Guerrero and N. Torres, Contra Costa County.
[151] US Securities and Exchange Commission Form 10-K, Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 2020, by Marathon Petroleum Corporation. Accessed from https://www.marathonpetroleum.com/Investors/ *See* p. 50.
[152] *Id*.
[153] Meyer, D.W., and Taylor, C.T. The Determinants of Plant Exit: The Evolution of the U.S. Refining Industry. Working Paper No 328, November 2015. Bureau of Economics, Federal Trade Commission: Washington, D.C. https://www.ftc.gov/system/files/documents/reports/determinants-plant-exit-evolution-u.s.refining-industry/wp328.pdf
[154] *Id*.
[155] *Id*.

almost entirely to the West Coast.[156] [157] Tesoro, Andeavor, and Marathon expanded refining capacity elsewhere in this market instead of at the Martinez Refinery—investment decisions that created the largest refinery on the West Coast in Los Angeles[158] and left Marathon with *extra* capacity in California, and across the West Coast, even after its Martinez crude refinery closed. *See* Table 9.

Table 9. Total Operable Atmospheric Crude Distillation Capacity of West Coast Refineries Owned by Marathon Petroleum Corp. / Andeavor / Tesoro Refining and Marketing, 2010–2021. [a]

Capacities in barrels per calendar day (b/cd) from January 1 of each year.

Year	Los Angeles, CA	Martinez, CA	Anacortes, WA	California Subtotal	CA & WA Subtotal
2010	96,860	166,000	120,000	262,860	382,860
2011	94,300	166,000	120,000	260,300	380,300
2012	103,800	166,000	120,000	269,800	389,800
2013	103,800	166,000	120,000	269,800	389,800
2014	355,500	166,000	120,000	521,500	641,500
2015	361,800	166,000	120,000	527,800	647,800
2016	355,170	166,000	120,000	521,170	641,170
2017	364,100	166,000	120,000	530,100	650,100
2018	341,300	166,000	120,000	507,300	627,300
2019	363,000	161,500	119,000	524,500	643,500
2020	363,000	161,000	119,000	524,000	643,000
2021	363,000	—	119,000	363,000	482,000
	Growth in capacity from 2010–2020 in barrels per day:			261,140	260,140
	Growth as a percentage of Martinez capacity on 1/1/20:			162 %	162 %
	Growth in capacity from 2010–2021 in barrels per day:			100,140	99,140

[a] Data from USEIA, 2021. *Capacity Data by Individual Refinery*. (Att. 16).

Since refineries wear out in the absence of sufficient reinvestment,[159] and run more efficiently when running closer to full capacity, those decisions to invest and expand elsewhere set the stage for refining asset consolidation. Its setting, landward of a shallow shipping channel that forces tankers to partially unload, wait for high tide, or both, before calling at Martinez[160] further set up

[156] USEIA, 2015 (Att. 11).
[157] The DEIR baseline analysis does not explicitly blame COVID-19 for the Marathon Martinez crude refinery closure, however, it bears note that the DEIR does not identify any other California refinery that closed during the pandemic, and it appears that this is the only California refinery to close coincident with the pandemic to date.
[158] Marathon Petroleum Corp., 2019 Annual Report, Part I, p. 9 (2019 Annual Report). https://www.annualreports.com/HostedData/AnnualReportArchive/m/NYSE_MPC_2019.pdf.
[159] Karras, 2020 (Att. 10).
[160] ACOE, 2019, Draft Integrated General Reevaluation Report and Environmental Impact Statement, San Francisco Bay to Stockton, California Navigation Study. Army Corps of Engineers: Jacksonville, FL EIS and EIS Appendix D. *See* p. ES-3, maps. Appended hereto as Attachment 30. *See* pp. ES-3, D-22, D-24, maps.

the refinery to close in that consolidation. Indeed, Marathon informed investors that it expected to complete the "consolidation" and expansion of its refining facilities in Los Angeles in the first quarter of 2020,[161] just before it finally closed the refinery in April. In fact, closing the refinery lets Marathon run its Los Angeles and Anacortes refineries closer to full. *See* § 5.2.2.

The sequence of events further links crude refining closure at Martinez to consolidation and not to the project. The refining assets consolidation began years ago, before Marathon owned those assets, and its Los Angeles refinery expansion component appeared to be complete before early 2020 (Table 9), when its CEO expected to complete the consolidation.[162] Marathon shut down crude refining at Martinez in April 2020 (§ 5.1.2). Then, and only after that shutdown, Marathon launched this project (§ 5.1.3). Timing links the shutdown to consolidation, not to the project.

5.2.2 Closing the crude refinery relieved a pre-existing condition of serious and growing petroleum refining structural overcapacity in California and on the West Coast

The DEIR baseline analysis does not consider available evidence that, instead of its unsupported choice between only the project and onsite crude refining, the true alternative to the project may be refinery decommissioning. Crude refineries in this fuels market have long been overbuilt and, for more than a decade as demand for petroleum fuels declined in their domestic markets, have exported large and growing volumes of their petroleum fuels production to more distant markets where their exports command lower prices.[163] But even with those exports, and even during the recent strong petroleum fuels demand surge in their domestic markets, California and West Coast refineries continued to run well below capacity. § 2.2. Idle California refining capacity during the recent demand surge exceeded the former capacity of the Martinez refinery and approached the Marathon Los Angeles refinery capacity (§ 2.2; Table 5, Table 9).

The growing structural overcapacity that idled up to 305,000 b/d of refining capacity during the recent fuels demand surge in California could have idled 466,000 b/d, had Marathon not closed its Martinez refinery (§ 2.2; Table 5, Table 9). Marathon had recently expanded its West Coast capacity so much that it was left with more refining capacity after closing Martinez than it had before its Los Angeles capacity expansion began. Table 9. The refiner then faced a choice

[161] 2019 Annual Report. *See* "From the Chairman and CEO" at p. 1.
[162] *Id.*
[163] *See* § 2.2 herein; *see* also Karras, 2020 (Att. 10).

between spending more on three refineries running closer to empty and spending less on two refineries running closer to full—with essentially equivalent domestic market share and declining demand. Two refineries closer to full could be more profitable. Marathon shuttered the Martinez crude refining operations. That relieved a growing overcapacity cost.

Moreover, if Marathon still found crude refining at Martinez profitable there was no reason for it to shut that off before project construction. Phillips 66, for example, is refining crude in Rodeo while it seeks approval for its Rodeo biofuel plans, and proposes to refine still more crude there while rebuilding for biofuel refining.[164] The DEIR does not explain its conclusion that crude refining will occur here without the project when it has not occurred here since April 2020.

5.2.3 The crude refinery stayed closed when statewide fuels refining began to rebound in 2020

Through the summer of 2020 statewide refinery engine fuels production began a partial rebound. From its deeply cut late-April 2020 low, combined refinery gasoline, distillate and jet fuel yield statewide rose 26% by the first week of June, 27% by the first week of July, 32% by the second week of August, then 36% and 39% by the first and last weeks of September, respectively.[165] Marathon did not restart crude refining in Martinez, instead announcing in July 2020 that it has no plans to restart the refinery. § 5.1.2.

5.2.4 Marathon did not restart the crude refinery when petroleum fuels demand rebounded to approach and then reach pre-COVID levels from April through July of 2021

By July 2021 a strong surge in petroleum fuels demand that started in April reached pre-COVID levels, accounting for seasonal and interannual variability, across California and the West Coast as a whole. § 2.2. Crude refining did not restart at the Martinez refinery during this strong surge in demand, and has not restarted to date. In fact, the actions taken by Marathon before and since the company shuttered the crude refinery and its assertion of no plans to restart the crude refinery are consistent with its closure in the refining assets consolidation and with effects of structural overcapacity discussed above. The DEIR does not consider this available evidence suggesting that the Marathon Martinez crude refinery will not restart.

[164] County File No. CDLP20-02040.
[165] CEC *Fuel Watch* (Att. 13).

5.3 The DEIR Does Not Evaluate Technological, Energy Policy, or Climate Policy Factors That Further Suggest Re-establishment of Crude Refining Operations at the Project Site is Unlikely Whether or Not the Project Proceeds

5.3.1 Battery-electric vehicles growth would worsen petroleum refining overcapacity

A superior technology has emerged that is very likely to replace internal combustion engine (ICE) vehicles, reducing demand for combustion fuels, worsening refining overcapacity, and greatly increasing the implausibility of resuming historic Martinez crude refining operations. Going roughly three times as far per unit energy with fewer moving parts to wear and replace, battery-electric vehicle (BEV) technology has—or will soon have—lower total car ownership cost than ICE technology.[166] U.S. and foreign automakers report investments in production of lower sticker-price BEVs. The DEIR does not evaluate BEV effects on refinery restart.

Charging infrastructure buildout[167] and the balance of post-tax public subsidies to BEV *versus* ICE technology appear relevant to how quickly the postulated refinery restart could become clearly implausible, as discussed in § 5.3.3.

5.3.2 State energy and climate policies could worsen petroleum refining overcapacity

California climate and energy policies have converged on broad goals to replace ICE vehicles with zero-emission vehicles (ZEVs) while dramatically expanding solar, wind, and electrolytic hydrogen fuel infrastructure for those ZEVs—BEVs and fuel cell-electric vehicles.[168] Cuts in gasoline-powered transport of roughly 90% by 2045 are targeted along with near-100% renewable electricity as essential to climate stabilization by state-sponsored planning research toward these goals.[169] This would reduce refined fuels demand and hence the plausibility of refinery restart. How much, and how quickly, may depend in large part on local land use commitments to zero-emission infrastructure, however.[170] The DEIR baseline analysis does not consider effects of state ZEV plans or local siting actions on refinery restart.

5.3.3 Mutually reinforcing technology and policy factors suggest refinery restart is unlikely

The future remains uncertain—as the DEIR examples by assuming future uses of the project site could only be for the project or crude refining—and still, a general observation can be drawn

[166] Karras, 2021a (Att. 2).
[167] *Id.*
[168] *Id.*
[169] *Id.*
[170] *See* Karras, 2020 (Att. 10).

from the information reported in subsections 5.3.1 and 5.3.2. Interactions, however imperfect, between the capability of BEV technology to replace petroleum, state capabilities to support its ZEVs goal, and local capabilities to site and host appropriate and desirable land uses would tend to accelerate replacement of ICE with BEV vehicles.

For example, the state might subsidize buildout of charging infrastructure, enabling more people to use BEVs, who may in turn support siting more charging infrastructure in their communities.

Relevant to the DEIR baseline analysis, these mutually reinforcing technology and policy factors will likely work together to reduce future petroleum fuels demand more quickly than either factor would reduce it alone, thereby decreasing the plausibility of future crude refining restart. The DEIR does not consider these relevant factors in its baseline analysis.

CONCLUSION: The DEIR baseline conclusion, that petroleum refining would restart onsite in the future if the proposed project does not proceed, fails to represent existing conditions and is speculative, unsupported by facts in the DEIR and rebutted by available evidence that the DEIR does not disclose or evaluate. The use of this inflated baseline in the DEIR was an error that obscured the significance of project impacts and resulted in a deficient impacts evaluation.

CONCLUSIONS

1. The DEIR provides an incomplete, inaccurate, and truncated or at best unstable description of the proposed project. Available information that the DEIR does not describe or disclose will be necessary for sufficient review of environmental impacts that could result from the project.

2. A reasonable potential exists for the project to result in significant climate and air quality impacts by increasing the production and export of California-refined fuels instead of replacing petroleum fuels. This impact would be related to the particular type and use of biofuel proposed. Resultant greenhouse gases and co-pollutants would emit in California from excess petroleum and biofuel refining, and emit in California as well as in other states and nations from petroleum and biofuel feedstock extraction and end-use fuel combustion. The DEIR does not identify, evaluate, or mitigate these significant potential impacts of the project.

3. There is a reasonable potential for the proposed changes in refinery feedstock processing to result in specific hazard impacts involving hydro-conversion processing, including explosion and uncontrolled refinery fire, in excess of those associated with historic petroleum crude refining operations. The DEIR did not identify, evaluate, or mitigate these significant process hazard impacts that could result from the project.

4. The project is likely to result in a significant air quality impact associated with flaring, and has reasonable potential to worsen this impact compared with historic petroleum crude refining operations at the site. The DEIR does not identify, evaluate, or analyze measures to lessen or avoid, this significant potential impact.

5. The DEIR baseline conclusion, that petroleum refining would restart onsite in the future if the proposed project does not proceed, fails to represent existing conditions and is speculative, unsupported by facts in the DEIR and rebutted by available evidence that the DEIR does not disclose or evaluate. The use of this inflated baseline in the DEIR was an error that obscured the significance of project impacts and resulted in a deficient impacts evaluation.

Attachments List

1. Curriculum Vitae and Publications List

2. Karras, 2021a. *Changing Hydrocarbons Midstream: Fuel chain carbon lock-in potential of crude-to-biofuel petroleum refinery repurposing;* prepared for the Natural Resources Defense Council (NRDC) by Greg Karras, G. Karras Consulting. August 2021.

3. Karras. 2021b. *Unsustainable Aviation Fuels: An assessment of carbon emission and sink impacts from biorefining and feedstock choices for producing jet biofuel from repurposed crude refineries;* Natural Resources Defense Council (NRDC). Prepared for the NRDC by Greg Karras, G. Karras Consulting.

4. USDOE, 2021. *Renewable Hydrocarbon Biofuels;* U.S. Department of Energy, accessed 29 Nov 2021 at https://afdc.energy.gov/fuels/emerging_hydrocarbon.html

5. Chevron Refinery Modernization Project, SCH# 2011062042, DEIR Appendix 4.3–URM: Unit Rate Model.

6. Karras, 2010. Combustion Emissions from Refining Lower Quality Oil: What is the global warming potential? *Environ. Sci. Technol.* 44(24): 9584–9589. DOI: 10.1021/es1019965.

7. CSB, 2013. *Interim Investigation Report, Chevron Richmond Refinery Fire;* U.S. Chemical Safety Board: Washington, D.C. https://www.csb.gov/file.aspx?Documentid=5913.

8. API, 2009. *Guidelines for Avoiding Sulfidation (Sulfidic) Corrosion Failures in Oil Refineries;* API Recommended Practice 939-C. First Edition, May 2009. American Petroleum Institute: Washington, D.C.

9. Krogh et al., 2015. *Crude Injustice on the Rails: Race and the disparate risk from oil trains in California;* Communities for a Better Environment and ForestEthics. June 2015.

10. Karras, 2020. *Decommissioning California Refineries: Climate and Health Paths in an Oil State;* A Report for Communities for a Better Environment. Prepared by Greg Karras. Includes Supporting Material Appendix.

11. USEIA, 2015. West Coast Transportation Fuels Markets; U.S. Energy Information Administration: Washington, D.C. https://www.eia.gov/analysis/transportationfuels/padd5/

12. USEIA, *Supply and Disposition: West Coast (PADD 5);* U.S. Energy Information Administration: Washington, D.C. www.eia.gov/dnav/pet/pet_sum_snd_d_r50_mbbl_m_cur.htm.

13. CEC *Fuel Watch*. Weekly Refinery Production. California Energy Commission: Sacramento, CA. https://ww2.energy.ca.gov/almanac/petroleum_data/fuels_watch/output.php

14. CARB GHG Inventory. *Fuel Activity for California's Greenhouse Gas Inventory by Sector and Activity; 14th ed.: 2000 to 2019;* California Air Resources Board: Sacramento, CA. https://ww2.arb.ca.gov/ghg-inventory-data

15. CDTFA, various years. *Fuel Taxes Statistics & Reports;* California Department of Tax and Fee Administration: Sacramento, CA. https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm.

16. USEIA *Refinery Capacity by Individual Refinery*. Data as of January 1, 2021; U.S. Energy Information Administration: Washington, D.C. www.eia.gov/petroleum/refinerycapacity

17. USEIA *Refinery Utilization and Capacity*. PADD 5 data as of Sep 2021. U.S. Energy Inf. Administration: Washington, D.C. www.eia.gov/dnav/pet/pet_pnp_unc_dcu_r50_m.htm 18. Pearlson et al., 2013. A techno-economic review of hydroprocessed renewable esters and fatty acids for jet fuel production. *Biofuels, Bioprod. Bioref.* 7: 89–96. DOI: 10.1002/bbb.1378.

19. Pastor et al., 2010. *Minding the Climate Gap: What's at stake if California's climate law isn't done right and right away;* College of Natural Resources, Department of Environmental Science, Policy, and Management, University of California, Berkeley: Berkeley, CA; and Program for Environmental and Regional Equity, University of Southern California: Los Angeles, CA.

20. Clark et al, 2017. Changes in transportation-related air pollution exposures by race-ethnicity and socioeconomic status: Outdoor nitrogen dioxide in the United States in 2000 and 2010. *Environmental Health Perspectives* 097012-1 to 097012-10. 10.1289/EHP959.

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22. Chan, 2020. *Converting a Petroleum Diesel Refinery for Renewable Diesel;* White Paper / Renewable Diesel. Burns McDonnell. www.burnsmcd.com.

23. Robinson and Dolbear, 2007. Commercial Hydrotreating and Hydrocracking. *In:* Hydroprocessing of heavy oils and residua. Ancheyta, J., and Speight, J., eds. CRC Press, Taylor & Francis Group: Boca Raton, FL. ISBN-13: 978-0-8493-7419-7.

24. van Dyk et al., 2019. Potential synergies of drop-in biofuel production with further co-processing at oil refineries. *Biofuels Bioproducts & Biorefining* 13: 760–775. DOI: 10.1002/bbb.1974.

25. Process Safety Integrity *Refining Incidents;* accessed Feb–Mar 2021; available for download at: https://processsafetyintegrity.com/incidents/industry/refining.

26. BAAQMD *Causal Analysis Reports for Significant Flaring;* Bay Area Air Quality Management District: San Francisco, CA. Reports submitted by Marathon and formers owners of the Marathon Martinez Refinery, and submitted by Phillips and former owners of the Phillips 66 San Francisco Refinery at Rodeo, pursuant to BAAQMD Regulation 12-12-406.

27. Karras and Hernandez, 2005. *Flaring Hot Spots: Assessment of episodic local air pollution associated with oil refinery flaring using sulfur as a tracer;* Communities for a Better Environment: Oakland and Huntington Park, CA.

28. Ezersky, 2006. *Staff Report: Proposed Amendments to Regulation 12, Miscellaneous Standards of Performance, Rule 12, Flares at Petroleum Refineries;* 3 March 2006. Planning and

Research Division, Bay Area Air Quality Management District: San Francisco, CA. *See esp.* pp. 5–8, 13, 14.

29. Sigma-Aldrich, 2021. *Safety Data Sheet: Hydrogen Sulfide;* Merck KGaA: Darmstadt, DE.

30. ACOE, 2019, Draft Integrated General Reevaluation Report and Environmental Impact Statement, San Francisco Bay to Stockton, California Navigation Study. Army Corps of Engineers: Jacksonville, FL EIS and EIS Appendix D. *See* p. ES-3, maps.

December 17, 2021

Via overnight mail

Joseph W. Lawlor Jr., AICP
Project Planner
Contra Costa County
Department of Conservation and Development
30 Muir Rd
Martinez, CA 94553

Re: Martinez refinery renewable fuels project (File No. CDLP20-02046) – comments concerning draft EIR

Dear Mr. Lawlor:

Enclosed please find a thumb drive containing the sources referenced in the comments on the DEIR for the above-referenced project being submitted today via electronic mail, on behalf of the identified organizations. Please feel free to reach out to me if you have any questions or concerns.

Very truly yours,

Ann Alexander
Senior Attorney, Natural Resources Defense Council
312-919-7285
aalexander@nrdc.org

From:	Andrea Weber
To:	Joseph Lawlor
Cc:	Victoria Bogdan Tejeda; Hollin Kretzmann
Subject:	Comments on Martinez Refinery Project, File No. CDLP20-02046
Date:	Friday, December 17, 2021 1:48:55 PM
Attachments:	CBD et al comments re Martinez Marathon Biofuels Project CDLP20-02046.pdf

Dear Joseph Lawlor,
Please find attached comments regarding the following project:
Martinez Refinery Project, File No. CDLP20-02046

References cited in our comments can be accessed through this box.com link:
https://diversity.box.com/s/ytednkvwhsg1elgz9a3znzti3xpiqkp5

Please let me know if you have any questions or issues accessing the references.

Thank you.

Andrea Weber
Senior Paralegal
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, CA 94612
ph: 510-844-7111

December 17, 2021

Via Email and File Transfer of References

Attn: Joseph Lawlor
Contra Costa County
Department of Conservation and Development
Community Development Division
30 Muir Rd.
Martinez, CA 94553
Joseph.lawlor@dcd.cccounty.us

Re: Martinez Refinery Project, File No. CDLP20-02046

To the Department of Conservation and Development:

On behalf of the Sunflower Alliance, Rodeo Citizen's Association, Biofuelwatch, and the Center for Biological Diversity, I am writing to urge the Department to *reject* the proposed biofuel conversion for the Martinez refinery and instead begin plans for a full decommissioning of the facility. Communities have suffered from the pollution from these refineries for far too long. Prolonging their operation would only continue the harm to public health and the environment. Addressing climate change, industry pollution, and environmental justice are monumental challenges for the county, but biofuel refining is not a solution to any of these problems. The County should require Marathon to fully decommission the facility and move us toward a healthier and truly sustainable future. O13-1

The decommissioning process should make all efforts to ensure that workers and former workers at the refineries can rely on family-sustaining incomes and benefits moving forward. This can include requirements for Marathon to execute the decommissioning plan using current and former refinery workers wherever possible, funding adequate pension plans for workers to retire, wage and benefit replacement when needed, and worker training and placement programs to match workers skills with good, high-road jobs in clean renewable energy and other growing sectors.

I. The Proposed Project

The Martinez refinery has not refined crude oil products since April 2020. Marathon now proposes to restart its idled petroleum refinery by converting the facility into one capable of refining up to 48,000 barrels per day of biofuel oil products. The project would have significant adverse effects that harm the surrounding communities and environment. The biofuels refining process is extremely energy intensive and requires a large volume of hydrogen supply to complete the refining process. Hydrogen production will lead to an increase in air emissions at the neighboring Air Products facility. (Draft EIR, p. 3.3-26.) O13-2

II. The County Should Reject the Project and Begin Decommissioning

Residents of Contra Costa County and the Bay Area have endured decades of adverse health and environmental harms stemming from the polluting activities of the area's refineries. Air pollution, water degradation, ecosystem harms, and adverse effects to public health have been the inevitable and direct result of allowing Marathon's refineries and other similar facilities nearby to continuously operate.

By rejecting the proposed project, the County has an opportunity to make significant progress in prioritizing public health and moving toward a healthier and more resilient future. The County has discretionary authority over land use permits, and it should exercise that discretion in favor of denying the project. The climate crisis is affecting every aspect of life, and the County has a responsibility to do everything in its power to reduce greenhouse gas emissions as much as possible. The California Environmental Quality Act (CEQA) requires that the County make a "good faith effort, based to the extent possible on scientific and factual data," to assess the total greenhouse gas emissions of the project.[1]

Under CEQA, the County must consider a "no project" alternative, a scenario under which a proposed project does not move forward.[2] Here, that alternative is one in which the idled refinery does not convert to a biofuel refining facility and is instead decommissioned.

Decommissioning the refinery and restoring the site to its original condition would be a years' long, labor-intensive undertaking, capable of creating a significant number of local jobs. A recent report estimates that that every $1 million invested in pollution cleanup would result in 12.3 jobs, while ecosystem restoration would result in 18.6 jobs.[3] Thus, in addition to dismantling the existing facility, site remediation will add even more jobs for the county. Wherever possible, the county must use its full authority to ensure that these are good, high-road jobs with family-sustaining wages and benefits.

O13-3

III. Biofuels Are a False Solution to the Climate Crisis

Renewable and sustainable electricity must be the focus of any long-term energy plan. California is moving in that direction. The state has already required all light-duty vehicles to be zero emission by 2035, and medium- and heavy-duty vehicles to be zero emission by 2045.[4] The California Air Resources Board (CARB) projects that aggressive action on greenhouse gas reduction will require significantly limited liquid transportation fuel consumption.[5] A dramatic

O13-4

[1] 14 Cal. Code Regs., § 15064.4 (CEQA Guidelines).
[2] *Id.* § 15126.6(e)(1).
[3] Pollin, R. et al., A Program for Economic Recovery and Clean Energy Transition in California, Political Economy Research Institute (2021) *at* p. 80 Table 4.4 (includes direct, indirect, and induced jobs).
[4] Governor Gavin Newsom, Executive Order N-79-20. Executive Department, State of California, https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf
[5] Mahone, Amber et al., Achieving Carbon Neutrality in California: PATHWAYS Scenarios Developed for the California Air Resources Board, Energy and Environmental Economics, Inc. (DRAFT: August 2020), https://ww2.arb.ca.gov/sites/default/files/2020-08/e3_cn_draft_report_aug2020.pdf.

increase in biofuels production at the Martinez refinery and other facilities would veer us off CARB's pathways to achieving California's climate goals. In fact, an over-reliance on biofuels could very well lead to emissions greater than those produced from conventional oil refining, in direct contradiction to California's climate targets. O13-4 cont'd

The energy required to refine biofuels is in fact comparable, or in some cases more carbon-intensive, than crude oil refining when direct and indirect emissions are taken into account. Due in large part to the energy needed to create hydrogen required to refine biofuel feedstocks, the Marathon refinery will emit more carbon per barrel than average crude oil refining.[6]

The emissions from the refinery itself represent only part of the project's climate damage. The feedstocks will likely come from soybean and other crops. Given the projected size of Marathon's biofuels operation (and the Phillips 66 biofuels conversion proposal), the increased demand for these crops will foreseeably lead to converting additional land to agricultural production, destroying carbon-sequestering forests, wetlands, and other preserved areas.

In addition, a dramatic increase in the supply of biofuels is likely to impede California's goals for electrifying its transportation sector. California's EV market must greatly expand in order for the state to achieve its climate goals. Flooding the market with biofuel as a transportation fuel alternative will undermine the EV effort if consumers begin opting for biofuels instead.

Marathon itself is not immune from the effects of climate change. The Martinez refinery is more likely to experience flooding as climate change triggers sea level rise.[7] Yet doubling down on energy-intensive fuels will only bring such calamitous events sooner and increase their severity. O13-5

IV. The Project's Environmental and Health Harms Are Significant

The environmental and health harms of the project are numerous and significant. The Center joins separate comments (submitted December 17, 2021 by Natural Resources Defense Council) describing in greater detail the significant air quality, water quality, wildlife, public health, and climate change impacts of the project. O13-6

As discussed in that letter, the outsized impacts to species are significant and inadequately covered in the Draft EIR. Marathon is proposing to restart refinery operations in an area that serves as highly valuable remaining habitat for endangered and other imperiled species of plants and wildlife, including the salt marsh harvest mouse, delta smelt, California ridgeway rail. The construction and operation threaten to harm these species through air, water, light, noise, and vibration pollution. Increased vessel traffic would add sedimentation and noise to the sensitive O13-7

[6] CO_2 emissions from U.S. petroleum refineries averaged 41.8 kg per barrel crude feed from 2015-2017 (the most recent data available). By contrast, HEFA production emits 55-80 kg per barrel biomass feed associated with increased hydrogen production *alone* – such exceeding petroleum refining carbon intensity by 32-91 percent. *See* Karras, G, Changing Hydrocarbons Midstream (technical report and accompanying supporting material, submitted to this docket by the Natural Resources Defense Council (December 2021)).

[7] Morello-Frosch, Rachel et al., Toxic Tides: Sea Level Rise, Hazardous Sites, and Environmental Justice in California, UC Berkeley Sustainability and Health Equity Lab, https://sites.google.com/berkeley.edu/toxictides/home?authuser=0 (accessed December 7, 2021).

habitat and raise the risk of ship strikes for species along the shipping routes. A single spill could have catastrophic consequences for the remaining species populations in the area. The Draft EIR admits that "adverse impacts to special status species, protected habitats, and migratory corridors and nursery sites for native species as a result of a major spill would remain significant and unavoidable" regardless of spill response plans. (Draft EIR, p. 3.4-41). Gambling with the survival of numerous species populations is inimical to efforts to save and recover those imperiled species.

Furthermore, the increased demand for cropland spurred by the project will lead to serious indirect harms to species outside of Contra Costa County. A lead agency must consider such indirect environmental impacts, defined as a change in the physical environment that is not immediately related to the project but that is indirectly caused by the project, in an EIR.[8] Examples of indirect impacts include "growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems."[9] When evaluating the significance of the environmental effects of a project, the lead agency must consider all indirect impacts that are "reasonably foreseeable" and "caused by the project."[10] Indirect impacts are not limited by geographic scope, and may occur later in time or farther removed in distance than direct environmental impacts.[11]

O13-7 cont'd

The Draft EIR fails to analyze the project's indirect land use impacts, in particular the induced growth of croplands, and how that will decrease habitat for species. Numerous threatened species are vulnerable to soy and corn crop expansion driven by biofuel production, particularly in the prairie habitat of the Midwest and Great Plains. For example, many pollinating insects such as butterflies and bumble bees are threatened by habitat loss and fragmentation from the continuing conversion of native prairie patches to industrial cropland, as well as heavy pesticide use for crop production including herbicides, insecticides, and fungicides. The threatened Dakota skipper butterfly (*Hesperia dacotae*) was extirpated from half of its recorded range in the Midwest due to the replacement of its native mixed and tallgrass prairie habitat with row-crop agriculture, paired with poisoning from pesticides.[12] Other listed pollinators facing similar threats from biofuel crop expansion and associated pesticide use include the Poweshiek skipperling (*Oarisma poweshiek)*, rattlesnake-master borer moth (*Papaipema eryngii*), rusty patched bumble bee (*Bombus affinis*), and the candidate monarch butterfly (*Danaus plexippus*). Threatened prairie plants imperiled by habitat destruction from biofuel crop expansion include the Eastern prairie fringed orchid (*Platanthera leucophaea*), leafy prairie-clover (*Dalea foliosa*), prairie bush-clover (*Lespedeza leptostachya*), and Western prairie fringed orchid (*Platanthera praeclara*).

O13-8

[8] CEQA Guidelines, § 15064(d)(2).
[9] *Id.* § 15358(a)(2)
[10] *Id.* § 15064(d)(2).
[11] *Id.* § 15358(a)(2).
[12] U.S. Fish and Wildlife Service, Species status assessment report for the Dakota skipper (Hesperia dacotae) (2018), https://www.fws.gov/midwest/endangered/insects/dask/pdf/Species_Status_Assessment_Dakota_Skipper_September_2018.pdf.

Grassland birds are also highly threatened by the destruction of their prairie feeding and nesting habitat due to cropland conversion. Grassland birds are among the most imperiled bird group in the U.S., with a more than 50% drop in overall population since 1970,[13] and three of four species in decline.[14] One iconic endangered species, the whooping crane (*Grus americana*), was driven to near-extinction by conversion of its prairie habitat to row-crop agriculture in the northern Great Plains of the U.S. and Canada, including harms from draining wetlands, fencing, sowing, human disturbance, and pesticide use.[15] Other examples of species threatened by biofuel crop expansion include the Great Lakes gray wolf (*Canis lupus*), American burying beetle (*Nichrophorus americanus)*, and Indiana bat (*Myotis sodalis*). Ending the destruction and degradation of prairie habitat by cropland conversion and restoring damaged habitat are critical for the recovery and survival of these threatened species.

Other species may be at risk if significant amounts of feedstock are derived from outside the U.S. The County must fully describe, analyze and mitigate to the extent feasible these reasonably foreseeable impacts.

In addition, the Draft EIR does not consider whether these harms to species would conflict with federal protections under the Endangered Species Act or Migratory Birds Treaty Act.[16] For example, the destruction of Midwestern habitat to make room for more biofuel feedstock cropland would harm recovery efforts for the Whooping crane,[17] which relies on wetlands in Wisconsin, Illinois, Nebraska and other states in which corn and soy cropland is already substantial. (See Figures 1 and 2, below). The project will likely trigger further land conversions to agricultural use, diminishing available habitat for the whooping crane and other migratory birds. The County must fully describe, analyze and mitigate to the extent feasible these reasonably foreseeable impacts.

O13-8 cont'd

[13] North American Bird Conservation Initiative (NABCI), State of the Birds (2019), https://www.stateofthebirds.org/2019/steep-declines/

[14] Stanton, R.L. et al., Analysis of trends and agricultural drivers of farmland bird declines in North America: A review, 254 Agriculture, Ecosystems, and Environment 244 (2018), https://www.sciencedirect.com/science/article/pii/S016788091730525X.

[15] Canadian Wildlife Service and U.S. Fish and Wildlife Service, International recovery plan for the whooping crane, Recovery of Nationally Endangered Wildlife (RENEW), and U.S. Fish and Wildlife Service, Albuquerque, New Mexico (2006), https://www.fws.gov/uploadedFiles/WHCR%20RP%20Final%207-21-2006.pdf.

[16] 16 U.S.C. §§ 1531 *et al.*; *id.* §§ 703-712.

[17] Listed at 50 C.F.R. § 10.13

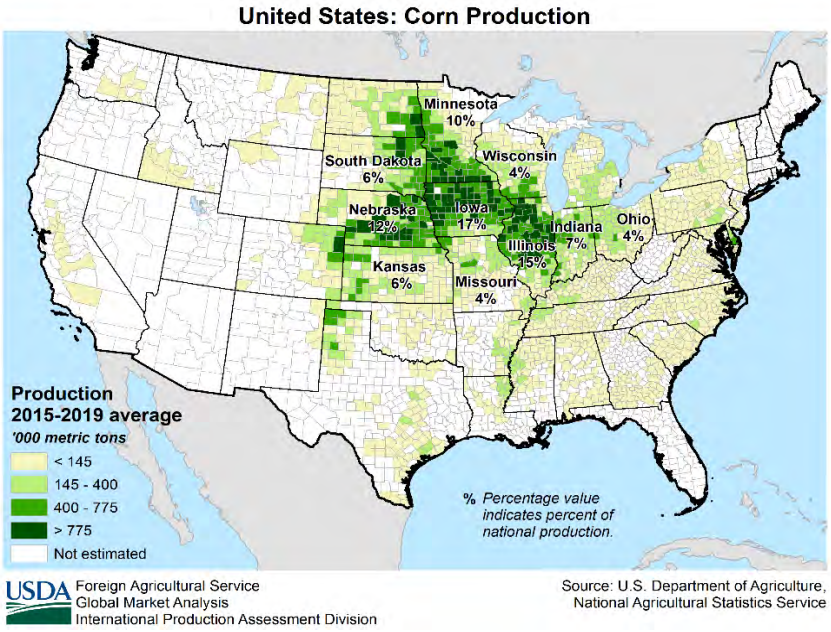

Figure 1: U.S. Corn production[18]

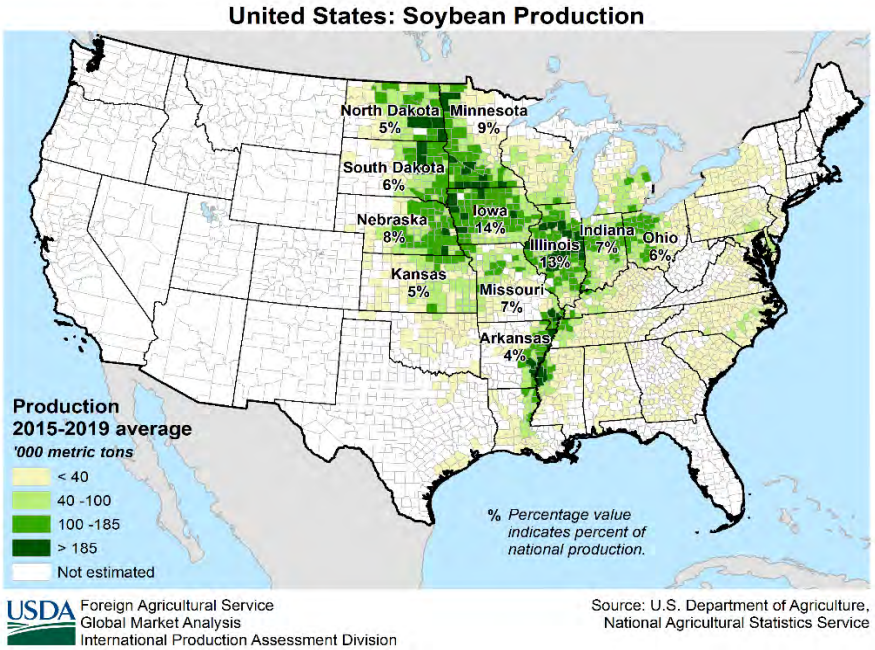

Figure 2: U.S. Soybean production[19]

O13-8 cont'd

[18] U.S. Dept of Agriculture, Crop Production maps, *available at* https://ipad.fas.usda.gov/rssiws/al/us_cropprod.aspx (Accessed Dec. 13, 2021).

V. The Project's Cumulative Impacts Are Significant

The Bay Area air basin contains four other refineries that contribute to local pollution, and the air basin does not meet state and federal minimum standards for pollutants including ozone and particulate matter.[20] On their own and in this context, the project's cumulative impacts on air quality, climate change, and other environmental factors would be significant, yet the EIR fails to analyze these impacts. O13-9

The Draft EIR mentions the nearby Phillips 66 refinery in Rodeo only in passing, and fails to analyze the combined impacts of what would be two large-scale biofuel refineries in close proximity. Further, the Draft EIR lists several of the largest greenhouse gas stationary sources within the county (Table 3.8-3), but does not analyze the cumulative impact of the project with other nearby refineries: PBF in Martinez and Valero in Benicia. These and other major sources of pollution contribute significant amounts of pollution to the region, increase the risk of spills, harm local and migratory wildlife, and increase truck, rail, and ship traffic for the area. Such impacts must be evaluated together for the public to have even a minimum understanding of the environmental harms from this project.

The Draft EIR must also disclose the upstream land use conversions that are foreseeable for the project when combined with the Phillips 66 Rodeo refinery conversion, which plans to refine even more crop-based feedstock after its conversion. The Rodeo and Marathon refinery conversions are just two of many current or planned biofuel projects across the county, all of which will be in competition with another and drive demand for crops to new heights. The cumulative land conversion will have a significant impact on species that rely on previously undisturbed habitat, or may experience habitat fragmentation, or have migratory corridors cut off by new agriculture. See Section IV, *supra*. The areas lost to crop conversion also must include the edge effects, whereby wildlife are affected by air, light, noise and other pollution well beyond the boundaries of new development. For example, in the Marcellus Shale, while each drilling pad and associated infrastructure results in the clearing of 8.8 acres of forest, each drilling pad affects 30 acres of forest after accounting for ecological edge effects.[21] O13-10

VI. The Project Conflicts with Local Laws

CEQA requires that an EIR "discuss any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans" as part of the project's environmental setting.[22] Based on this review, a project may have a significant adverse impact if O13-11

[19] *Id.*
[20] *See* Bay Area Air Quality Management District, Air Quality Standards and Attainment Status, https://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status (accessed December 13, 2021.)
[21] Johnson, N., Pennsylvania energy impacts assessment: Report 1: Marcellus shale natural gas and wind, Nature Conservancy – Pennsylvania Chapter (2010).
[22] CEQA Guidelines, § 15125(d).

it conflicts with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.[23]

Courts have interpreted CEQA's land use "consistency" requirement as asking "whether the project is *compatible with*, and *does not frustrate*, the general plan's goals and policies." *Napa Citizens for Honest Gov't v. Napa Cty. Bd. of Supervisors*, 91 Cal. App. 4th 342, 378, 110 Cal. Rptr. 2d 579, 605-06 (2001) (emphasis added) (invalidating Napa County's certification of an EIR due to inconsistencies between the county's general plan); *accord San Franciscans Upholding the Downtown Plan v. City & Cty. of S.F.*, 102 Cal. App. 4th 656, 678, 125 Cal. Rptr. 2d 745, 760 (2002). O13-11 cont'd

The Draft EIR is inconsistent with the Contra Costa General Plan ("the General Plan"), and therefore, in violation of CEQA. The Draft EIR doesn't recognize this fact, instead ignoring various applicable goals and policies of the General Plan that conflict with the refinery conversion (see below) and dismissing the impacts with regards to local land use plans as less than significant. (*See, e.g.*, Draft EIR at pp. 3.11-13—14, 3.12-9).

First, the General Plan states that "development shall be planned within a framework of maintaining a healthy and attractive environment."[24] The Draft EIR does not mention this goal, and the proposed Project fails this standard because both the construction and operational phases will produce emissions of harmful air pollutants, such as volatile organic compounds ("VOCs"), particulate matter ("PM"), sulfur dioxide ("SO2"), carbon monoxide ("CO"), and nitrogen oxide ("NOx"). (Draft EIR pp. 3.3-30—32, 3.3-34—35). While the Draft EIR attempts to minimize the air pollution impacts by measuring emissions against a baseline of petroleum refining, this ignores that *any* contribution of harmful air pollutants makes for an unhealthful environment, and a comparison to past operations is irrelevant. O13-12

Second, the General Plan's Renewable Energy Resources Goals include encouraging "the use of renewable resources where they are compatible with the maintenance of environmental quality."[25] The Draft EIR fails to mention this goal and the fact that the refinery conversion is inconsistent with it. The Draft EIR describes how the refinery conversion will result in greatly increased tanker vessel and barge trips, an impact that will lead to air and water pollution, as well as an increased likelihood of ship strikes of marine mammals. (See Draft EIR at p. 3.4-35; *see also id.* at Table ES-1). Moreover, the increased demand for "renewable" feedstocks will foreseeably lead to significant loss of preserved lands to accommodate that increased demand. See Section IV, *supra*. O13-13

Further, even if the Draft EIR fails to analyze emissions from particular feedstocks, the refinery will emit—whatever the feedstock—harmful air emissions into communities already overburdened and long-exposed to harmful air pollution. (Draft EIR at pp. 3.3-30—32, 3.3-34—35). For these reasons, the Martinez project is incompatible with the General Plan's approach of only encouraging renewable resources when doing so does not degrade environmental quality. O13-14

[23] Id., Appx. G at XI.
[24] General Plan, Conservation Element at 8-3 (Jan. 18, 2005).
[25] *Id.* at p. 8-31.

Third, CEQA requires that projects are compatible with regional plans—including "plans for the reduction of greenhouse gas emissions."[26] The Draft EIR acknowledges that Contra Costa's 2015 Climate Action Plan applies to the proposed Project, but asserts that the activities "comply" with the CAP because of the facility's "energy efficiency," (Draft EIR at p. 3.6-8), and because "the conversion to renewable fuels instead of fossil fuels." (*Id.* at p. 3.8-22). But the baseline should reflect the existing conditions of the facility, and a biofuels refinery will emit an increase in greenhouse gas emissions over a decommissioned facility. Further, the Draft EIR does not account for the full lifecycle greenhouse gas emissions of the proposed refinery—the upstream greenhouse gas impacts of feedstock transportation and production and the downstream combustion—nor does it analyze whether the project is compatible with the 2015 CAP. Moreover, the County expects to complete an updated CAP in 2022, which will likely include stronger greenhouse gas reduction goals to reflect the current best available science.

In addition, the proposed project is inconsistent with the San Francisco Bay Plan, adopted pursuant to the Coastal Zone Management Act. Pursuant to the Bay Plan, "[t]idal marshes and tidal flats should be conserved to the fullest possible extent."[27] The proposed project violates this standard because it aims to increase activities that pose substantial threats to protected tidal marshes and flats within the Suisun Bay and the greater San Francisco estuary. Specifically, the project proposes to significantly increase shipping traffic through the San Francisco Bay and to the project site, estimating traffic at 400 vessels annually. Such a substantial increase in shipping traffic will correspondingly increase the risk of invasive plant and animal species by shipping vessels. By the Draft EIR's own admission the risk of "an introduction of non-native invasive species from marine vessels" would be "significant and unavoidable even after mitigation." (Draft EIR at 4.3.3). Because this "significant and unavoidable" threat to the ecological integrity of tidal marshes and flats is inconsistent with promoting their conservation to the "fullest possible extent," the proposed project is inconsistent with the Bay Plan. O13-15

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[26] CEQA Guidelines, § 15125(d).

[27] San Francisco Bay Conservation and Development Commission, San Francisco Bay Plan (2020), *available at* https://bcdc.ca.gov/plans/sfbay_plan.

VII. Conclusion

The County should reject Marathon's proposed project and deny the application for a land use permit. Contra Costa County and the Bay Area should move past its legacy of dirty refineries and fully commit to devising a just transition plan that ensures workers and communities can thrive without recommitting to environmentally detrimental industries. The region does not need to add decades more pollution, contribute further to climate change, or induce deforestation and other habitat destruction. O13-16

Respectfully submitted,

Hollin Kretzmann
Staff Attorney
Center for Biological Diversity

Shoshana Wechsler, Sunflower Alliance

Janet Pyegeorge, Rodeo Citizen's Association

Gary Hughes, Biofuelwatch

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Letter in support of Marathon Petroleum Renewable Fuels Project

Blair, James <jblair@dvc.edu>

Fri 12/17/2021 8:52 AM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>
Cc: John Gioia <John.Gioia@bos.cccounty.us>; Supervisor Candace Andersen <SupervisorAndersen@bos.cccounty.us>; Supervisor_Burgis <Supervisor_Burgis@bos.cccounty.us>; SupervisorMitchoff <SupervisorMitchoff@bos.cccounty.us>; District5 <District5@bos.cccounty.us>

Dear Mr. Lawlor,

Please add the a ached le er in support of Marathon's EIR to the public comments regarding the project.

If you have any ques ons please let me know.

Thank you,

James Blair, JD
Director of College Advancement
Diablo Valley College
321 Golf Club Road
Pleasant Hill, CA 94523
(925) 969-2025 Office
(925) 639-5924 Cell

DVC
DIABLO VALLEY COLLEGE

December 14, 2021

Contra Costa Board of Supervisors
1025 Escobar Street
Martinez, CA 94553

Dear Board of Supervisors,

I write to you today in support of Marathon Petroleum and the conversion of their Martinez Refinery to renewable fuels. We are thankful for their efforts to move toward sustainable energy and to continue being a strong community partner.

Marathon has supported Diablo Valley College's workforce development efforts and students with grants exceeding $100,000. They are a long-term college partner with a desire to assist our students into living wage careers. Because of their generosity we have built and continue to expand on advanced manufacturing within the college's program offerings. They have also graciously sponsored STEM summer academies on campus that serve students from our surrounding high schools, and stimulate their interests in science fields. O14-1

In addition to their financial generosity, Marathon representatives have provided insights to current students regarding sustainable energy systems and possible career opportunities within the field. Part of these presentations includes the work that Marathon does within their plant and within the broader community. This clarity and transparency is appreciated.

I hope you will take these positive benefits to the broader community into consideration as you assess and permit their project.

Sincerely,

Susan Lamb

Susan Lamb
President
Diablo Valley College

Support for Marathon Renewable Fuels Manufacturing Facility

Kristin Connelly <kconnelly@eblcmail.org>

Fri 12/17/2021 11:03 AM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>

Mr. Lawlor:

I hope you are doing well.

A ached please find a le er of support for the Marathon Renewable Fuels Manufacturing Facility from the East Bay Leadership Council.

With gra tude,
Kris n

Kristin Connelly (she/her), JD, MPP | President and CEO | East Bay Leadership Council
o. 925.246.1880 | c. 925.765.9004 | kconnelly@eblcmail.org
P.O. Box 4096, Walnut Creek, CA 94596
www.eastbayleadershipcouncil.com

December 17, 2021

Mr. Joseph Lawlor
Project Planner
(By email to Joseph.Lawlor@dcd.cccounty.us)

RE: Support for Marathon Renewable Fuels Manufacturing Facility

Dear Mr. Lawlor:

O15-1

On behalf of the East Bay Leadership Council, a regional public policy and advocacy organization representing hundreds of employers across Contra Costa and Alameda Counties, I write to confirm our support for the conversion of the current Marathon petroleum refining facility to a manufacturing facility for renewable fuels. Our organization is confident this project will have direct benefits to residents of Contra Costa County and the economic vitality of our region. We encourage you to approve the EIR for this project.

Marathon's conversion to renewable fuels will reduce carbon emissions, air pollutants and water use while maintaining their critical role as an employer in Contra Costa County. The Marathon conversion project benefits working people in Contra Costa by preserving the jobs of the refinery workers that will be retained, as well as through the construction work required for the project. The refinery's contribution to the gross regional product is significant which positively benefits both the Bay Area and the state of California as a whole.

For these and many other reasons, the East Bay Leadership Council strongly supports Marathon and the Draft EIR. We urge you to approve the Marathon conversion project and the EIR as soon as possible.

Warmest regards,

Kristin Connelly

Kristin Connelly
President & CEO

From:	Gary Kupp
To:	Joseph Lawlor
Subject:	FW: Marathon Martinez CAP Renewable Fuels Project Comment
Date:	Friday, December 17, 2021 2:14:15 PM
Attachments:	Marathon CAP Renewable Fuels Project Letter.pdf
Importance:	High

From: darrell.foote@sbcglobal.net <darrell.foote@sbcglobal.net>
Sent: Friday, December 17, 2021 2:07 PM
To: Gary Kupp <Gary.Kupp@dcd.cccounty.us>
Cc: SupervisorMitchoff <SupervisorMitchoff@bos.cccounty.us>; District5 <District5@bos.cccounty.us>; Supervisor Candace Andersen <SupervisorAndersen@bos.cccounty.us>; Supervisor_Burgis <Supervisor_Burgis@bos.cccounty.us>; John Gioia <John.Gioia@bos.cccounty.us>
Subject: Marathon Martinez CAP Renewable Fuels Project Comment

Dear Mr. Kupp,

The Marathon Martinez Community Advisory panel would like to provide comment on the Marathon Martinez Renewable Fuels Project. Please find their letter attached as a pdf.

Thank you,
Darrell Foote
Facilitator, Marathon Martinez CAP

Marathon Martinez
Community Advisory Panel

December 7, 2021

Contra Costa County
Department of Conservation & Development Community Development Division
30 Muir Road, Martinez, California 94553
Attention: Gary Kupp, Senior Planner

Dear Mr. Kupp,

I am writing to you at the request of and on behalf of the Marathon Martinez Community Advisory Panel (CAP) to advise you that the CAP has been given in-depth presentations regarding the proposed renewable fuel project as well as regular updates on the project and its approval process.

Established in 1993, the CAP is an independent, self-governing body whose members include local residents, community organizations, emergency responders, and others from the communities surrounding the site. CAP members meet monthly with management representatives of the Marathon Martinez site to discuss matters of interest and concern, and to receive updates on site operations. The CAP places a priority on matters dealing with health and safety and the environment, such as the renewable fuels project. O16-1

In addition to receiving periodic presentations at CAP meetings, CAP members independently reviewed and discussed the Environmental Impact Report for the proposed renewable fuels project. The CAP was able to ask questions regarding potential impacts and mitigations related to the project.

CAP members have appreciated Marathon's outreach and information regarding the project as well as its continued commitment to the CAP process.

If you have any questions, please contact Darrell Foote, CAP Facilitator, at 925-229-0440 or email him at informpr@sbcglobal.net.

Sincerely, and on behalf of the Marathon Martinez Community Advisory Panel,

Darrell Foote

From:	Woody Hastings
To:	Joseph Lawlor
Cc:	Ellie Cohen
Subject:	Comments of The Climate Center on the Draft Environmental Impact Report for the proposed conversion of the Marathon Martinez oil refinery to biofuel production (File No. CDLP20-02046)
Date:	Friday, December 17, 2021 3:13:01 PM
Attachments:	TCC Comment-Marathon File No. CDLP20-02046 12-17-21.pdf

Dear Mr. Lawlor: Please see attached. Confirmation of receipt would be appreciated. Thank you.

Woody Hastings (he/him)
Program Manager, The Climate Center
707-829-3460 (Office) 310-968-2757 (Mobile)

Facebook | Twitter | Donate

Our mission: Deliver speed and scale greenhouse gas reductions, starting in California.

Contact
www.theclimatecenter.org
1275 4th Street #191
Santa Rosa, CA 95404
707–525-1665

December 17, 2021

Joseph W. Lawlor Jr., AICP, Project Planner
Contra Costa County Department of Conservation and Development
30 Muir Rd, Martinez, CA 94553

Via Email: Joseph.Lawlor@dcd.cccounty.us

Subject: Comments of The Climate Center on the Draft Environmental Impact Report for the proposed conversion of the Marathon Martinez oil refinery to biofuel production (File No. CDLP20-02046)

Dear Mr. Lawlor:

On behalf of The Climate Center and its thousands of supporters statewide, I'm writing to you concerning the Draft Environmental Impact Report (DEIR) for the proposed conversion of the Marathon Martinez oil refinery to biofuel production (File No. CDLP20-02046). O17-1

The Climate Center has signed on to the Coalition technical letter (sent separately) regarding this project and we write to draw your attention to the section in that letter that addresses greenhouse gas (GHG) emissions (Section VI. The DEIR Inadequately Discloses And Addresses Project Greenhouse Gas and Climate Impacts, beginning on page 45). Please see that letter for a full treatment on this issue. O17-2

The key concern we want to emphasize revolves around the assumed baseline. The DEIR assumes if the permit is denied Marathon will continue refining petroleum at past levels, so that biofuel refining will reduce pollution. But the Marathon refinery is currently shut down, therefore, the appropriate baseline is an assumption that no project or emissions currently exist. Any future project emissions actually constitute an *increase* in local pollution and global climate pollution. The question then becomes one of scale and appropriate engineering controls if the project is to be permitted at all. O17-3

Some of the uncertainty around GHG calculations revolves around incomplete assessment of the various types of biomass feedstocks the facilities will refine. The DEIR does not even take into consideration the embedded GHGs and other impacts to land use and food production if the permitting of this facility results in a massive increase in the use of food crops like soybean oil as a feedstock. Current indications are that the refinery could potentially use up to 24 percent of the nation's entire supply of soybean oil. More environmentally sustainable feedstocks like waste oil are not available in the quantities contemplated by the project. O17-4

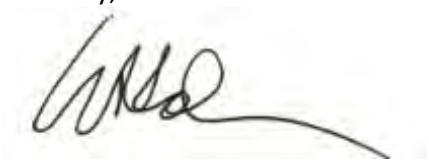
The DEIR does not fully evaluate alternatives to the project. There is insufficient consideration, for instance, of an appropriately scaled renewables-based electrolytic hydrogen production facility. Such a project could occupy a smaller footprint creating a buffer between the inherently cleaner facility and the nearest neighbors. O17-5

The potential impacts addressed in the DEIR are limited to the impacts of just this one project. The DEIR did not make any meaningful effort, as required by the California Environmental Quality Act (CEQA), to evaluate the cumulative impacts of the very similar Phillips 66 Rodeo refinery project, being evaluated nearly simultaneously. The latest climate science and conclusions from the Intergovernmental Panel on Climate Change are clear. In order to avoid the worst impacts of climate change, carbon emitting operations and combustion fuels in the transportation sector must rapidly be phased out. O17-6

The Climate Center does not categorically oppose bioenergy, but we do have significant concerns regarding appropriate *scale* for these kinds of projects. Small scale projects close to limited feedstocks may make sense. This project, if approved, will have potentially enormous impacts on the surrounding community for years to come, and impacts related to GHG emissions are inadequately addressed in the DEIR. It is therefore critically important that the CEQA review be thorough and accurate, and that the public be involved to the maximum extent possible. The Climate Center strongly urges you to hold a public hearing regarding this permit application and to fully address the specific concerns inadequately addressed or not mentioned at all in the DEIR. O17-7

Thank you for your consideration.

Sincerely,



Ellie Cohen, CEO
The Climate Center

Pacific Gas and Electric Company

Plan Review Team
Land Management

PGEPlanReview@pge.com

October 16, 2021

Joseph Lawlor
County of Contra Costa
30 Muir Rd
Martinez, CA 94553

Ref: Gas and Electric Transmission and Distribution

Dear Joseph Lawlor,

Thank you for submitting the Martinez Refinery Renewable Fuels Project plans for our review. PG&E will review the submitted plans in relationship to any existing Gas and Electric facilities within the project area. If the proposed project is adjacent/or within PG&E owned property and/or easements, we will be working with you to ensure compatible uses and activities near our facilities.

Attached you will find information and requirements as it relates to Gas facilities (Attachment 1) and Electric facilities (Attachment 2). Please review these in detail, as it is critical to ensure your safety and to protect PG&E's facilities and its existing rights.

Below is additional information for your review:

1. This plan review process does not replace the application process for PG&E gas or electric service your project may require. For these requests, please continue to work with PG&E Service Planning: https://www.pge.com/en_US/business/services/building-and-renovation/overview/overview.page.

2. If the project being submitted is part of a larger project, please include the entire scope of your project, and not just a portion of it. PG&E's facilities are to be incorporated within any CEQA document. PG&E needs to verify that the CEQA document will identify any required future PG&E services.

3. An engineering deposit may be required to review plans for a project depending on the size, scope, and location of the project and as it relates to any rearrangement or new installation of PG&E facilities.

Any proposed uses within the PG&E fee strip and/or easement, may include a California Public Utility Commission (CPUC) Section 851 filing. This requires the CPUC to render approval for a conveyance of rights for specific uses on PG&E's fee strip or easement. PG&E will advise if the necessity to incorporate a CPUC Section 851filing is required.

This letter does not constitute PG&E's consent to use any portion of its easement for any purpose not previously conveyed. PG&E will provide a project specific response as required.

Sincerely,

Plan Review Team
Land Management

Pacific Gas and Electric Company

Attachment 1 – Gas Facilities

There could be gas transmission pipelines in this area which would be considered critical facilities for PG&E and a high priority subsurface installation under California law. Care must be taken to ensure safety and accessibility. So, please ensure that if PG&E approves work near gas transmission pipelines it is done in adherence with the below stipulations. Additionally, the following link provides additional information regarding legal requirements under California excavation laws: https://www.usanorth811.org/images/pdfs/CA-LAW-2018.pdf

1. Standby Inspection: A PG&E Gas Transmission Standby Inspector must be present during any demolition or construction activity that comes within 10 feet of the gas pipeline. This includes all grading, trenching, substructure depth verifications (potholes), asphalt or concrete demolition/removal, removal of trees, signs, light poles, etc. This inspection can be coordinated through the Underground Service Alert (USA) service at 811. A minimum notice of 48 hours is required. Ensure the USA markings and notifications are maintained throughout the duration of your work.

2. Access: At any time, PG&E may need to access, excavate, and perform work on the gas pipeline. Any construction equipment, materials, or spoils may need to be removed upon notice. Any temporary construction fencing installed within PG&E's easement would also need to be capable of being removed at any time upon notice. Any plans to cut temporary slopes exceeding a 1:4 grade within 10 feet of a gas transmission pipeline need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

3. Wheel Loads: To prevent damage to the buried gas pipeline, there are weight limits that must be enforced whenever any equipment gets within 10 feet of traversing the pipe.

Ensure a list of the axle weights of all equipment being used is available for PG&E's Standby Inspector. To confirm the depth of cover, the pipeline may need to be potholed by hand in a few areas.

Due to the complex variability of tracked equipment, vibratory compaction equipment, and cranes, PG&E must evaluate those items on a case-by-case basis prior to use over the gas pipeline (provide a list of any proposed equipment of this type noting model numbers and specific attachments).

No equipment may be set up over the gas pipeline while operating. Ensure crane outriggers are at least 10 feet from the centerline of the gas pipeline. Transport trucks must not be parked over the gas pipeline while being loaded or unloaded.

4. Grading: PG&E requires a minimum of 36 inches of cover over gas pipelines (or existing grade if less) and a maximum of 7 feet of cover at all locations. The graded surface cannot exceed a cross slope of 1:4.

5. Excavating: Any digging within 2 feet of a gas pipeline must be dug by hand. Note that while the minimum clearance is only 12 inches, any excavation work within 24 inches of the edge of a pipeline must be done with hand tools. So to avoid having to dig a trench entirely with hand tools, the edge of the trench must be over 24 inches away. (Doing the math for a 24 inch

wide trench being dug along a 36 inch pipeline, the centerline of the trench would need to be at least 54 inches [24/2 + 24 + 36/2 = 54] away, or be entirely dug by hand.)

Water jetting to assist vacuum excavating must be limited to 1000 psig and directed at a 40° angle to the pipe. All pile driving must be kept a minimum of 3 feet away.

Any plans to expose and support a PG&E gas transmission pipeline across an open excavation need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

6. Boring/Trenchless Installations: PG&E Pipeline Services must review and approve all plans to bore across or parallel to (within 10 feet) a gas transmission pipeline. There are stringent criteria to pothole the gas transmission facility at regular intervals for all parallel bore installations.

For bore paths that cross gas transmission pipelines perpendicularly, the pipeline must be potholed a minimum of 2 feet in the horizontal direction of the bore path and a minimum of 12 inches in the vertical direction from the bottom of the pipe with minimum clearances measured from the edge of the pipe in both directions. Standby personnel must watch the locator trace (and every ream pass) the path of the bore as it approaches the pipeline and visually monitor the pothole (with the exposed transmission pipe) as the bore traverses the pipeline to ensure adequate clearance with the pipeline. The pothole width must account for the inaccuracy of the locating equipment.

7. Substructures: All utility crossings of a gas pipeline should be made as close to perpendicular as feasible (90° +/- 15°). All utility lines crossing the gas pipeline must have a minimum of 12 inches of separation from the gas pipeline. Parallel utilities, pole bases, water line ‘kicker blocks’, storm drain inlets, water meters, valves, back pressure devices or other utility substructures are not allowed in the PG&E gas pipeline easement.

If previously retired PG&E facilities are in conflict with proposed substructures, PG&E must verify they are safe prior to removal. This includes verification testing of the contents of the facilities, as well as environmental testing of the coating and internal surfaces. Timelines for PG&E completion of this verification will vary depending on the type and location of facilities in conflict.

8. Structures: No structures are to be built within the PG&E gas pipeline easement. This includes buildings, retaining walls, fences, decks, patios, carports, septic tanks, storage sheds, tanks, loading ramps, or any structure that could limit PG&E’s ability to access its facilities.

9. Fencing: Permanent fencing is not allowed within PG&E easements except for perpendicular crossings which must include a 16 foot wide gate for vehicular access. Gates will be secured with PG&E corporation locks.

10. Landscaping: Landscaping must be designed to allow PG&E to access the pipeline for maintenance and not interfere with pipeline coatings or other cathodic protection systems. No trees, shrubs, brush, vines, and other vegetation may be planted within the easement area. Only those plants, ground covers, grasses, flowers, and low-growing plants that grow unsupported to a maximum of four feet (4’) in height at maturity may be planted within the easement area.

11. Cathodic Protection: PG&E pipelines are protected from corrosion with an “Impressed Current” cathodic protection system. Any proposed facilities, such as metal conduit, pipes, service lines, ground rods, anodes, wires, etc. that might affect the pipeline cathodic protection system must be reviewed and approved by PG&E Corrosion Engineering.

12. Pipeline Marker Signs: PG&E needs to maintain pipeline marker signs for gas transmission pipelines in order to ensure public awareness of the presence of the pipelines. With prior written approval from PG&E Pipeline Services, an existing PG&E pipeline marker sign that is in direct conflict with proposed developments may be temporarily relocated to accommodate construction work. The pipeline marker must be moved back once construction is complete.

13. PG&E is also the provider of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E’s facilities must be reviewed and approved by PG&E to ensure that no impact occurs which may endanger the safe operation of its facilities.

Attachment 2 – Electric Facilities

It is PG&E's policy to permit certain uses on a case by case basis within its electric transmission fee strip(s) and/or easement(s) provided such uses and manner in which they are exercised, will not interfere with PG&E's rights or endanger its facilities. Some examples/restrictions are as follows:

1. Buildings and Other Structures: No buildings or other structures including the foot print and eave of any buildings, swimming pools, wells or similar structures will be permitted within fee strip(s) and/or easement(s) areas. PG&E's transmission easement shall be designated on subdivision/parcel maps as "**RESTRICTED USE AREA – NO BUILDING."**

2. Grading: Cuts, trenches or excavations may not be made within 25 feet of our towers. Developers must submit grading plans and site development plans (including geotechnical reports if applicable), signed and dated, for PG&E's review. PG&E engineers must review grade changes in the vicinity of our towers. No fills will be allowed which would impair ground-to-conductor clearances. Towers shall not be left on mounds without adequate road access to base of tower or structure.

3. Fences: Walls, fences, and other structures must be installed at locations that do not affect the safe operation of PG&'s facilities. Heavy equipment access to our facilities must be maintained at all times. Metal fences are to be grounded to PG&E specifications. No wall, fence or other like structure is to be installed within 10 feet of tower footings and unrestricted access must be maintained from a tower structure to the nearest street. Walls, fences and other structures proposed along or within the fee strip(s) and/or easement(s) will require PG&E review; submit plans to PG&E Centralized Review Team for review and comment.

4. Landscaping: Vegetation may be allowed; subject to review of plans. On overhead electric transmission fee strip(s) and/or easement(s), trees and shrubs are limited to those varieties that do not exceed 15 feet in height at maturity. PG&E must have access to its facilities at all times, including access by heavy equipment. No planting is to occur within the footprint of the tower legs. Greenbelts are encouraged.

5. Reservoirs, Sumps, Drainage Basins, and Ponds: Prohibited within PG&E's fee strip(s) and/or easement(s) for electric transmission lines.

6. Automobile Parking: Short term parking of movable passenger vehicles and light trucks (pickups, vans, etc.) is allowed. The lighting within these parking areas will need to be reviewed by PG&E; approval will be on a case by case basis. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications. Blocked-up vehicles are not allowed. Carports, canopies, or awnings are not allowed.

7. Storage of Flammable, Explosive or Corrosive Materials: There shall be no storage of fuel or combustibles and no fueling of vehicles within PG&E's easement. No trash bins or incinerators are allowed.

8. Streets and Roads: Access to facilities must be maintained at all times. Street lights may be allowed in the fee strip(s) and/or easement(s) but in all cases must be reviewed by PG&E for proper clearance. Roads and utilities should cross the transmission easement as nearly at right angles as possible. Road intersections will not be allowed within the transmission easement.

9. Pipelines: Pipelines may be allowed provided crossings are held to a minimum and to be as nearly perpendicular as possible. Pipelines within 25 feet of PG&E structures require review by PG&E. Sprinklers systems may be allowed; subject to review. Leach fields and septic tanks are not allowed. Construction plans must be submitted to PG&E for review and approval prior to the commencement of any construction.

10. Signs: Signs are not allowed except in rare cases subject to individual review by PG&E.

11. Recreation Areas: Playgrounds, parks, tennis courts, basketball courts, barbecue and light trucks (pickups, vans, etc.) may be allowed; subject to review of plans. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications.

12. Construction Activity: Since construction activity will take place near PG&E's overhead electric lines, please be advised it is the contractor's responsibility to be aware of, and observe the minimum clearances for both workers and equipment operating near high voltage electric lines set out in the High-Voltage Electrical Safety Orders of the California Division of Industrial Safety (https://www.dir.ca.gov/Title8/sb5g2.html), as well as any other safety regulations. Contractors shall comply with California Public Utilities Commission General Order 95 (http://www.cpuc.ca.gov/gos/GO95/go_95_startup_page.html) and all other safety rules. No construction may occur within 25 feet of PG&E's towers. All excavation activities may only commence after 811 protocols has been followed.

Contractor shall ensure the protection of PG&E's towers and poles from vehicular damage by (installing protective barriers) Plans for protection barriers must be approved by PG&E prior to construction.

13. PG&E is also the owner of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E's facilities must be reviewed and approved by PG&E to ensure that no impact occurs that may endanger the safe and reliable operation of its facilities.

Comment Letter on Martinez Refinery Renewable Fuels Project DEIR

Marilyn Bardet <mjbardet@comcast.net>

Fri 12/17/2021 3:29 AM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>

Good morning, Mr. Lawlor,

Below you'll find the pdf of my personal comment letter on Marathon Martinez Refinery Renewable Fuels Project DEIR. I hope you will find it constructive and useful.

Thank you for your time reviewing and responding to my letter.
Best wishes for your safety and health through these holidays.

Respectfully,

Marilyn Bardet
333 East K St
Benicia CA 94510

Marilyn J Bardet
333 East K Street, Benicia CA 94510
707-745-9094 (h) mjbardet@comcast.net

Dec 17, 2021
delivered via email to
Joseph.Lawlor@dcd.cccounty.us

Subject:
My Comments on Mar3nez Refinery Renewable Fuels Project ["RFP"]
Dra? Environmental Impact Report Vol 1 - October 2021, State Clearinghouse No. 2021020289

Dear Mr. Lawlor,

While the conversion of the Marathon MarPnez crude oil refinery to "renewable fuels" producPon is generally supported by the state as a climate-protecPve step away from fossil fuel producPon and consumpPon, the first requisite step of the conversion—the shutdown of crude oil refining processes that resulted in eliminaPng toxic air emissions and GHG impacPng peoples' and planet's health — is actually the first step of a model "just transiPon" to an alternaPve energy future that would be most protecPve of communiPes' and the biosphere's health and safety. A just transiPon would ensure workforce retraining and employment in a growing alternaPve energy economy. Just transiPon models address the role and source of any near-term energy soluPon with regard to maintaining and restoring the ecological diversity of life on earth—the survival of which is threatened by human acPvity impacPng every level of bio-integraPon. I1-1

As a 34-year resident of Benicia, and as an environmental and social jusPce advocate, I offer my comments and quesPons about the Marathon Refinery's RFP DEIR, to address cumulaPvely significant impacts and foreseeable unintended consequences—local, regional and global—of the refinery's conversion from crude oil refining to biofuels producPon. I1-2

1. <u>QuesPons re LifePme and Pmelines of the Marathon MarPnez Refinery's RFP:</u>

Marathon's choice to convert their MarPnez refinery to biofuels processing apparently represents a near-term economic imperaPve for the company. For the refinery's operaPonal and economic viability into the future, the conversion presumes a conPnuing demand for low carbon intensity liquid transportaPon fuels into an indeterminate future. I1-3

a) CEQA guidelines state that a DEIR descripPon should idenPfy the esPmated lifePme of a project, (construcPon plus years of operaPon). The RFP conversion implies that no future crude oil producPon would resume at Marathon's MarPnez refinery. What is the esPmated Pmeframe or "lifePme" of biofuels producPon resulPng from the Marathon MarPnez Refinery's RFP? I1-4

b) What are Marathon's esPmated projecPons of the whole lifePme of the RFP based on? I1-5

c) The DEIR explains that sources of biofuel feedstocks could/would include "previously rendered fats (tallow)", and in the future "used cooking oils", presumably from restaurants. In what Pmeframe of the Project (first year, 5 yrs., within decade or. . .?) would the respecPve inclusions of rendered fat and waste cooking oils for biofuel feedstock likely occur? (EsPmates of parPcular future emissions related to these oils should be accounted for.) I1-6

2. <u>Comments and quesPons re feedstock sources:</u>

Looking at the RFP through the lens of climate change and a rapidly changing global environment for human survival, I join with many others in the Bay Area and beyond concerned about the foreseeable loss of precious agricultural land for food producPon in the U.S. and around the world. As the DEIR makes clear, feedstocks for biofuels producPon are derived mainly from soybeans and corn, which I1-7

suggests that agricultural lands producing soybeans or oil, whether for biofuels or plasPcs, would represent a net loss *indefinitely* of land for food and oils for human consumpPon. Industrial agricultural pracPces conPnue to degrade and lose topsoils concomitant with greater use of commercial ferPlizers and herbicides. Such industrial pracPces that would potenPally support support biofuels producPon for other refineries in the US besides Marathon at MarPnez, are destrucPve and unsustainable now and into the future. The potenPal dedicaPon of greater acreage of prime Midwest ag land for growing crops for biofuel producPon represents a ominous trend. Acquiring plant-based liquid feedstocks from rainforest lands burned and cleared for cash crops grown for biofuels must not be allowed. (for example: crops from Brazil; Indonesia; Malaysia). The DEIR claims that there will be no purchase of palm oil. I1-7 cont'd

a) What would legally prevent the future purchase of plant oils grown on rainforest lands? I1-8

b) What quanPPes (tonnages) of annual crop producPons in the U.S. Midwest of soybean and corn does Marathon assume will be available and adequate to produce feedstocks for their MarPnez refinery? (Assuming compePPon from other U.S. refineries converPng to biofuels production.) I1-9

c) How many acres of ag land would it take to grow soybeans and corn to supply Marathon's MarPnez refinery for one year? For five years? For 10 years? I1-10

d) Where are the faciliPes located that press corn and/or soybeans into liquids for transport to the MarPnez refinery by train? (DEIR must give esPmates of VMT for all segments of transport supporPng future biofuel producPon at MarPnez.) I1-11

e) Are GHG emissions from processes to liquify soybeans and corn accounted for in the overall GHG emissions assessment of the Renewable Fuels Project? (DEIR must give esPmates of VMT for all segments of transport supporPng future biofuel producPon at MarPnez.) I1-12

f) What are the locaPons and numbers of slaughterhouses that would be involved to supply "rendered fats" to Marathon's MarPnez refinery? (DEIR must give esPmates of VMT for all segments of transport supporPng future biofuels producPon at MarPnez). I1-13

g) What are the esPmated percentages of feedstock derived over Pme from waste oils that would feasibly be a consPtuent feedstock of a daily "slate" for biofuels producPon? I1-14

3. <u>EsPmates of RFP toxic air emissions including GHG relaPve to the DEIR's emissions' "baseline"</u>:
The DEIR claims there will be decreased emissions from the RFP compared to baseline emissions. This claim is inaccurate since it compares projected emissions to emission levels from years of crude oil refining. <u>The chosen baseline fails to reflect actual condiPons at the refinery over the past 16 months</u>: Marathon's crude oil producPon tailed off in 2020, and the complete shutdown of crude oil processing began in August 2020. Thus, the actual baseline for comparing projected RFP-generated emissions must be set to "zero emissions" to account for the date of shutdown and subsequent months' lack of most, if not all, refinery emissions from Aug., 2020 to Dec., 2021. Absent crude oil refining at Marathon, air quality as measured at the refinery would be significantly improved. Given the startup of RFP construcPon and biofuels processing operaPons in 2022-23, actual future toxic air emissions—including H_2S and PM2.5— will inevitably show cumulaPve emissions' *increases* compared to shutdown condiPons. I1-15

a) Please give several recent examples, if any, of other U.S. refineries' biofuel conversion projects and their operaPons and account for their respecPve toxic air emissions levels. I1-16

b) As examples, what are esPmates for future emissions of H_2S and PM2.5 from biofuels producPon compared to shutdown condiPons at Marathon and how do they compare to other refineries' biofuel production emissions? I1-17

4. Comments and quesPons regarding odor and hydrogen sulfide miPgaPon, monitoring and management:

Of great local and regional concern is the potenPal for off-site dispersion of pernicious odors emanaPng from the various liquid plant-based oils and "rendered fats" during transport, storage and processing of those feedstocks. Odors reeking of "rog en egg" coming from degrading liquid organic mag er are offensive smells that indicate the presence of hydrogen sulfide gas, a potenPally lethal neurotoxin. Depending on the concentraPon and exposure length, H_2S impacts to human health include minimal eye irritaPon to headaches, dizziness, vomiPng and if exposure is inescapable, damage to the olfactory nerve, such that the "rog en egg smell" would no longer be perceivable as a warning; within minutes of such an exposure, a person risks becoming unconsciousness when the H_2S "dose" could kill. The ro en egg smell is emig ed by marshes and shorelines at low Pde. The human nose is capable of detecPng very low levels of H_2S gas in a range of 25 ppb. California's Air Resources Board's Ambient Air Quality Standard for odor/H_2S control is .03ppm for a 1 hour average exposure. A "credible worst case exposure scenario" may seem unlikely. I1-18

Rog en egg odors coming from biofuels would not occur if systems implemented in the RFP conversion for odor management—whatever they are comprised of (see below)—perform flawlessly and are regularly maintained. However, if odors are poorly managed and odor suppression systems do not perform as planned, leakages will foreseeable occur during transport, transfer, storage and refining of feedstocks. Those odors, thus H_2S gas, can travel long distances at ground level depending on hourly and seasonal meteorological condiPons.

The only statement in the DEIR that addresses sources of odors owing to the RFP is extremely limited and unspecific, without descripPon: "Feedstock storage may contribute to odors under Project operations."

a) The DEIR not describe causes of odors owing to funcPoning and performance of units entailed during storage, transport and processing of feedstocks. Why? Please specify such sources and causes. I1-19

b) Please describe systems that will be implemented to suppress or eliminate odors that may leak and drimoffsite of the refinery. The DEIR [page ES-6, MiPgaPon Measure AQ-2, see below] implies that development of such plans will occur during construcPon phases, thus *in the future, date uncertain,* and states that such "plans will be submitted to the Dept. of Conservation and Development for review and approval prior to commissioning of the renewable fuels process." This ambiguous statement suggests that plans will be submig ed *a er* adopPon of a FEIR and *a er* BAAQMD issues a permit for construcPon. Is this true?

Mitigation Measure AQ-2: "During construction phase of the Project, the operational Odor Management Plan (OMP) shall be developed and implemented upon commissioning of the renewable fuels processes, intended to become an integrated part of daily operations at the Facility and other sites, so as to prevent any objectionable offsite odors and effect diligent identification and remediation of any potential objectionable odors generated by the facility and associated sites. The plan shall outline equipment that is in place and procedures that facility personnel shall use to address odor issues, facility wide. The OMP shall include continuous evaluation of the overall system performance, identifying any trends to provide an opportunity for improvements to the plan, and updating the odor management and control strategies as necessary. This plan shall be retained at the facility for County or other government agency inspection upon request. The following practices shall be included in the OMP to reduce the potential of objectionable odors from the storage of renewable feedstocks, operation of the wastewater treatment plant, and any other odor generating activity: • Develop operating procedures to inspect and evaluate the effectiveness of odor control equipment and operation of the wastewater treatment plant.• Inspections conducted on a semi-annual basis.• If there are fewer than an average of five confirmed complaints per year during the first 3 years of operation, then the inspection frequency can be reduced to an annual basis. If there are more than five complaints in any single year, then the application shall develop additional mitigation strategies in consultation with the BAAQMD. The Odor Management Plan shall be submitted to the Department of Conservation and Development for review and approval prior to commissioning of the renewable fuels process." I1-20

c) *Environmental jus9ce requires transparency.* The public has a right to know important informaPon related to people's health and safety. Omin g informaPon on strategic systems for odor/H_2S miPgaPon, management and monitoring at the level of a DEIR is unacceptable, especially given that the frequency of inspecPons for odor management are described as being dependent on whether 3 to 5 or 10 individuals separately report odor complaints on the same day to the Air District. This is not a reassuring method of assessing degree of rog en egg odors' dispersion through a parPcular community and beyond: not everyone smelling "rog en eggs" knows to call the Air District's hotline to report odor releases, nor just how important to odor/H_2S miPgaPon are those individual ciPzen odor reports to the Air District!
Will the public be informed of all miPgaPon and monitoring plans for odor suppression, as well as protocols for ciPzen reporPng of odor complaints *before* adopPon of a FEIR? I1-21

d) Will a public hearing be held on the RFP prior to release of the Response to Comments document that will provide the public with informaPon regarding odor and emissions management and monitoring? I1-22

e) InstallaPon of a proven fence line monitoring system that meets BAAQMD required detecPon limits for H_2S emissions is crucial. Will Marathon comply with BAAQMD latest requirements under Reg 12-Rule 15 for 100% coverage of refinery perimeters with installaPon of proven state-of-the art UV open path monitors that meet required H2S detecPon limits of 25 ppb? If so, will such a system be in place *before* biofuel producPon is allowed to proceed? I1-23

f) For fenceline open path system for monitoring H_2S and other emissions: How will data be verified as accurate? I1-24

f) What are other gases and compounds that would be present in emissions that are parPcular to refining plant-derived oils and/or rendered animal fats? Are there fenceline monitors that can detect and differenPate gas signatures that are associated to biofuels producPon? I1-25

g) Please provide examples of proven successful odor management methods at exisPng biofuels producPon faciliPes and at slaughterhouses where animal fat is rendered. I1-26

h) Will liquid rendered animal fat and other plant-based oils be stored in storage tanks with floaPng lids? How omen will storage tanks be inspected? I1-27

i) Who owns and operates the storage tanks used by Marathon's MarPnez refinery for the RFP? How close are storage tanks for feedstock oils and refined products to residenPal neighborhoods and schools? I1-28

5. Comments and quesPons re public safety:

The DEIR does not discuss flaring and accidental releases that impact public health and safety. I1-29

a) What can the public expect with regard incidents of flaring during the processing of biofuels?

b) Will procedures during pre-treatment of bio-feedstocks have parPcular or unusual safety risks? I1-30

c) Will hydrogen producPon be increased for refining biofuels? I1-31

d) What are public safety risks associated to hydrogen producPon and use during biofuel refining? I1-32

e) What are the methods for cleanup of odiferous feedstocks in the case of a spill on land? I1-33

f) What are the methods of cleanup for feedstocks spilled into the marsh and/or Carquinez Strait? I1-34

6. Comments and quesPons re Air Quality:

The DEIR, [3.3, p 3.3-1] states "Many of the facility's other operations, including the receipt, storage and distribution of petroleum products, would continue, although with some modification of existing equipment." I1-35

a) Please explain the DEIR's vague, indeterminate asserPon that the distribuPons of petroleum I1-36

products will conPnue. Would such petroleum products have been previously produced at the Marathon refinery before its Aug., 2020 shutdown, and remained stored at MarPnez refinery? Since this seems implausible, and, given that the DEIR states that producPon capacity for biofuels will be much less than Marathon's previous crude oil refining capacity, could it be that these crude oil-refined products are produced at other Bay Area refineries and have been for the past year been stored and distributed by Marathon to make producPve use of excess storage capacity at the refinery prior to RFP construcPon, with this arrangement to conPnue into the future post RFP construcPon? If the lag er is the case, then the DEIR must account for emissions from those addiPonal sources of cumulaPve emissions that would result from the totality of operaPons of Marathon's RFP. I1-36 cont'd

b) The DEIR ambiguously asserts [p. 3.3-25]: "On-site stationary sources that are part of this Project are the Refinery, Avon MOT and Amorco MOT. Current terminal operations for petroleum-based materials will continue, but will be limited to storage and transfer only."
Please explain the use of Marathon's two shipping terminals for operaPons involving petroleum-based products. What products will conPnue to be handled? What are the regional sources of those products presumably to be exported by Marathon? I1-37

c) The DEIR discusses off-site staPonary sources of emissions [p. 3.3-26], and states: "Sources of emissions at the off-site terminals would include small natural gas-fired heaters, piping components, renewable feedstock storage tanks and unloading/loading racks to transfer the materials from/to rail or vessels."
Please idenPfy the number of off-site renewable feedstock storage tanks and what company owns and maintains them, if not Marathon. I1-38

d) Will train tank cars containing biofuel feedstocks to be delivered to the refinery be permig ed to be parked on side tracks? If so, for how long can they remain parked off site? I1-39

e) What are the different methods by which biofuels will be unloaded from barges, trucks and train tank cars in regard to potenPal odors' and other emissions' fugiPve releases? I1-40

f) What, if any, off-site air monitoring will be installed under RFP, e.g., monitoring for fugiPve releases that occur beyond the fenceline? (For example, monitoring for detecPng H_2S during transport and delivery operaPons.) I1-41

Thank you for this opportunity to comment on Marathon's ambiPous Renewable Fuels Project, and for your Pme reviewing my basic comments, quesPons and requests, which are examples of my thoughts related to sustainability goals, climate protecPon, public health and safety. I hope what I have offered will be considered construcPve and useful. I1-42

Respecs ully,

Marilyn Bardet
Good Neighbor Steering Commig ee, Benicia
Valero Benicia Refinery Community Advisory Panel
Benicia Community Sustainability Commission
Board Member, Benicia Community Air Monitoring Program 501(c)3
Board Chair, Sustainable Solano 501 (c)3
[Since 2000, I have been acPve as a founding member of the Good Neighbor Steering Commig ee [GNSC], a voluntary group focused on Valero Benicia refinery operaPons and upgrade projects. We commented on and challenged the Valero Improvement Project DEIR (2003), and were thus contribuPve to a permin g requirement to install a Flue Gas Scrubber; subsequently, we challenged Valero's VIP Addendum (2007), which led to a $14 million Seg lement Agreement in 2008 negoPated between the GNSC and Valero, with Seg lement funds dedicated to city-wide benefits for energy and water-saving community projects that were veg ed by the Benicia Community Sustainability Commission and City Council.

From:	Bhima Sheridan
To:	Joseph Lawlor
Subject:	(File No. CDLP20-02046) draft EIR for the proposed conversion of the Marathon Martinez oil refinery to biofuel production
Date:	Friday, December 17, 2021 4:00:25 PM
Importance:	High

Dear Mr. Lawlor:

The Marathon Martinez oil refinery to biofuel production project (File No. CDLP20-02046) would have a huge impact on neighboring residents, including my mother-in-law who lives in Martinez, and the community at large. The dire climate emergency requires us to drastically cut greenhouse gas emissions. It is not clear that biofuel refining from soybean food crop at the Marathon Martinez refinery would in fact reduce greenhouse gas emissions given the significant impacts of **mono crop farming land use**, **transportation emissions** of the raw stock, the **fossil fuels burned** in the refining process, and the **fossil fuels blended** 50/50 with biofuel at end use. I am concerned that not enough public outreach has been done and request a public hearing be scheduled. I2-1 I2-2

I have the following specific concerns about the draft EIR for the project that I would like you to address:

1. BASELINE: The draft EIR basically assumes if the permit is denied Marathon will continue refining crude oil at past levels, so that biofuel refining will reduce pollution. But that is not accurate. The Marathon refinery is currently shut down, so any project emissions are actually a pollution increase. I2-3

2. LAND USE: The draft EIR does not consider at all the impact of a massive increase in use of food crops like soybean oil as a feedstock, which threatens to wreak havoc with land use. Current indications are that the refinery could potentially use up to 24 percent of the nation's entire supply of soybean oil. More environmentally sustainable feedstocks like waste oil are not available in the quantities contemplated by the project. I2-4

3. PUBLIC SAFETY: We are worried about our safety from the biofuel refining process, and the draft EIR doesn't consider that at all. You have information about the risk that refining biofuels increases the incidence of flaring, but you did not consider it in the draft EIR. I am very concerned by the potential impact of a spike in flaring on my health and that of my neighbors. I2-5

4. PROJECT ALTERNATIVES: The draft EIR does not evaluate alternatives to the project in a way that makes sense. There is no reason, for instance, for not considering opting to both reduce the scale of the project and use green hydrogen. I2-6

5. CUMULATIVE IMPACTS: All of these potential impacts are from just one project. The draft EIR did not make any meaningful effort to evaluate the cumulative impacts of the project considered collectively with the impacts of the very similar Phillips 66 Rodeo refinery project, being evaluated nearly simultaneously. I ask that this project not move forward until and unless these very serious potential impacts are fully analyzed and addressed. Additionally, given the enormous import of this project for the community, we believe a public hearing concerning the project and its environmental review would facilitate the purposes and goals of CEQA. We therefore request that you schedule such a hearing as soon as possible. I2-7 I2-8

Sincerely,

Bhima Sherian

Bhima Sheridan

Comments on the draft EIR for the proposed conversion of the Marathon Martinez oil refinery to biofuel production (File No. CDLP20-02046).

pol1@rosenblums.us <pol1@rosenblums.us>
Fri 12/17/2021 9:11 AM
To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>

Dear Mr. Lawlor:

I'm writing to you concerning the draft EIR for the proposed conversion of the Marathon Martinez oil refinery to biofuel production (File No. CDLP20-02046).
This project will have a potentially enormous impact on our community for years to come. It is therefore critically important that the CEQA review be thorough and accurate, and that the public be involved to the maximum extent possible. I3-1

I have the following specific concerns about the draft EIR for the project that I would like you to address:

1. The draft EIR basically assumes if the permit is denied Marathon will continue refining crude oil at past levels, so that biofuel refining will reduce pollution. But that is not accurate. The Marathon refinery is currently shut down, so any project emissions are actually a pollution increase. A proper alternative would be the No Project Alternative leaving the refinery shut down. I3-2
2. The draft EIR does not consider at all impact of a massive increase in use of food crops like soybean oil as a feedstock, which threatens to wreak havoc with land use. Current indications are that the refinery could potentially use up to 24 percent of the nation's entire supply of soybean oil. More environmentally sustainable feedstocks like waste oil are not available in the quantities contemplated by the project. I3-3
3. We are worried about our safety from the biofuel refining process, and the draft EIR doesn't consider that at all. You have information about the risk that refining biofuels increases the incidence of flaring, but you did not consider it in the draft EIR. I am very concerned by the potential impact of a spike in flaring on my health and that of my Bay Area neighbors. This is particularly dangerous as the refinery has not even run pilot scale refining with the new feedstock. This is extremely risky from an engineering and public safety point of view. I3-4
4. The draft EIR does not evaluate alternatives to the project in a way that makes sense. There is no reason, for instance, for not considering opting to both reduce the scale of the project and use green electrolytic hydrogen as defined in California Public Utilities Code section 400.2. I3-5
5. Carbon dioxide and other global warming gasses are agnostic in their effect on climate change. The earth does not care whether or not the gas in the atmosphere comes from a source that has been buried for millennia or has been stored for less than a year. Its residence time in the atmosphere and its effect on radiative forcing is the same. The EIR needs to address the total contribution to global warming from all sources of the project including scopes 1, 2, and 3 emissions. This would need to include, for example, all the carbon emissions associated with growing and transporting soy oil from farm to refinery including tractor fuel, pesticides and herbicides, truck, rail, and ship transport, etc. Climate change is also a direct health risk to all Californians. Increased flooding and drought, increased wildfire and smoke, are all direct health risks of human caused climate change. The EIR must account for all carbon emissions from this project regardless of the source in order to mitigate these risks. I3-6
6. Under California Air Resources Board Advanced Clean Trucks program: *"Manufacturers who cer fy Class 2b-8 chassis or complete vehicles with combus on engines would be required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b – 3 truck sales, 75% of Class 4 – 8 straight truck sales, and 40% of truck tractor sales"*. Trucks using biodiesel would not be zero emission trucks as they would emit the same amount of CO_2 per mile as a fossil diesel fueled truck. If we are to meet this guideline it makes no sense to allow continued investment in a polluting facility which will likely be shut down in less than a decade. I3-7
7. All of these potential impacts are from just one project. The draft EIR did not make any meaningful effort at all to evaluate the cumulative impacts of the project considered collectively with the impacts of the very similar Phillips 66 Rodeo refinery project, being evaluated nearly simultaneously. I3-8

I ask that this project not move forward until and unless these very serious potential impacts are fully analyzed and addressed. Additionally, given the enormous import of this project for the community, I believe a public hearing concerning the project and its environmental review would facilitate the purposes and goals of CEQA. I therefore request that you schedule such a hearing as soon as possible. I3-9

Dr., Stephen S., Rosenblum, Ph.D. Chemistry
Palo Alto, Ca

From: Kathy Kerridge
To: Joseph Lawlor
Subject: Comments on Martinez Renewable Fuels Project
Date: Friday, December 17, 2021 2:36:48 PM

Comments on Martinez Renewable Fuels Project (File No. CDLP20-02046).

Dear Mr. Lawlor:

I'm writing to you concerning the draft EIR for the proposed conversion of the Marathon Martinez oil refinery to biofuel production.

This project will have a potentially enormous impact on our community and the areas where biofuels may be produced for generations to come. It is therefore critically important that the CEQA review be thorough and accurate, and that the public be involved to the maximum extent possible. I4-1

I have the following specific concerns about the draft EIR for the project that I would like you to address:

1. BASELINE:

The draft EIR basically assumes if the permit is denied Marathon will continue refining crude oil at past levels, so that biofuel refining will reduce pollution. But that is not accurate. The Marathon refinery is currently shut down, so any project emissions are actually a pollution increase. Why is a baseline of 0 not used? I4-2

2. LAND USE and GREEN HOUSE GAS EMISSIONS:

The draft EIR does not consider at all the impact of a massive increase in use of food crops like soybean oil as a feedstock, which threatens to wreak havoc with land use. Current indications are that the refinery could potentially use up to 24 percent of the nation's entire supply of soybean oil. More environmentally sustainable feedstocks like waste oil are not available in the quantities contemplated by the project.

The overall GHG emissions of various feedstocks need to be considered. The GHG emissions of used cooking oil, which has already been processed for a different purpose, will be drastically different that the GHG emissions of oil produced specifically because of this new market. If biodiesel products start using 40% of soy oil the other users of that product will go elsewhere, and it is most likely that they will turn to palm oil. If additional deforestation is caused by increased palm oil production and if peat bogs are burned to provide more land for palm oil production that is a climate bomb. Peat is a valuable carbon sink as are forests and the last thing in the world we want is a massive release of GHGs because of this project and the Rodeo Renewed project. There is no analysis whatsoever of this possibility. What would the GHG emissions be like if peat bogs, or rainforests were destroyed to produce the oil used for this plant? Is this considered in the CI? It should be. We need to consider all the impacts if the plant ends up using mostly soy oil. I4-3

While the DEIR contains a nice description in 6.2.3 Resource Impacts of the necessity of Best Management Practices to prevent further degradation of the soil and to look at factors that make selection of feedstocks more environmentally sound, is there a commitment to use these factors in selecting feedstock? There should be. If California's forests are thinned could that woody biomass be used as feedstock? Could our organic garbage be used as feedstock, especially since now it all is supposed to be separated from inorganic trash?

3. PUBLIC SAFETY:

We are worried about our safety from the biofuel refining process, and the draft EIR doesn't consider that at all. You have information about the risk that refining biofuels increases the incidence of flaring, but you did not consider it in the draft EIR. I am very concerned by the potential impact of a spike in flaring on my health and that of my neighbors. I4-4

4. PROJECT ALTERNATIVES:

The draft EIR does not evaluate alternatives to the project in a way that makes sense. There is no reason, for instance, for not considering opting to both reduce the scale of the project and use green hydrogen. Could the whole project be switched to producing hydrogen fuel using renewable energy to produce the hydrogen? That should be considered. I4-5

5. CUMULATIVE IMPACTS:

All of these potential impacts are from just one project. The draft EIR did not make any meaningful effort at all to evaluate the cumulative impacts of the project considered collectively with the impacts of the very similar Phillips 66 Rodeo refinery project, being evaluated nearly simultaneously. I4-6

I ask that this project not move forward until and unless these very serious potential impacts are fully analyzed and addressed. Additionally, given the enormous import of this project for the community, we believe a public hearing concerning the project and its environmental review would facilitate the purposes and goals of CEQA. I request that you schedule such a hearing as soon as possible. I4-7

Kathy Kerridge

From: Kathy Kerridge
To: Joseph Lawlor
Subject: comments
Date: Friday, December 17, 2021 2:38:28 PM

I just submitted a comment. In case you need my address it is 771 West I Street, Benicia, 94510
Kathy Kerridge

From: KATHY PETRICCA
To: Joseph Lawlor
Subject: DEIR, File No. CDLP20-02046
Date: Friday, December 17, 2021 11:59:57 AM
Importance: High

Dear Mr Lawlor,

I am writing to you concerning the draft EIR for the proposed conversion of the Marathon Martinez oil refinery to biofuel production (File No. CDLP 20-02046).

This project will will have a potentially enormous impact on our community in Central Contra Costa County and beyond for years to come. It is critically important that the CEQA review be thorough and accurate, and that the public be involved to the maximum extent possible. I4-1

I have the following specific concerns about the project's draft EIR that I would like you to address:

1. The draft EIR doesn't identify clear alternatives. The Green Hydrogen Alternative is not a comparable Alternative, but more an option within the other Alternatives. The No Project Alternative needs to clarify the current status of the site. The site is in a 19 month long shutdown with the elimination of reportedly 700 jobs. A resumption of emissions would be an increase over the baseline. I4-2

2. The draft EIR does not address the very real impacts of a switch to food crops as a feedstock. Two impacts that are not addressed in the draft EIR are the competition for soy as an energy feedstock and competition for soy in the nation's and the world's food supply as a high-protein nutrient for human, animal, and poultry consumption.
The proposed project could require up to 24% of the US supply of soy bean oil. It does not mention the impact of local and international competition for soy. Locally, Phillips-66 in Rodeo is also planning a biofuel conversion. Already, there are changes in global trade flows of soy for animal and poultry feed, and global competition for soy for energy industries. These cumulative impacts exist locally, nationally, and globally and need to be addressed. I4-3

3. I am very concerned about the safety of biofuel refining for neighboring communities. These residents are supported by state and national laws which seek to protect from GHGs and particulate matter. The risk of flaring and explosion is higher with the proposed project and this danger wasn't considered in the draft EIR. I4-4

4. I ask that this project not move forward until and unless these very serious and potential impacts are fully analyzed and addressed. Also, given the enormous impact of this project for the community, I think a public hearing about the project and its environmental review would facilitate the purposes and goals of CEQA. I therefore request that such a hearing be scheduled as soon as possible. I4-5

Kathy Petricca
kpfast@aol.com

Sent from my iPad

From: ngp125@comcast.net
To: Joseph Lawlor
Subject: Marathon
Date: Friday, December 17, 2021 3:36:45 PM
Importance: High

Dear Mr. Lawlor:

I'm writing to you concerning the draft EIR for the proposed conversion of the Marathon Martinez oil refinery to biofuel production (File No. CDLP20-02046).

This project will have a potentially enormous impact on our community for years to come. It is therefore critically important that the CEQA review be thorough and accurate, and that the public be involved to the maximum extent possible. I7-1

I have the following specific concerns about the draft EIR for the project that I would like you to address:

1. **BASELINE:** The draft EIR basically assumes if the permit is denied Marathon will continue refining crude oil at past levels, so that biofuel refining will reduce pollution. But that is not accurate. The Marathon refinery is currently shut down, so any project emissions are actually a pollution increase. I7-2

2. **LAND USE**: The draft EIR does not consider at all impact of a massive increase in use of food crops like soybean oil as a feedstock, which threatens to wreak havoc with land use. Current indications are that the refinery could potentially use up to 24 percent of the nation's entire supply of soybean oil. More environmentally sustainable feedstocks like waste oil are not available in the quantities contemplated by the project. I7-3

3. **PUBLIC SAFETY**: We are worried about our safety from the biofuel refining process, and the draft EIR doesn't consider that at all. You have information about the risk that refining biofuels increases the incidence of flaring, but you did not consider it in the draft EIR. I am very concerned by the potential impact of a spike in flaring on my health and that of my neighbors. I7-4

4. **PROJECT ALTERNATIVES:** The draft EIR does not evaluate alternatives to the project in a way that makes sense. There is no reason, for instance, for not considering opting to both reduce the scale of the project and use green hydrogen. I7-5

5. **CUMULATIVE IMPACTS:** All of these potential impacts are from just one project. The draft EIR did not make any meaningful effort at all the evaluate the cumulative impacts of the project considered collectively with the impacts of the very similar Phillips 66 Rodeo refinery project, being evaluated nearly simultaneously. I7-6

6. The above are shared concerns that I could not state better. I do have another: odors from treatment of product stock used. I have heard in some instances animal and vegetable wastes could be used and the odor would be that of a rendering plant (think Harris Ranch). What would that do to property values? Between the proposed projects in Rodeo and Marathon Martinez if the wind blows from east, west or north, where I live my community would suffer. I7-7

I ask that this project not move forward until and unless these very serious potential impacts are fully analyzed and addressed. Additionally, given the enormous import of this project for the community, we believe a public hearing concerning the project and its environmental review would facilitate the purposes and goals of CEQA. We therefore request that you schedule such a hearing as soon as possible. I7-8

Nadine Peyrucain

105 Silva Court
Martinez, CA 94553
ngp125@mac.com
925 228-4514

Marathon DEIR CEQA Comments

jackie mann <jackiemann@att.net>

Wed 12/15/2021 3:58 PM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>
Cc: John Gioia <supervisorgioia@gmail.com>; Rebecca Bauer-Kahan <rebecca.bauer-kahan@asm.ca.gov>; District5 <District5@bos.cccounty.us>; Congressman Mark DeSaulnier <congressman.desaulnier@mail.house.gov>

Dear Mr. Lawlor:
I'm writing to you concerning the draft EIR for the proposed conversion of the Marathon Martinez oil refinery to biofuel production (File No. CDLP20-02046).

There should be an immediate public hearing on this project as approval will lock in decades of impacts to the community and environment. Consider these impacts BURNED Deception, Deforestation and America's Biodiesel Policy
Please address the following concerns. I8-1

1. **BASELINE:** The draft EIR basically assumes if the permit is denied Marathon will continue refining crude oil at past levels, so that biofuel refining will reduce pollution. But that is not accurate. The Marathon refinery is currently shut down, so any project emissions are actually a pollution increase. **The baseline should consider a no project alternative. This is the preferred alternative for human and environmental health and safety. The project increases pollution over this baseline.** I8-2
2. **Indirect Land Use Change (ILUC**) is a significant impact not addressed in the DEIR. The soy feedstock demand cannot be met by used oils or domestic agriculture. Importing soybean oil may contribute to higher food prices, deforestation, and other social and environmental burdens to countries which try to supply soy for fuel.https://theicct.org/blog/staff/us-biofuels-policy-RFS-oct21. More environmentally sustainable feedstocks, like waste oil, are not available in the quantities contemplated by the project. I8-3
3. **Health and Safety:** There is no published medical information on the health impacts of emissions from refining biofuels. Share medical and scientific data to demonstrate that this is safe. In the past, we were told that petroleum refining was safe for nearby communities. The scientific medical data shows this is false. Demonstrate that there is no risk from high heat refining, flaring, explosions, storage and transportation. **Lack of harmful evidence for a new project is not equivalent to a demonstration of safety**. We are worried about our safety and the draft EIR doesn't consider that at all. You have information about the risk that refining biofuels increases the incidence of flaring, but you did not consider it in the draft EIR. I am very concerned by the potential impact of a spike in flaring on my health and that of my neighbors. I8-4
4. **PROJECT ALTERNATIVES:** The draft EIR does not evaluate alternatives to the project in a way that makes sense. There is no reason, for instance, for not considering opting to both reduce the scale of the project and use green hydrogen. I8-5
5. **CUMULATIVE IMPACTS:** All of these potential impacts are from just one project. The draft EIR did not make any meaningful effort at all the evaluate the cumulative impacts of the project considered collectively with the impacts of the very similar Phillips 66 Rodeo refinery project, being evaluated nearly simultaneously. I8-6

I ask that this project not move forward until and unless these very serious potential impacts are fully analyzed and addressed. Additionally, given the enormous import of this project for the community, we believe a public hearing concerning the project and its environmental review would facilitate the purposes and goals of CEQA. We therefore request that you schedule such a hearing as soon as possible. I8-7

Elizabeth Jacqueline Garcia
Contra Costa Resident

12/14/21

Dear Mr. Lawlor,

I'm writing to you concerning the draft EIR for the proposed conversion of the Marathon Martinez oil refinery. Marathon is currently closed, so any project emissions constitute an actual increase in pollution. I8-1

The bio-fuel process will most likely increase the incidence of flaring, with this is not considered in the EIR. I8-2

These spikes in flaring will have health impacts on myself and my neighbors. I8-3

This EIR gives no alternatives. It should consider the possibility of a smaller project, and/or use of green hydrogen. I8-4

I ask that this project not move forward until some of these serious impacts are fully analyzed. Thanks.

Maureen Brennan
Rodeo CA

Maureen Brennan

Fw: Marathon Biofuel conversion

cathy druck <cdruck98@yahoo.com>

Sun 12/12/2021 1:24 PM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>

Dear Mr. Lawlor,

I'm wri ng to you concerning the dra. EIR for the proposed conversion of the Marathon Mar nez oil refinery to biofuel produc on (File No. CDLP20-02046). This project will have a poten ally enormous impact on our community for years to come. It is therefore cri cally important that the CEQA review be thorough and accurate, and that the public be involved to the maximum extent possible. I have the following specific concerns about the dra. EIR for the project that I would like you to address:

1. BASELINE: The draft EIR basically assumes if the permit is denied Marathon will con nue refining crude oil at past levels, so that biofuel refining will reduce pollu on. But that is not accurate. The Marathon refinery is currently shut down, so any project emissions are actually a pollu on increase.

2. LAND USE: The draft EIR does not consider at all impact of a massive increase in use of food crops like soybean oil as a feedstock, which threatens to wreak havoc with land use. Current indica ons are that the refinery could poten ally use up to 24 percent of the na on's en re supply of soybean oil. More environmentally sustainable feedstocks like waste oil are not available in the quan es contemplated by the project.

3. PUBLIC SAFETY: We are worried about our safety from the biofuel refining process, and the draft EIR doesn't consider that at all. You have informa on about the risk that refining biofuels increases the incidence of flaring, but you did not consider it in the draft EIR. I am very concerned by the poten al impact of a spike in flaring on my health and that of my neighbors. I manage a non profit and I work in Mar nez serving as volunteer coordinator for several skilled nursing facili es where health is a big issue.

4. PROJECT ALTERNATIVES: The draft EIR does not evaluate alterna ves to the project in a way that makes sense. There is no reason, for instance, for not considering op ng to both reduce the scale of the project and use green hydrogen.

5. CUMULATIVE IMPACTS: All of these poten al impacts are from just one project. The draft EIR did not make any meaningful effort at all the evaluate the cumula ve impacts of the project considered collec vely with the impacts of the very similar Phillips 66 Rodeo refinery project, being evaluated nearly simultaneously. I ask that this project not move forward un l and unless these very serious poten al impacts are fully analyzed and addressed. Addi onally, given the enormous import of this project for the community, we believe a public hearing concerning the project and its environmental review would facilitate the purposes and goals of CEQA. We therefore request that you schedule such a hearing as soon as possible.

Signed : Cathy Druck

14 Stephens Ct
Crockett,Ca 94525

December 12, 2021

Via email to: Joseph.Lawlor@dcd.cccounty.us

Dear Mr. Lawlor,

I'm writing to you concerning the draft EIR for the proposed conversion of the Marathon Martinez oil refinery to biofuel production (File No. CDLP20-02046). This project will have a potentially enormous impact on our community for years to come. It is therefore critically important that the CEQA review be thorough and accurate, and that the public be involved to the maximum extent possible. I have the following specific concerns about the draft EIR for the project that I would like you to address:

1. BASELINE: The draft EIR basically assumes if the permit is denied Marathon will continue refining crude oil at past levels, so that biofuel refining will reduce pollution. But that is not accurate. The Marathon refinery is currently shut down, so any project emissions are actually a pollution increase.

2. LAND USE: The draft EIR does not consider at all impact of a massive increase in use of food crops like soybean oil as a feedstock, which threatens to wreak havoc with land use. Current indications are that the refinery could potentially use up to 24 percent of the nation's entire supply of soybean oil. More environmentally sustainable feedstocks like waste oil are not available in the quantities contemplated by the project.

3. PUBLIC SAFETY: We are worried about our safety from the biofuel refining process, and the draft EIR doesn't consider that at all. You have information about the risk that refining biofuels increases the incidence of flaring, but you did not consider it in the draft EIR. I am very concerned by the potential impact of a spike in flaring on my health and that of my neighbors. I manage a non profit and I work in Martinez serving as volunteer coordinator for several skilled nursing facilities where health is a big issue.

4. PROJECT ALTERNATIVES: The draft EIR does not evaluate alternatives to the project in a way that makes sense. There is no reason, for instance, for not considering opting to both reduce the scale of the project and use green hydrogen.

5. CUMULATIVE IMPACTS: All of these potential impacts are from just one project. The draft EIR did not make any meaningful effort at all the evaluate the cumulative impacts of the project considered collectively with the impacts of the very similar Phillips 66 Rodeo refinery project, being evaluated nearly simultaneously. I ask that this project not move forward until and unless these very serious potential impacts are fully analyzed and addressed. Additionally, given the enormous import of this project for the community, we believe a public hearing concerning the project and its environmental review would facilitate the purposes and goals of CEQA. We therefore request that you schedule such a hearing as soon as possible.

Michael Domagalski
135 Prospect Avenue
PO Box 44
Port Costa, CA 94569

EIR comment, Marathon

tehallisy@aol.com <tehallisy@aol.com>

Sun 12/12/2021 7:23 PM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>

Dear Mr. Lawlor:

I'm writing to you concerning the draft EIR for the proposed conversion of the Marathon Martinez oil refinery to biofuel production (File No. CDLP20-02046).

This project will have a potentially enormous impact on our community for years to come. It is therefore critically important that the CEQA review be thorough and accurate, and that the public be involved to the maximum extent possible.

I have the following specific concerns about the draft EIR for the project that I would like you to address:

1. The draft EIR basically assumes if the permit is denied Marathon will continue refining crude oil at past levels, so that biofuel refining will reduce pollution. But that is not accurate. The Marathon refinery is currently shut down, so any project emissions are actually a pollution increase.
2. The draft EIR does not consider at all impact of a massive increase in use of food crops like soybean oil as a feedstock, which threatens to wreak havoc with land use. Current indications are that the refinery could potentially use up a major fraction of the nation's entire supply of soybean oil. More environmentally sustainable feedstocks like waste oil are not available in the quantities contemplated by the project.
3. We are worried about our safety from the biofuel refining process, and the draft EIR doesn't consider that at all. You have information about the risk that refining biofuels increases the incidence of flaring, but you did not consider it in the draft EIR. I am very concerned by the potential impact of a spike in flaring on my health and that of my neighbors.
4. The draft EIR does not evaluate alternatives to the project in a way that makes sense. There is no reason, for instance, for not considering opting to both reduce the scale of the project and use green hydrogen.
5. All of these potential impacts are from just one project. The draft EIR did not make any meaningful effort at all to evaluate the cumulative impacts of the project considered collectively with the impacts of the very similar Phillips 66 Rodeo refinery project, being evaluated nearly simultaneously.

I ask that this project not move forward until and unless these very serious potential impacts are fully analyzed and addressed. Additionally, given the enormous import of this project for the community, we believe a public hearing concerning the project and its environmental review would facilitate the purposes and goals of CEQA. We therefore request that you schedule such a hearing as soon as possible.

Sincerely,
T. Shaia

victoria4lita@gmail.com

Victoria Ryan <victoria4lita@gmail.com>

Sun 12/12/2021 12:45 PM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>

Victoria Ryan

PO Box 0044

Port Costa, CA 94569 - 0044

Via mail to: Joseph.Lawlor@dcd.cccounty.us on December 12, 2021

Dear Mr. Lawlor,

I'm wri ng to you concerning the dra. EIR for the proposed conversion of the Marathon Mar□nez oil refinery to biofuel produc□on (File No. CDLP20-02046). This project will have a poten□ally enormous impact on our community for years to come. It is therefore cri□cally important that the CEQA review be thorough and accurate, and that the public be involved to the maximum extent possible. I have the following specific concerns about the dra. EIR for the project that I would like you to address:

1. BASELINE: The draft EIR basically assumes if the permit is denied Marathon will con□nue refining crude oil at past levels, so that biofuel refining will reduce pollu□on. But that is not accurate. The Marathon refinery is currently shut down, so any project emissions are actually a pollu□on increase.

2. LAND USE: The draft EIR does not consider at all impact of a massive increase in use of food crops like soybean oil as a feedstock, which threatens to wreak havoc with land use. Current indica□ons are that the refinery could poten□ally use up to 24 percent of the na□on's en□re supply of soybean oil. More environmentally sustainable feedstocks like waste oil are not available in the quan□□es contemplated by the project.

3. PUBLIC SAFETY: We are worried about our safety from the biofuel refining process, and the draft EIR doesn't consider that at all. You have informa□on about the risk that refining biofuels increases the incidence of flaring, but you did not consider it in the draft EIR. I am very concerned by the poten□al impact of a spike in flaring on my health and that of my neighbors. I manage a non profit and I work in Mar□nez serving as volunteer coordinator for several skilled nursing facili□es where health is a central issue and concern even beyond those living and working in Mar□nez..

4. PROJECT ALTERNATIVES: The draft EIR does not evaluate alterna□ves to the project in a way that makes sense. There is no reason, for instance, for not considering op□ng to both reduce the scale of the project and use green hydrogen.

5. CUMULATIVE IMPACTS: All of these poten□al impacts are from just one project. The draft EIR did not make any meaningful effort at all the evaluate the cumula□ve impacts of the project considered collec□vely with the impacts of the very similar Phillips 66 Rodeo refinery project, being evaluated nearly simultaneously. I ask that this project not move forward un□l and unless these very serious poten□al impacts are fully analyzed and addressed. Addi□onally, given the enormous import of this project for the community, we believe a public hearing concerning the project and its environmental review would facilitate the purposes and goals of CEQA. We therefore request that you schedule such a hearing as soon as possible.

Victoria Ryan

135 Prospect Avenue

PO Box 0044

Port Costa, CA 94569

EIR comments, Marathon

EE Hallisy <eehallisy@gmail.com>

Tue 12/14/2021 10:55 PM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>

Joseph.Lawlor@dcd.cccounty.us

Dear Mr. Lawlor:

I'm writing to you concerning the draft EIR for the proposed conversion of the Marathon Martinez oil refinery to biofuel production (File No. CDLP20-02046).
This project will have a potentially enormous impact on our community for years to come. It is therefore critically important that the CEQA review be thorough and accurate, and that the public be involved to the maximum extent possible.

I have the following specific concerns about the draft EIR for the project that I would like you to address:

1. The draft EIR basically assumes if the permit is denied Marathon will continue refining crude oil at past levels, so that biofuel refining will reduce pollution. But that is not accurate. The Marathon refinery is currently shut down, so any project emissions are actually a pollution increase.
2. The draft EIR does not consider at all impact of a massive increase in use of food crops like soybean oil as a feedstock, which threatens to wreak havoc with land use. Current indications are that the refinery could potentially use up a major fraction of the nation's entire supply of soybean oil. More environmentally sustainable feedstocks like waste oil are not available in the quantities contemplated by the project.
3. We are worried about our safety from the biofuel refining process, and the draft EIR doesn't consider that at all. You have information about the risk that refining biofuels increases the incidence of flaring, but you did not consider it in the draft EIR. I am very concerned by the potential impact of a spike in flaring on my health and that of my neighbors.
4. The draft EIR does not evaluate alternatives to the project in a way that makes sense. There is no reason, for instance, for not considering opting to both reduce the scale of the project and use green hydrogen.
5. All of these potential impacts are from just one project. The draft EIR did not make any meaningful effort at all to evaluate the cumulative impacts of the project considered collectively with the impacts of the very similar Phillips 66 Rodeo refinery project, being evaluated nearly simultaneously.

I ask that this project not move forward until and unless these very serious potential impacts are fully analyzed and addressed. Additionally, given the enormous import of this project for the community, we believe a public hearing concerning the project and its environmental review would facilitate the purposes and goals of CEQA. We therefore request that you schedule such a hearing as soon as possible.

Sincerely,

EE Hallisy

Re: DEIR of Marathon refinery biofuel project

Jean Tepperman <jeantepper@gmail.com>
Tue 12/14/2021 8:59 PM
To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>

Dear Mr. Lawlor,

I am wri ng to ask that the county do a thorough Environmental Impact Review of the Marathon Refinery's proposal to produce biofuel. The dra. EIR did not adequately examine a lot of important issues that could have big environmental impact.

1. Baseline – The DEIR compares the proposed project to a fully opera ng petroleum refinery. But the refinery is closed! So it seems to me that the "no project alterna ve" should be no refining at this site.
2. Feedstock/land use – Producing enough plant oils to make the biofuel proposed for this project would take a huge amount of agricultural land, which would either drive up the cost of food or require clearcu ng forests for environmentally destruc ve monocrop industrial agriculture, or (probably) both. Any evalua on of the environmental impact of this project should look seriously at this issue.
3. Public Safety: I understand that the proposed process will require more hydrogen production and more heat than refining petroleum because the molecules in the plant oil feedstock are more tightly bonded -- and that more oxygen will be released. All of this seems like it would lead to a significant danger of flaring and explosions, endangering nearby residents. It is essential that the EIR thoroughly investigate this danger
4. Project Alterna ves: The dra. does not consider the possibility of BOTH reducing the scale of the project AND producing "green hydrogen," but there's no reason why this could not be an alterna ve, so it should be considered.
5. Cumula ve Impacts: Because CEQA requires a considera on of cumula ve impacts and because Phillips 66 is currently proposing a similar project, an EIR should consider them together.

This biofuel project is a really big deal and could have huge impacts on the community and the environment. I request that the county do a thorough environmental review, including a public hearing and other ways for the community to provide input.

Thank you,
Jean Tepperman

(No subject)

Alex Masci <alexmasci22@gmail.com>

Thu 12/16/2021 7:00 PM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>; Gary Kupp <Gary.Kupp@dcd.cccounty.us>

Dear Mr. Kupp and Mr. Lawlor:

I am a resident of Ventura County and the Bay Area and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez, and decommission the county's outdated refinery infrastructure once and for all. If the County insists on moving forward with these proposals, it must fully disclose all of the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected.

As a young person in California concerned about the environment and public health, I urge you to prioritize the climate and your community over false climate solutions. My generation and frontline communities deserve a livable future, which starts with renewable energy, NOT biofuels.

While each project is distinct, the draft Environmental Impact Reports (EIR) for both projects (File No. LP20–2040 and File No. CDLP20-02046) are inadequate for similar reasons.

First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez, and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities.

A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions.

In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined could use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, have not been properly considered in either EIR.

Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the County, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire County.

For these reasons, both draft EIRs are inadequate and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzed and addressed these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you, therefore, to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and does not cost the health and wellbeing of frontline communities in California and beyond.

Best regards,

Alexandra Masci

--
Alex Masci
(she/her/hers)
alexmasci22@gmail.com
805.886.0559

REJECT Biofuels Refinery in Contra Costa County

Lilah Mcelhanon <lilahchantal28@icloud.com>

Thu 12/16/2021 8:24 PM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>

I am a resident of Ventura and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez, and decommission the county's outdated refinery infrastructure once and for all. If the County insists on moving forward with these proposals, it must fully disclose all of the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected.

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Best regards,

Lilah McElhanon

REJECT Biofuels Refinery in Contra Costa County

Madeleine Saxe <maddiesaxe13@gmail.com>

Thu 12/16/2021 9:10 PM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>; Gary Kupp <Gary.Kupp@dcd.cccounty.us>

Dear Mr. Kupp and Mr. Lawlor:

I am a resident of Alameda County and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez, and decommission the county's outdated refinery infrastructure once and for all. If the County insists on moving forward with these proposals, it must fully disclose all of the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected.

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Best regards,

Madeleine Saxe

REJECT Biofuels Refinery in Contra Costa County

Lilly Datnow <lillydatnow@gmail.com>

Fri 12/17/2021 11:28 AM

To: Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>; Gary Kupp <Gary.Kupp@dcd.cccounty.us>

Dear Mr. Kupp and Mr. Lawlor:

I am a resident of Contra Costa and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez, and decommission the county's outdated refinery infrastructure once and for all. If the County insists on moving forward with these proposals, it must fully disclose all of the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected.

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Best regards,

Lilly Datnow

they/she (https://www.mypronouns.org/)
(415) 250-7132

Form Letter 3

OAKLAND CA 94

6 DEC 2021 PM 7

CONTRA COSTA

2021 DEC -7 P 1:39

DEPARTMENT OF CONSERVATION AND DEVELOPMENT

94553-480130

To. Joseph Lawlor, Project Planner
CCCo. - Dept. of Conservation
& Development

30 Muir Rd.

Martinez, CA 94553

RECEIVED
CONTRA COSTA COUNTY
DEC 20 2021
Dept of Conservation & Development

To. Joseph Lawlor, Project Planner
CCCo. - Dept. of Conservation
& Development

30 Muir Rd.

Martinez, CA 94553

ırd: [Address: Joseph W. Lawlor Jr., AICP , Project Planner, Contra Costa County 'tment of Conservation and Development, 30 Muir Rd, Martinez, CA 94553]

Dear Mr. Lawlor:

I'm writing to you concerning the draft EIR for the proposed conversion of the Marathon Martinez oil refinery to biofuel production (File No. CDLP20-02046). I am very concerned that the analysis of the project's impacts in the draft EIR is inadequate. In particular, the draft assumes that the alternative to granting the permit is more crude oil processing, which is not actually true – the refinery is shut down, and did not open back up even with recent spikes in demand. The draft also does not consider the impact on land use of massive importation of food crops as feedstocks, or public safety risks associated with the proposed biofuel refining – which has the potential to cause more flaring. Given our grave concerns with this project, and the controversy about it in the community, we ask that you hold a public hearing to solicit input.

[signed] N G Peyrucain

N. G. Peyrucain

ırd: [Address: Joseph W. Lawlor Jr., AICP , Project Planner, Contra Costa County 'tment of Conservation and Development, 30 Muir Rd, Martinez, CA 94553]

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[signed] Dolores Flanders

94553

RECEIVED
CONTRA COSTA COUNTY
DEC 09 2021
Dept of Conservation & Development

DEC 6 2021

To: Joseph Lawlor, DCD
30 Muir Rd.
Martinez, CA
94553

OAKLAND CA 945
6 DEC 2021 PM 4 L

RECEIVED
CONTRA COSTA COUNTY
DEC 09 2021
Dept of Conservation & Development

To: Joseph Lawlor, AICP
CCCo. Dept. of Conservation
+ Development
30 Muir Rd.
Martinez, CA
94553

94553-460130

Deborah Clifford
6205 Panama Ave
Richmond, CA 94804-5727

OAKLAND CA 945
14 DEC 2021 PM 4 L

RECEIVED
CONTRA COSTA COUNTY
DEC 15 2021
Dept of Conservation & Development

Joseph Lawlor Jr.
Project Planner
Contra Costa County
Dept of Conservation
+ Development
30 Muir Road
Martinez, CA 94553

94553-460130

ırd: [Address: Joseph W. Lawlor Jr., AICP , Project Planner, Contra Costa County 'tment of Conservation and Development, 30 Muir Rd, Martinez, CA 94553]

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[signed]

94553

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[signed]

94553

Deborah Clifford
6205 Panama Ave
Richmond, CA 94804-5727

12/13/21

Dear Mr. Lawlor:

I'm writing to you concerning the draft EIR for the proposed conversion of the Marathon Martinez oil refinery to biofuel production (File No. CDLP20-02046).

I am very concerned that the analysis of the project's impacts in the draft EIR is inadequate. As a long-time Contra Costa homeowner and taxpayer, I'm alarmed that the draft ***does not consider the impact on land use of massive importation of food crops as feedstocks, or the public safety risks*** associated with the proposed biofuel refining.

Please schedule a public hearing to capture the community's significant concerns and incorporate them into your permitting decisions about this project.

Best wishes for a safe and healthy year ahead ~

'Paulii Rosea'
Shrub
Prior to 1912

TASCHEN

OAKLAND CA 945

1 DEC 2021 PM

Joseph W. Lawlor JR., AICP,
Project Planner, Contra Costa County
Department of Conservation and Development
30 Muir Rd.
Martinez, CA
94553

CONTRA COSTA
2021 DEC -2 A 3:16
DEPARTMENT OF CONSERVATION AND DEVELOPMENT

94553-460130

OAKLAND CA 945

1 DEC 2021 PM 3

CONTRA COSTA

2021 DEC -2 A 3:16

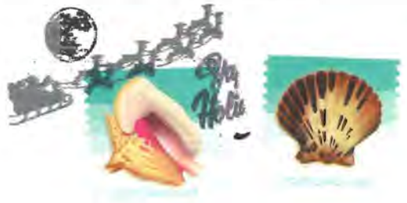
DEPARTMENT OF CONSERVATION AND DEVELOPMENT

Joseph W. Lawlor JR. AICP,
Project Planner, Contra Costa County
Dept. of Conservation and Development.
30 Muir Rd,
Martinez, CA

94553-~~9455~~3

OAKLAND CA 945

6 DEC 2021 PM 5 L



To: Joseph Lawlor, DCD
30 Muir Rd.
Martinez, CA
94553

RECEIVED
CONTRA COSTA COUNTY
DEC 09 2021
Dept of Conservation & Development

94553-460130

OAKLAND CA 945

1 DEC 2021 PM 6

CONTRA COSTA
2021 DEC -2 P 3:16
DEPARTMENT OF CONSERVATION AND DEVELOPMENT

Joseph W. Lawlor JR, AICP,
Project Planner, Contra Costa County of
D.C.D. of Conservation and Development
30 Muir Rd. Martinez
Martinez, CA

94553-460130 94553

ırd: [Address: Joseph W. Lawlor Jr., AICP , Project Planner, Contra Costa County tment of Conservation and Development, 30 Muir Rd, Martinez, CA 94553]

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[signed] Kathleen Schaad

94553

ırd: [Address: Joseph W. Lawlor Jr., AICP , Project Planner, Contra Costa County tment of Conservation and Development, 30 Muir Rd, Martinez, CA 94553]

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[signed] Deborah Morris 94553

ırd: [Address: Joseph W. Lawlor Jr., AICP , Project Planner, Contra Costa County tment of Conservation and Development, 30 Muir Rd, Martinez, CA 94553]

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[signed]

Cynthia J. Price

94553

OAKLAND CA 945
1 DEC 2021 PM 6 L

CONTRA COSTA
2021 DEC -2 A 3:16
DEPARTMENT OF CONSERVATION AND DEVELOPMENT

Joseph W. Lawlor, JR, AICP, Project
Planner Contra Costa County Dept
of Conservation and Development
30 Muir Rd.
Martinez, CA
94553

94553-460130

OAKLAND CA 945
1 DEC 2021 PM 6

Joseph W. Lawlor JR. AICP.
Project Planner, Contra Costa County
Dept. of Conservation and Development.
30 Muir Rd,
Martinez, CA
94553

94553-460130

OAKLAND CA 945

CONTRA COSTA
2021 DEC -2 A 3:16
DEPARTMENT OF CONSERVATION AND DEVELOPMENT

Joseph W. Lawlor Jr, AICP,
Project Planner, Contra Costa County Dept.
of Conservation and Development
30 Muir Rd.
Martinez, CA
94553

94553-460130

OAKLAND CA 945

CONTRA COSTA
2021 DEC -2 A 3:16
DEPARTMENT OF CONSERVATION AND DEVELOPMENT

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Contra Costa County Dept. of
Conservation and Development
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94553-460130

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[signed] Henry Tollich

HENRY TOLLICH
22825 NAVAJO TRL
LOS GATOS

ırd: [Address: Joseph W. Lawlor Jr., AICP , Project Planner, Contra Costa County tment of Conservation and Development, 30 Muir Rd, Martinez, CA 94553]

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[signed] Ron Klina

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[signed] Helen J Ryan

ırd: [Address: Joseph W. Lawlor Jr., AICP , Project Planner, Contra Costa County tment of Conservation and Development, 30 Muir Rd, Martinez, CA 94553]

Dear Mr. Lawlor:

I'm writing to you concerning the draft EIR for the proposed conversion of the Marathon Martinez oil refinery to biofuel production (File No. CDLP20-02046). I am very concerned that the analysis of the project's impacts in the draft EIR is inadequate. In particular, the draft assumes that the alternative to granting the permit is more crude oil processing, which is not actually true – the refinery is shut down, and did not open back up even with recent spikes in demand. The draft also does not consider the impact on land use of massive importation of food crops as feedstocks, or public safety risks associated with the proposed biofuel refining – which has the potential to cause more flaring. Given our grave concerns with this project, and the controversy about it in the community, we ask that you hold a public hearing to solicit input.

[signed] Bill Pitt

CBD Comments- Stop Big Oil's Biofuel Scheme in Contra Costa County

Griselda Olvera <golvera@biologicaldiversity.org>

Fri 12/17/2021 8:20 AM

To: Gary Kupp <Gary.Kupp@dcd.cccounty.us>; Joseph Lawlor <Joseph.Lawlor@dcd.cccounty.us>
Cc: Theo LeQuesne <TLeQuesne@biologicaldiversity.org>

Dear Mr. Kupp and Mr. Lawlor,

Please find a ached over 200 comments from Contra Costa County community members responding to the biofuel refinery conversion Dra. Environmental Impact Reports for the Marathon refinery in Mar nez (File No. CDLP20-02046) and the Phillips 66 refinery in Rodeo (File No. CDLP20–2040). These comments urge the County to reject these refinery conversion proposals, shut down these refineries for good through a just transi on for workers and communi es, and carry out a more accurate and thorough review of the harms both refineries would pose to our environment and local residents.

Griselda Olvera
Digital Organizer
Center for Biological Diversity
P.O. Box 710, Tucson, AZ 85702-0710
www.biologicaldiversity.org

First Name	Last Name	City	State	Zip	Subject	Comment	Date Submitted
Dolores	Butkus	Walnut Creek	CA	94595	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond. All my life, as I have driven through Martinez I have seen pollutants spewing from smoke stacks.. Make meaningful changes that truly rid our area of pollutants.	12/6/2021
Valerie	Ventre-Hutton	Walnut Creek	CA	94598	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and am asking you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. This comparison is completely inaccurate. The Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. If the proper comparison is used, it becomes clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. - Neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. - Neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. -Neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. The bottom line is that these EIRs fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. An EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/14/2021

Paula	DeFelice	El Sobrante	CA	94803	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa, West County and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Maura	Sullivan	Pinole	CA	94564	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	West County deserves an end to refining activities not a shift to highly questionable 'cleaner' biofuels! I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Linda	Waldroup	Walnut Creek	CA	94595	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond. I am a longtime docent at the John Muir National Historic Site in Martinez, and I know that Contra Costans value their environment!	12/6/2021
Stacy	Braslau-Schneck	San Jose	CA	95125	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of nearby Santa Clara County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/16/2021

Barbara	Beno	Hercules	CA	94547	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Hercules in Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021
Anne	Tuddenham	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Linda	Morgan	San Pablo	CA	94806	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County who lives fairly near these refineries and drives by them regularly, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/10/2021
Linda	Riebel	Lafayette	CA	94549	NO on Phillips 66 and Marathon Refinery Transition Proposals	Reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected.	12/6/2021
Bonnie	Pannell	Crockett	CA	94525	What gives? Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	We have enough refinery pollution in our cancer belt. Please consider representing the health of our communities rather than the profits of the refineries. I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Anne	Hodgkinson	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. This is not a sustainable solution. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Glenda	Dugan	Walnut Creek	CA	94598	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Walnut Creek located in Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Michael	Kutilek	San Jose	CA	95112	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a Bay Area resident and a professional conservation biologist. I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/16/2021
Sveinn	Ólafsson	Canyon	CA	94516	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County (unincorporated Canyon), and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons and in my opinion as a former environmental planner, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond. Thank you.	12/6/2021

Olivia	Eielson	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. In addition, climate change is expected to threaten soybean and grains production, through drought and heat; 'extra' may not be available. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Karen	Allen	Concord	CA	94521	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I am writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. Transitioning to biofuels means our farmers will be encouraged (or forced) to grow crops to fuel these energy plants rather than grow food to feed people. We cannot eat gasoline! We are already facing the possibility of food shortages due to catastrophic droughts/floods. Let's not add to our future problems!	12/6/2021
Helen	Dickey	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond. I COULDN'T SAY IT BETTER, SO I WILL JUST ADD THAT I CONCUR. PLEASE DONOT LET THIS PLAN GO FORWARD.	12/6/2021

Anna	Vinogradoff	Concord	CA	94521	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond. Thank you for your consideration of my requests.	12/6/2021
Sheri	Kuticka	Concord	CA	94518	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these projects. A full and honest evaluation of these harms will demonstrate that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. The assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. The Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. Neither report adequately considers the harms of increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. Neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs fail to adequately assess the cumulative impacts both refinery transitions will have on the county. Both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. An EIR that fully analyzes and addresses these potential harms would conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a climate solution and instead facilitate a transition to an energy system that protects workers and doesn't cost the health and wellbeing of communities in California and beyond.	12/11/2021

Gary	Hughes	Redway	CA	95560	More Scrutiny Needed - Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of California, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. This is a crucially important matter that deserves far more scrutiny and a robust public debate. That robust debate requires a higher quality and more transparent environmental review than is currently available for informing decision making. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/14/2021
Janet	Soderstrom	San Ramon	CA	94583	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Francesca	Rago	Pleasant Hill	CA	94523	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Gianna	Abondolo	Richmond	CA	94804	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Susan	Goldstein	Danville	CA	94526	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Susan	Barton	Clayton	CA	94517	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Sheila	Dixon	Concord	CA	94521	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Gwendoline	Pouchoulin	Richmond	CA	94801	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Martha	Wilson	Dublin	CA	94568	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/14/2021
Kristina	Wolf	Walnut Creek	CA	94597	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Deanna	Simmons	Concord	CA	94518	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Chris	Swenning	El Sobrante	CA	94803	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Christopher	Hall	Berkeley	CA	94707	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Stephanie	Clark	Concord	CA	94520	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Matt	Kaplan	Walnut Creek	CA	94597	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/10/2021
Molly W	Canto	Hercules	CA	94547	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Barbara	Ellen	Walnut Creek	CA	94598	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Jerry	Horner	Concord	CA	94518	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Michael	Lerner	Lafayette	CA	94549	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Michael	Eichenholtz	Richmond	CA	94804	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

vanessa	quintero	Concord	CA	94521	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Marinell	Daniel	El Sobrante	CA	94803	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/10/2021

Michael	Friedman	El Sobrante	CA	94803	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Connie	Diernisse	Alamo	CA	94507	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Katherine	Falk	Oakland	CA	94611	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/16/2021
Ian	Nolan	Concord	CA	94518	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Jennie	Richards	Walnut Creek	CA	94597	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Mark	Hurst	Orinda	CA	94563	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Linda	Woodward	Pleasant Hill	CA	94523	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Joshua	Van Deventer	Richmond	CA	94804	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Diane and Tom	Mader	Walnut Creek	CA	94595	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021
Jonathan	Spieler	Lafayette	CA	94549	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Jane C	Kwiatkowski	Pittsburg	CA	94565	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Jan	Jones	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Ron	Tragni	Antioch	CA	94509	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Kevin	Schader	Pleasant Hill	CA	94523	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Dale	Drouin	Walnut Creek	CA	94596	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Monique	Roblin	Walnut Creek	CA	94595	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Bruce	Anderson	Richmond	CA	94801	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Steve	Brown	Crockett	CA	94525	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

David	Wendt	Walnut Creek	CA	94596	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Koll	Ellis	Berkeley	CA	94707	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Erin	Barca	San Ramon	CA	94583	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Matthew	Carlstroem	Berkeley	CA	94707	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Carol	Agnost	Walnut Creek	CA	94598	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Sushana	Tamamian	Crockett	CA	94525	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

F S	Grassia	Pinole	CA	94564	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021
Julie	Zweig	Cypress	CA	90630	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Greg	Piatt	Pleasant Hill	CA	94523	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/14/2021
Annette	Benton	Pittsburg	CA	94565	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Margaret	Masek	Danville	CA	94526	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
SHELLIE	KRICK	Pleasant Hill	CA	94523	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Marsha	Jarvis	Pinole	CA	94564	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Elsa	Ramos	Lafayette	CA	94549	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Marc	Hachey	Concord	CA	94518	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Karen	Schmidt	Discovery Bay	CA	94505	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

idell	weydemeyer	El Sobrante	CA	94803	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Carrie	Lindh	Richmond	CA	94805	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Stephen	Rosenblum	Palo Alto	CA	94301	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/16/2021
Anne	Stewart	Walnut Creek	CA	94595	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Janice Alcaide Chan	Pascua	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Yehudit	Lieberman	Pleasant Hill	CA	94523	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Deb	Castellana	Richmond	CA	94801	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Lisa	Park	Richmond	CA	94804	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/16/2021

Lisa	Schoof	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Maria	Bustamante	Oakley	CA	94561	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/10/2021

Katharine	Barrett	Orinda	CA	94563	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Lorraine	Frey	Walnut Creek	CA	94596	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Kathryn	Spence	Moraga	CA	94556	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Constantine	Bogios	Walnut Creek	CA	94597	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Jorge	Belloso-Curiel	Richmond	CA	94801	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Jay Atkinson	and Ariel Summerlin	El Sobrante	CA	94803	STOP the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Patricia	Moloney	Orinda	CA	94563	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Neale	Miglani	Danville	CA	94526	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

lenore	sorensen	Berkeley	CA	94707	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Judith	Schumacher-Jennings	Walnut Creek	CA	94595	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Andrew	Tyrrell	Canyon	CA	94516	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Wendy	Lewis	Brentwood	CA	94513	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Michelle	Mehlhorn	Richmond	CA	94805	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Gail	Ferriera	Concord	CA	94518	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Benjamin	Rodriguez	Hercules	CA	94547	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Linda	Ostro	Walnut Creek	CA	94595	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Elaine	Wander Leclaire	Rodeo	CA	94572	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Julia M	Fuller	Walnut Creek	CA	94598	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Jason	Scharnagel	Concord	CA	94520	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Lynne	Olivier	Richmond	CA	94805	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

JoAnne	Ciazinski	Danville	CA	94526	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Kathy	Bungarz	Walnut Creek	CA	94598	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

ramona	williams	Danville	CA	94526	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Kathleen	McAfee	Richmond	CA	94801	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/14/2021

Michele Dawn	Sanderson	Walnut Creek	CA	94595	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Adrianna	Dougherty	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Jeffrey	Hemenez	San Ramon	CA	94583	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/8/2021
Thomas	Brustman	Walnut Creek	CA	94595	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Anna	Mirocha	Tucson	AZ	85716	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/2/2021
Christine	Hagelin	Walnut Creek	CA	94595	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Charles	Wieland	San Ramon	CA	94583	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
K	Weed	Richmond	CA	94805	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Judith	Casino	Danville	CA	94526	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Tara	Singer	Alamo	CA	94507	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Pete	Woiwode	Oakland	CA	94609	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/14/2021
A.R.	Puccio	Walnut Creek	CA	94596	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Katherine	Silvey	Martinez	CA	94553	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Barb	Benedict	Martinez	CA	94553	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

jay	van	Danville	CA	94506	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Gary	Shaw	Antioch	CA	94509	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/8/2021

A	Martin	Bethel Island	CA	94511	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Ithzel	Rodriguez	Rodeo	CA	94572	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Sylvia	Nachlinger	Concord	CA	94518	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/11/2021
Anita	Carswell	San Pablo	CA	94806	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Dennis	Waterhouse	Richmond	CA	94804	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Scott	Tipton	Concord	CA	94521	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Louise	McGuire	Concord	CA	94519	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/9/2021
Marilyn	Wojcik	Concord	CA	94521	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/13/2021

Susan	Freeman	Diablo	CA	94528	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Estella	Edwards	Walnut Creek	CA	94598	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Lisa	Brahney	Lafayette	CA	94549	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Carol	Schaffer	San Pablo	CA	94806	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Robert	Underwood	Concord	CA	94519	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Nancy	Berman	Berkeley	CA	94707	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Monica	Catalano	Richmond	CA	94805	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Elena	Ronquillo	Richmond	CA	94805	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

John	Ferrante	Concord	CA	94520	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Lynne Anne	Salman	Richmond	CA	94801	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/10/2021

Jane	Kelsberg	Antioch	CA	94509	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
natasha	kaluza	El Sobrante	CA	94803	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Benjamin	Simrin	Berkeley	CA	94707	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Dan	Bessie	Hercules	CA	94547	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Deborah	Santone	Pleasant Hill	CA	94523	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/10/2021
Aaron	Chan	Lafayette	CA	94549	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Marissa	Swadener	Walnut Creek	CA	94598	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Blake	Wu	Lafayette	CA	94549	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Joanne	Anderson	San Ramon	CA	94583	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Howard	flowers	Concord	CA	94518	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Judy	Clayton	Orinda	CA	94563	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
tina	chinn	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Norma	Wallace	Richmond	CA	94801	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
William	Wallin	Richmond	CA	94805	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Anne	Gomer	Martinez	CA	94553	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Marla	Rogozin	Martinez	CA	94553	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

Ramona	Davis	Moraga	CA	94556	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Kathleen	Wong	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Katja	Cooper	Berkeley	CA	94707	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
David	Wendt	Walnut Creek	CA	94596	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Angela	Presley	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Derek	Brigg	Berkeley	CA	94708	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Lisa	Nichols	Concord	CA	94518	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Storm	Smiles	Berkeley	CA	94707	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021

richard	esner	Walnut Creek	CA	94596	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Ronald	Bogin	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Janet	Jacobson	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
J	Lasahn	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Michael	Kenney	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Anne	Frost	Richmond	CA	94804	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Joseph	Breazeale	Ashland	OR	97520	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Kathy	Steinbrecher	Lafayette	CA	94549	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Donald	Meeker	Walnut Creek	CA	94598	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
JOHN	HARRIS	Pittsburg	CA	94565	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Lauren	Schiffman	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021
Carol	K	Martinez	CA	94553	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Samantha	Borg	Richmond	CA	94804	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
James	Monroe	Concord	CA	94521	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Sheree	Courtney	Concord	CA	94521	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Terry	Campbell	El Sobrante	CA	94803	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Matthew	Priebe	Orinda	CA	94563	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Henry	Martinez	Pittsburg	CA	94565	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Andrea	Schauer	Concord	CA	94518	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Stan	Fitzgerald	Walnut Creek	CA	94595	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Judith	Gottesman	El Cerrito	CA	94530	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Andrea	Horbinski	Berkeley	CA	94708	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Susan	King	Concord	CA	94521	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/9/2021
Michael	D'Adamo	Berkeley	CA	94707	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Janet	Bindas	Walnut Creek	CA	94598	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Kristina	Zweig	Martinez	CA	94553	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Joyce	Cuneo	Brentwood	CA	94513	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
B	Sandow	Richmond	CA	94804	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Christine	Rivera	Concord	CA	94521	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Barnum	Melia	Walnut Creek	CA	94595	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Roger	Gies	Richmond	CA	94801	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021
Steve	Mack	Alamo	CA	94507	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

Ms	Storace	Danville	CA	94506	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/7/2021
Anne K	Oklan	Richmond	CA	94801	Please Halt the Phillips 66 and Marathon Refinery Transition Proposals	I'm a resident of Contra Costa County, and I'm writing to urge you to reject the proposed refinery transition projects in Rodeo and Martinez and decommission the county's outdated refinery infrastructure once and for all. If the county insists on moving forward with these proposals, it must fully disclose all the harms to public health and the environment that would result from these ill-conceived projects. A full and honest evaluation of these harms will demonstrate clearly that these projects should be rejected. While each project is distinct, the draft environmental impact reports (EIRs) for both projects (file no. LP20–2040 and file no. CDLP20-02046) are inadequate for similar reasons. First, the assumption that the transition projects will reduce pollution is unsupported. Both EIRs improperly compare the pollution of a biofuel refinery to an oil refinery operating at historic levels. However, the Marathon refinery is currently shut down, and there is no plausible way the Phillips 66 refinery can continue refining crude at its historic capacity, especially when it shuts down its Santa Maria refinery. The proper alternative to a biofuel refinery would be no refinery in the case of Martinez and greatly reduced or no refining in the case of Rodeo. Under the proper comparison, it would be clear that transitioning to biofuels could only increase pollution from current or projected levels in both communities. A full analysis would also demonstrate that continuing to approve such carbon-intensive projects is inconsistent with California's goals for reducing greenhouse gas emissions. In addition, neither report adequately considers the harms of massively increasing use of food crops as biofuel feedstock. The Marathon and Phillips 66 refinery transitions combined would use up huge amounts of the nation's entire supply of soybean oil. The environmental impacts, like habitat destroyed to meet more soybean demand, haven't been properly considered in either EIR. Furthermore, neither EIR considers the consequences of biofuel refining on public safety, such as potential increased flaring, which will have harmful impacts on my health and my community's health. And neither EIR meaningfully acknowledges the fact that these two very similar refinery transition projects are being proposed simultaneously in the county, in addition to the nearby oil refineries still in operation. These EIRs therefore fail to adequately assess the cumulative impacts both refinery transitions will have on the entire county. For these reasons, both draft EIRs are inadequate, and a more accurate and thorough assessment should be carried out. Moreover, an EIR that fully analyzes and addresses these grave potential harms would almost certainly conclude that the refineries will prolong both the Martinez and Rodeo communities' exposure to pollution, undermine the state's climate goals, and wreak havoc with major changes to land use and food crops. I urge you to reject biofuels as a false climate solution and instead facilitate a just transition to an energy system that protects workers and doesn't cost the health and wellbeing of frontline communities in California and beyond.	12/6/2021

CHAPTER 3 RESPONSES TO COMMENTS

This chapter includes a response to each comment received on the Draft EIR by persons, organizations, and public agencies included in Chapter 2, *Comments Received on the Draft EIR*. Each response includes a summary of the comment, the response to that comment, and indicates if the Draft EIR was changed as a result of the comment. Revisions to the Draft EIR are located in Chapter 4, *Revisions to the Draft EIR*.

Some of the comments that were received in response to the Draft EIR raise similar points about the Project. Contra Costa County has prepared a series of master responses to address general or recurring comments received on the Draft EIR. When a comment raises a point discussed in a master response, the response to that comment will identify the appropriate master response.

Master responses address the following topics:

- Master Response 1: CEQA Baseline
- Master Response 2: CEQA Alternatives
- Master Response 3: CEQA Cumulative Impacts
- Master Response 4: Land Use & Feedstocks
- Master Response 5: Public Safety
- Master Response 6: Non-CEQA Topics and Project Merits

3.1 MASTER RESPONSES

3.1.1 Master Response 1: CEQA Baseline

Comments received state that the Draft EIR uses an improper baseline for analysis, and that the baseline should reflect the cessation of petroleum processing at the Refinery in April 2020. Comments cite CEQA Guidelines and case law (including *Communities for a Better Environment v. South Coast Air Quality Mgmt. Dist.*) that the analysis baseline should be the non-operation condition at the time of the County's issuance of the Notice of Preparation of an EIR for the Project on February 18, 2021. The comments state that:

- Refinery operations ceased due to economic conditions, independent of the proposed Project plans for biofuels processing;
- The Draft EIR's baseline methodology is flawed, and that the environmental impacts of the Project should be analyzed against a baseline of the non-operation of the Refinery, rather than the baseline used in the Draft EIR.
- Information on state-wide and national refining capacity and demand supports the conclusion that Marathon would not re-start petroleum processing at the Refinery.

Those issues are addressed in the following response.

Draft EIR Baseline Methodology is Consistent with CEQA Guidelines

Draft EIR Chapter 1, Introduction, Section 1.4, pp. 1-2 to 1-3, summarizes the Draft EIR baseline approach required under CEQA Guidelines Section 15125(a):

> "State CEQA Guidelines section 15125, subdivision (a), states:
>
> > *"An EIR must include a description of the physical environmental conditions in the vicinity of the project. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to provide an understanding of the significant effects of the proposed project and its alternatives. The purpose of this requirement is to give the public and decision makers the most accurate and understandable picture practically possible of the project's likely near-term and long-term impacts.*
>
> "The California Supreme Court confirmed that, while conditions at the time of the notice of preparation 'normally' constitute the baseline for the environmental analysis under CEQA, the lead agency has flexibility in defining the appropriate baseline (*Communities for a Better Environment v. South Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310, 328). Therefore, State CEQA Guidelines allow a lead agency some leeway in its determination of the baseline by stating that the environmental setting at the time the notice of preparation is published will "generally" constitute the baseline physical conditions against which the impacts of a project are evaluated; however, historic, or projected future conditions may also form the baseline for analysis if those approaches are supported by substantial evidence. In some instances, as here, where an existing operation is present, and the level of that operation can vary substantially from year to year, a lead agency may opt to consider a more representative baseline, such as an average level of operations over a period of years to characterize that existing operation."

Draft EIR Chapter 3, under Assessment Methodology – CEQA Requires a Baseline for Impact Analysis, pp. 3-1 to 3-7, presents further detail on the Project baseline, including a review of baseline requirements, review of historical operational data, and rationale for selection of the Project baseline for the EIR analysis. Chapter 3, p. 3-2 states:

> "The California Supreme Court confirmed that, while conditions at the time of the notice of preparation "normally" constitute the baseline for the environmental analysis under CEQA, the lead agency has flexibility in defining the appropriate baseline (Communities for a Better Environment v. South Coast Air Quality Mgmt. Dist. (2010) 48 Cal.4th 310, 328). Therefore, State CEQA Guidelines allow a lead agency some leeway in determining the baseline by stating that the environmental setting at the time the notice of preparation is published will "generally" constitute the baseline physical conditions against which the impacts of a project are evaluated. However, State CEQA Guidelines recognize that a point-in-time snapshot of environmental conditions at the time environmental review begins does not always provide an accurate or informative baseline against which to measure a proposed project's environmental effects. In circumstances "[w]here conditions

> change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project's impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both," provided that choice is supported by substantial evidence in the record (CEQA Guidelines Section 15125(a)(1)).
>
> In a 2010 California Supreme Court, Communities for a Better Environment v. South Coast Air Quality Management District, 48 Cal. 4th 310 (2010) ("CBE"), the Court explained that "[a] temporary lull or spike in operations that happens to occur at the time environmental review for a new project begins should not depress or elevate the baseline; overreliance on short-term activity averages might encourage companies to temporarily increase operations artificially, simply in order to establish a higher baseline." The Court concluded by reiterating that it was not its place, but rather that of the lead agency, "to decide, in the first instance, exactly how the existing physical conditions without the project can most realistically be measured, subject to review, as with all CEQA factual determinations, for support by substantial evidence." (CBE at 328.) Since the CBE Supreme Court decision, California Courts have applied the CBE framework numerous times since 2010. See Cherry Valley Pass Acres & Neighbors v. City of Beaumont, 190 Cal. App. 4th 316 (2010); North County Advocates v. City of Carlsbad, 241 Cal. App. 4th 94 (2015).
>
> CEQA establishes similar, but distinct rules where changes are proposed to a project previously subject to environmental review. In these circumstances, the lead agency may look to and rely on a prior environmental analysis prepared for the project in assessing whether proposed changes involve any new previously unconsidered significant effects, provided the prior analysis retain informational value."

Draft EIR Chapter 3, under Project Operational Data Informing Selection of Baseline, presents historic petroleum processing throughput at the Refinery over a 5-year period, and annual vehicle and vessel traffic over a 5-year period. Draft EIR p. 3-6 then states, "The two primary factors for baseline selection were representativeness and conservativeness. Based on the 5-year turnaround, reduced pandemic production, and interest in a conservative baseline, the County has selected the 5-year average as the baseline."

Page 3-6 further details that the use of 1-year or 3-year throughput and production volumes "are not as representative and/or do not conservatively represent the environmental setting," and continues:

> "Because it captures multiple years of production and the full cycle of equipment turnarounds, the 5-year baseline is selected as the baseline for this EIR. Within these five years between October 1, 2015, and September 30, 2020, the 5-year baseline captures a high throughput year (Year 3) as well as two comparably lower throughput years (Year 1 and Year 5) and thus, better represents the variation in production at the Refinery. Likewise, the 5-year baseline captures the Refinery's turnaround cycle, including two years

> in 2016 and 2020 when no equipment turnarounds occurred, and air emissions would have been higher because all equipment was in operation.
>
> This environmental setting will constitute the baseline physical conditions by which the County will determine whether or not impacts from the proposed Project and alternatives are significant. The impacts of the Project are defined as changes to the environmental setting that are attributable to Project components, modifications or continued operations."

The Draft EIR also states that this approach reflects case law in *Communities for a Better Environment v. South Coast Air Quality Management District (CBE).*

Therefore, the Draft EIR appropriately documents the selection of the 5-year average as the baseline, using detailed information on operations at the Refinery. That approach is consistent with CEQA Guidelines Section 15125.

Petroleum Processing at the Refinery

Draft EIR Chapter 3, under Project Operational Data Informing Selection of Baseline, describes the 5-year operation patterns, from October 1, 2015 to September 30, 2020, at the Refinery, and that "[i]n Year 5, crude oil production occurred between January 2020 and April 2020, but after April 2020, Refinery operators suspended crude oil processing." Accordingly, the current non-operation of petroleum processing at the Refinery is incorporated as part of the overall 5-year average baseline case.

Though Refinery operations are currently suspended, Marathon has the option of restarting petroleum processing at the Refinery. Marathon has continued to comply with all regulatory requirements and maintain all permits necessary for crude oil refining. For example, the Refinery has maintained and updated all air permits for operation as an oil refinery and has maintained its Standard Industrial Classification (SIC) code as an oil refinery, which triggers regulatory requirements with which the Refinery continues to comply. Table 3-1, Current Permits to Operate Martinez Refinery lists those permits. Based on this information, there is no basis for expecting that operations would cease indefinitely, and the use of the 5-year baseline correctly captures fluctuations (even zero production) in the product manufacturing facility.

For information purposes, maintaining the permits to operate as an oil refinery totaled nine $9 million in 2021.[1] This investment represents actions taken on behalf of the operator that substantiate the expectation that petroleum refining operations would continue if the Project were not implemented.

[1] Marathon, *Responses to Request for Information No. 2, February 7, 2022.*

Table 3-1. Current Permits to Operate Martinez Refinery

BAAQMD	Permit to operate Invoice T131478 Facility 14629
BAAQMD	Permit to operate Invoice T131148 Facility 21200
BAAQMD	Invoice #341373 AB617 Fee
BAAQMD	Permit to operate Invoice T131478 Facility 14628
California Department of Tax and Fee	Hazardous Waste Generator Fee Return
California Department of Tax and Fee	Audit A9696, Account Number 036-064452 2019 Haz Waste Generator Fee
California Department of Tax and Fee	Water Rights for Account Numbers 094-020479 & 094-020478
California Department of Tax and Fee	Hazardous Waste Facility Fee Return
Air Resource Board	P-054585-082420, Fire Engine PERP Registration
CARB	FY21-22 Final Nonvehicular Source Fee Letter
CARB	AB 32 Cost of Implementation Annual Fee - CARB
Contra Costa Health Services	Potable Water Permit 2021/2022
Contra Costa Health Services	IN0255411 CALARP
Contra Costa Health Services	IN0255081 Annual Permit Fees
State of CA	PSM fee
State Water Resources Control Board	Amorco Terminal Tank Farm Annual Permit Fee, 4/1/21-3/31/22
State Water Resources Control Board	Water Quality Certification Permit Fee, Tract 6 Pipeline SPCC
State Water Resources Control Board	Water Quality Certification Permit Fee, Amorco Pipeline Support Repair
State Water Resources Control Board	Annual Fee Environmental Laboratory Accreditation Program, EA-AN-1221-2491
State Water Resources Control Board	Water Quality Certification Permit Fee, Avon Marine Terminal MOTEMS
California State lands	Lease Industrial Use Avon and Amorco
CCCPW	Land Use Permit LP2002046
Regional Water Board	NPDES Permit 2021
CDPH, Radiologic Health	Radiation
CDPH, Radiologic Health	Radiation

Notes:
BAAQMD: Bay Area Air Quality Management District
CARB: California Air Resources Board
California State Lands Commission
CCCPW:
Regional Water Quality Control Board
CDPH: California Department of Public Health

Source: Marathon, *Responses to Request for Information No. 2, February 2022.*

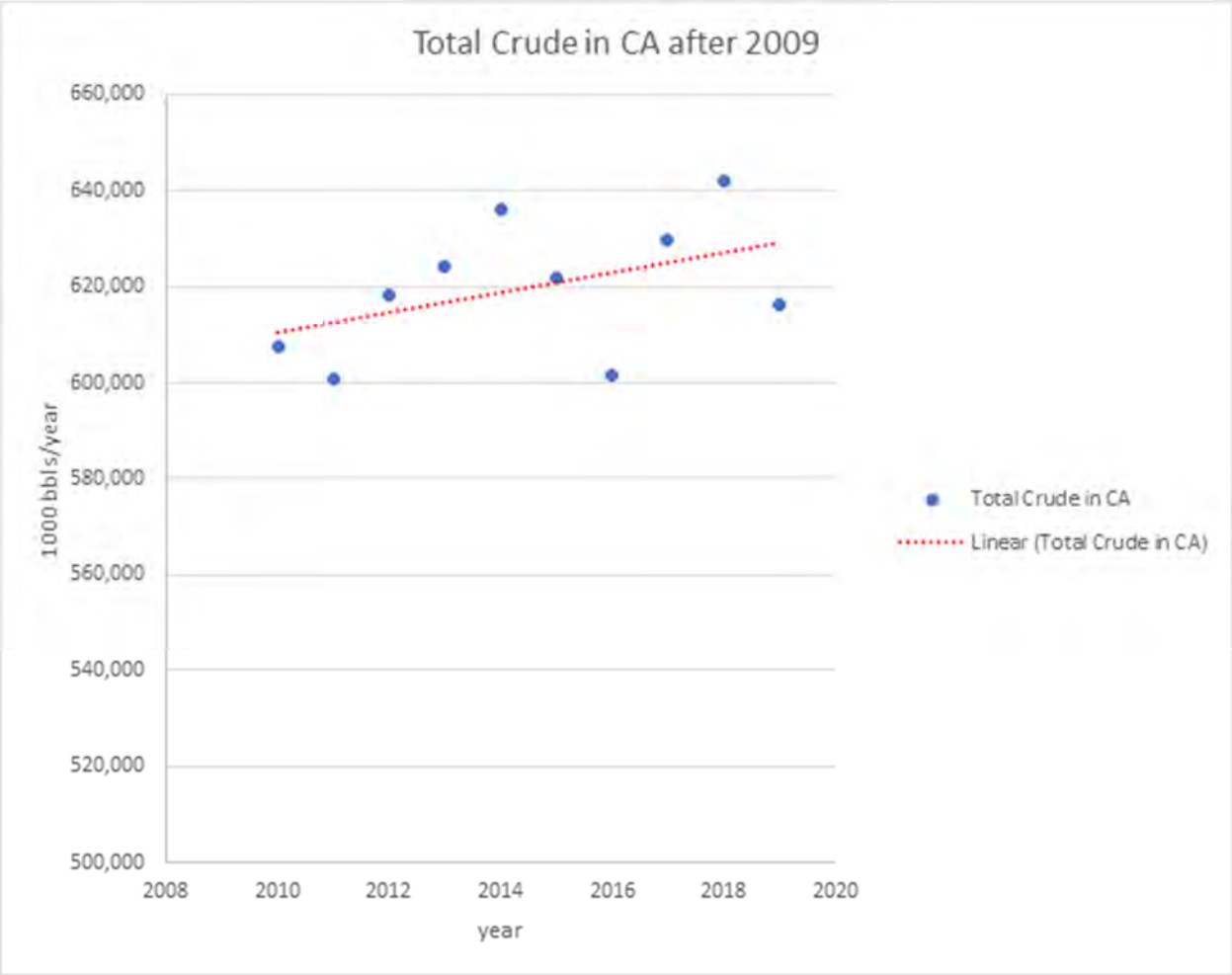
The comments on current non-operation of the Refinery present information and tables regarding recent California-wide petroleum refinery capacity and utilization trends, and taxable sales and gasoline and diesel fuel consumption patterns. The comments state that the capacity and consumption trends would support a conclusion that Marathon would not re-start petroleum processing at the Refinery due to those market conditions, and the non-operation should be the baseline for CEQA analysis.

While the data in the comments indicate recent trends, the conclusion that Marathon would not re-start petroleum processing at this specific site is speculative. The following data regarding market trends from the California Energy Commission (CEC) and U.S. Energy Information Administration (U.S. EIA) indicate continued demand for petroleum-based fuels in California and support a contrasting scenario to re-start petroleum processing at the Refinery.[2] Marathon has

[2] Marathon, *Responses to Request for Information No. 2, February 7, 2022*

noted that the renewable fuels Project prevented it from restarting crude-oil processing at the Refinery for a limited period of time as market conditions changed in 2021; Marathon has provided further analysis of the fluctuations in demand, demonstrating that the petroleum industry has consistently been cyclical, and, since the 2007-2009 recession, crude-oil processing in California has been increasing, as seen in Figure 3-1.[3]

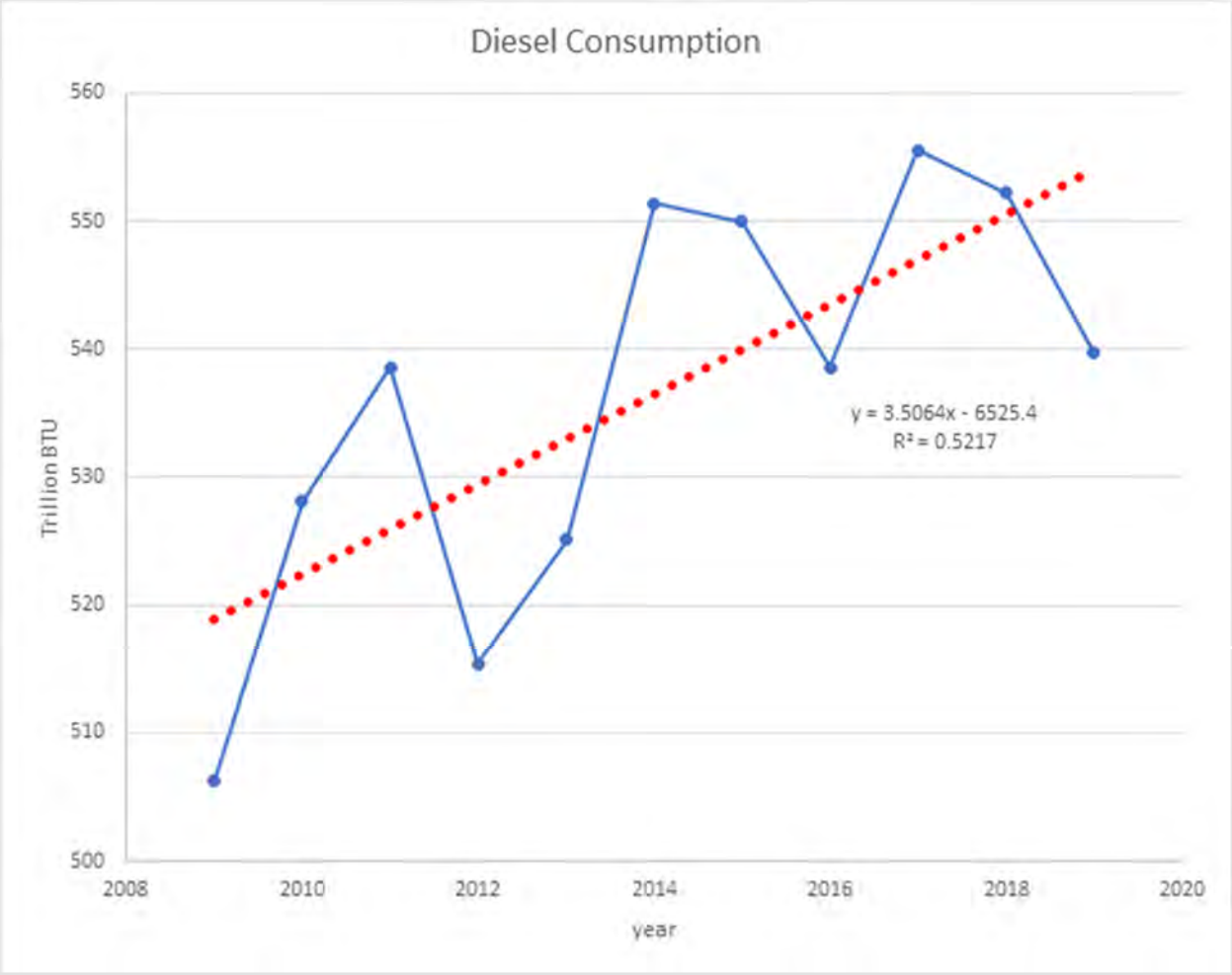
Figure 3-1. Total Crude Consumption After 2009



Although crude oil exploration in California has decreased, the volume processed or consumed has remained consistent or increased due to foreign imports. The data show that liquid fuel consumption has been increasing in California. Figure 3-2, Diesel Consumption Trends, California, shows that the energy consumed from diesel, although cyclical, has been increasing since 2009.

[3] Ibid.

Figure 3-2. Diesel Consumption Trends, California



Source:
https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_use/total/use_tot_CAcb.html&sid=CA

U.S. Energy Information Administration (EIA) data indicate that California is the "largest consumer of both jet fuel and motor gasoline among the 50 states and accounted for 17% of the nation's jet fuel consumption and 11% of motor gasoline consumption in 2019. The state is the second-largest consumer of all petroleum products combined, accounting for 10% of the U.S. total consumption."

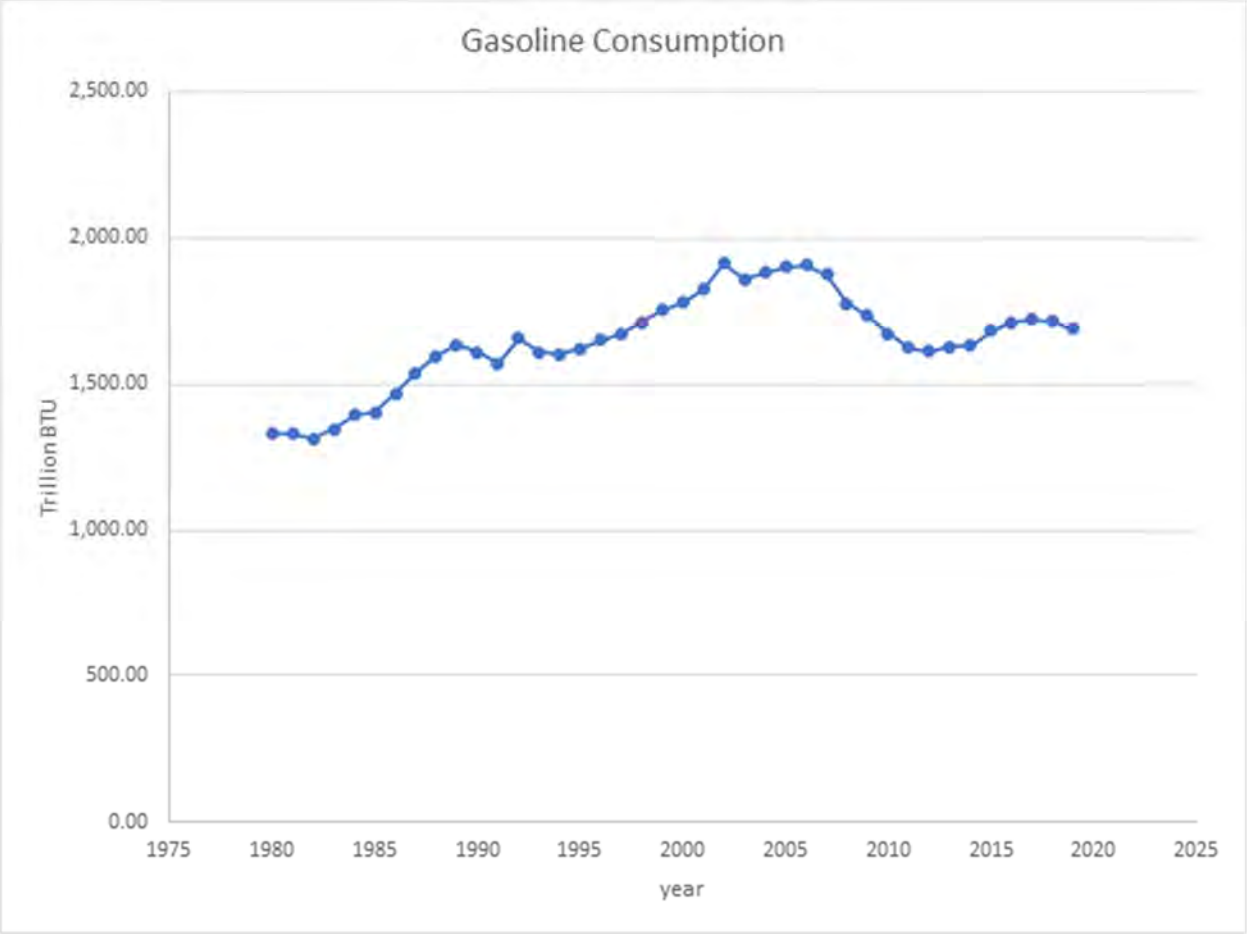
After the 2007-2009 recession, jet fuel consumption in California decreased substantially, but has since increased, as shown in Figure 3-3, Jet Fuel Consumption, California.

Figure 3-3. Jet Fuel Consumption, California

Gasoline consumption has decreased from 2005 to 2020 by about 300 trillion BTU per year; California is still consuming on average about 1,600 trillion BTU/year of gasoline.[4] See Figure 3-4, Gasoline Consumption, California. One gallon of finished gasoline is equivalent to 120,286 BTU. 1,600 trillion BTU is equivalent to about 13,300,000 gallons of gasoline per year.

[4] BTU – British Thermal Unit, the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit.

Figure 3-4. Gasoline Consumption, California



Upon review of the data from the CEC and U.S. EIA, the demand for petroleum-based products appears to support the continued operation of the Refinery should the Project not be implemented. Furthermore, Marathon has continued to comply with all regulatory requirements and maintain all permits necessary for crude oil refining, providing a path for continued operations if the Project is not implemented. Therefore, as presented in this Master Response, the Draft EIR definition of the baseline condition is accurate, and Marathon maintains a feasible option to re-start petroleum process at the Refinery.

The comments also present data regarding petroleum processing capacity and demand beyond California to support the scenario that the Refinery would not resume operations, which would then require a Draft EIR baseline using non-operation of the Refinery. Refer to Master Response 4, Land Use & Feedstocks for further discussion related to comments on market conditions that would affect the Draft EIR analyses.

Baseline Requirements Case Law

The baseline year is typically selected as the year in which the NOP is released for a proposed project. However, as noted above, the lead agency has the discretion to select a more appropriate

baseline year for purposes of the environmental analysis conducted in the EIR if conditions warrant such a selection. Case law provides guidance on when an alternative baseline would be more appropriate. The Draft EIR baseline selection is supported by this case law cited in Chapter 3, including *CBE, Cherry Valley Pass Acres & Neighbors v. City of Beaumont*, and *North County Advocates v. City of Carlsbad.*

The comments incorrectly interpret the holding in *Communities for a Better Environment v. South Coast Air Quality Management District* to support their position that the selected baseline is inappropriate. The court in *CBE* determined that the actual existing physical conditions, not maximum permitted capacities, were to be used as the baseline. The court expressly rejected the maximum permitted capacities as a hypothetical operational scenario, stating: " That issue was addressed by the court in *Neighbors for Smart Rail,* where an existing conditions baseline is required as the "default" or "norm" and a future conditions baseline scenario may be allowed in exceptional circumstances, but in no circumstance is it required. *(Neighbors for Smart Rail,* 57 Cal.4th at 457."

The comments do not identify a case on which the County can rely to support the request to use a future conditions baseline scenario or where existing permitted operations were to be presumed not to exist for an adequate baseline. To the contrary, other cases indicate that recent historic levels of operations were appropriate for permitted operations, even where operations had ceased for several years. In *North County Advocates v. City of Carlsbad,* the court upheld a baseline determined by historic occupancy levels for a permitted but vacant shopping center, and in *Cherry Valley Pass Acres & Neighbors v. City of Beaumont*, the court upheld the baseline determined by historic water usage under entitlements, although the egg farm had ceased operating years earlier. The California Court of Appeals in *Cherry Valley* explained the flexible process afforded an agency in selecting an existing conditions baseline:

> "Though the baseline conditions are generally described as the 'existing physical conditions in the affected area,' or the 'real conditions on the ground' (*CBE, supra,* 48 Cal.4th at p. 321), 'the date for establishing baseline cannot be a rigid one. Environmental conditions may vary from year to year and in some cases it is necessary to consider conditions over a range of time periods' (*id*. at pp. 327–328, quoting *Save Our Peninsula, supra*, 87 Cal.App.4th at p. 125). Environmental conditions may also change during the period of environmental review, and temporary lulls or spikes in operations that happen to occur during the period of review should not depress or elevate the baseline. (*CBE, supra,* at p. 328.) Accordingly, '[n]either CEQA nor the CEQA Guidelines mandates a uniform, inflexible rule for determination of the existing conditions baseline. Rather, an agency enjoys the discretion to decide, in the first instance, exactly how the existing physical conditions without the project can most realistically be measured, subject to review, as with all CEQA factual determinations, for support by substantial evidence. (*Cherry Valley Pass Acres & Neighbors v. City of Beaumont*, 190 Cal.App.4th at 336-337.)"

The County, with evidence cited in the Draft EIR and noted above in these responses, determined that a future conditions baseline scenario with non-operation of the Refinery is not appropriate nor required.

3.1.2 Master Response 2: CEQA Alternatives

The comments note that the Draft EIR "no project" alternative is the scenario where crude oil operations would resume, continuing crude oil processing operations indefinitely at historic levels. The comments address several related issues:

- The Draft EIR uses an improper baseline for analysis, and that the baseline should reflect the cessation of petroleum processing at the Refinery as of April 2020.
- The Draft EIR "no project alternative" should thus be the non-operation of the Refinery, and the Project impacts should be compared to that condition. The Draft EIR in turn underestimates the range of those impacts.
- A no project alternative based on the Refinery closure should address the need to decommission the Refinery, address hazardous waste issues, and analyze impacts of such decommissioning, if the Project were not approved, including potential cleanup effort required for hazardous materials at the site.

Those issues are addressed in the following response.

Baseline for Draft EIR Environmental Analysis

Please see Master Response 1, *CEQA Baseline* for a complete discussion of the selection of the CEQA baseline as a 5-year average of operations and throughput at the Refinery. That baseline is consistent with CEQA Guidelines. As presented further in Master Response 1, Marathon retains the option to re-start petroleum processing at the Refinery, and the demand for petroleum-based products appears to support the continued operation of the Refinery.

"No Project" Alternative

CEQA requires the consideration and discussion of alternatives to the proposed project, including the evaluation of a "no project" alternative. The purpose of the "no project" alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project, pursuant to CEQA Guidelines Section 15126.6(e)(1). As further explained in CEQA Guidelines Section 15126.6(e)(1) and (3)(B), "[i]f the project is other than a land use or regulatory plan, for example a development project on identifiable property, the "no project" alternative is the circumstance under which the project does not proceed." "The "no project" alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline."

Draft EIR Chapter 5, Section 5.1 Selection of Alternatives, pp. 5-1 to 5-3, describes the development and screening of the Project alternatives, including the "no project" alternative under CEQA Guidelines Section 15126.6. Consistent with Draft EIR Chapter 3, under Assessment Methodology – CEQA Requires a Baseline for Impact Analysis, pp. 3-1 to 3-6, and discussed in Master Response 1, above, Chapter 5, Section 5.2, Alternatives Evaluated in this EIR, under Section 5.2.1, Alternative 1: No Project, Draft EIR p. 5-4 states:

> "Under the No Project scenario, the proposed Renewable Fuels Project would not proceed. Instead, Refinery operations would resume as described in Section 2.4 of this EIR. Current

> permits and entitlements for crude oil refining would remain unmodified and in effect, and the Refinery would operate under those current permits and entitlements. The Refinery's operations are currently permitted by the Bay Area Air Quality Management District (BAAQMD) to have a crude oil-refining capacity of 161,000 barrels per day (bpd). For the 5 years prior to the submittal of land use and air permit applications for the Project, actual Refinery throughput averaged approximately 121,000 bpd."

The "no project" analysis in the Draft EIR, "comparing the impacts of approving the proposed project with the impacts of not approving the proposed project" would, in this case, be the scenario where Marathon would re-start petroleum processing at the Refinery under existing permits.

The propriety of utilizing the continued operation of an existing facility for the "no project" alternative was explained in *Ctr. for Biological Diversity v. Dep't of Fish & Wildlife, 234 Cal. App. 4th 214, 253-254, 183 Cal. Rptr. 3d 736 (2015*):

> "Discussing a no project alternative in an EIR provides the decision makers and the public with specific information about the environment if the project is not approved. It is a factually based forecast of the environmental impacts of preserving the status quo. It thus provides the decision makers with a base line against which they can measure the environmental advantages and disadvantages of the project and alternatives to the project." *(Planning & Conservation League v. Department of Water Resources (2000) 83 Cal.App.4th 892, 917–918 [100 Cal. Rptr. 2d 173]*, italics added.)
>
> "When a project involves a proposed change to an ongoing operation, or even the continuation of an ongoing operation, a decision to reject the project would leave the operation in place. In such a situation, CEQA defines the no project alternative as a continuation of the existing operation."
>
> "Under CEQA, '[t]he purpose of describing and analyzing a 'no project' alternative is to allow decisionmakers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project." (Guidelines, § 15126.6, subd. (e)(1).) In addressing the 'no project' alternative, the EIR must 'discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.' (Guidelines, § 15126.6 subd. (e)(2).) As an EIR need not consider 'an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative' (Guidelines, § 15126.6, subd. (f)(3)), an EIR is not obliged to examine 'every conceivable variation' of the 'no project' alternative (Residents Ad Hoc Stadium Com. v. Board of Trustees (1979) 89 Cal.App.3d 274, 286–288 [152 Cal. Rptr. 585])."

The County, consistent with CEQA guidelines and supported by evidence cited in the Draft EIR and noted above, determined that the "no project" alternative included the continued operation of the Refinery. This "no project" alternative is also consistent with the selected baseline, whose

merits are justified in Master Response 1. Therefore, as presented in this Master Response, the Draft EIR "no project" alternative analysis is adequate.

Alternatives Analysis Conclusions for "No Project" Scenario

Draft EIR Chapter 5, Alternatives, Section 5.3, Comparative Evaluation of Alternatives, pp. 5-5 to 5-11 presents the impact information for the EIR alternatives, including the "no project" alternative, as compared to Project impacts, for each resource topic. Table 5-1: Comparison of Proposed Project with Project Alternative, p. 5-12, summarizes those findings. The impacts of the "no project" alternative—petroleum processing at the Refinery—would vary from Project impacts. As shown in Table 5-1, certain impacts would be less than, greater than, or the same as those with the proposed Project.

Given that the County's "no project" alternative provides an accurate "no project" scenario, an evaluation of the impacts of non-operation on each resource topic is not justified or necessary. Therefore, as presented in Chapter 3, and Chapter 5, the Draft EIR appropriately defined and analyzed the "no project" alternative, consistent with CEQA Guidelines Section 15126.6.

Alternatives Considered but Rejected – Decommissioning the Refinery

The Draft EIR appropriately considered Refinery decommissioning as a potential Project alternative and then set forth information consistent with CEQA Guidelines Section 15126.6 to dismiss the alternative from further analysis. The Draft EIR did not evaluate the decommissioning scenario, consistent with CEQA Guidelines Section 15126.6(c). That guideline states that the "range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects" and that the "EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination."

Further, CEQA Guidelines Section 15126.6(f), states that the range of alternatives required in an EIR is governed by a "rule of reason that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making."

Thus, Draft EIR Section 5.1.3, Alternative Considered but Eliminated from Full Consideration: Refinery Decommissioning, p. 5-3, addresses decommissioning and potential impacts. The discussion notes that under current industrial zoning, future uses at the Site could result in operational impacts:

> "Emissions from demolition under this alternative would be greater than those associated with Project construction. This is due to the extensive work necessary to clear the site rather than work within a limited footprint within the Refinery, as would occur for installation of new equipment for conversion to renewable fuels processing. This alternative has the

> potential to restore the natural visual quality of the shoreline and would result in fewer air emissions and minimal risk of water quality reduction compared to the proposed Project operations. However, industrial zoning classifications of the Refinery and MOT premises could also facilitate redevelopment of the Site with new industrial uses, absent zoning map amendments or imposition of specific land use restrictions. Thus, depending on the nature of that new development, operational impacts of the Project could occur under this alternative to varying unknown degrees."

Section 5.1.3 continues:

> "While this alternative has the potential to result in fewer environmental impacts compared to the Project, the extent of that reduction cannot be measured due to the lack of clarity in the description of future land uses, and whether future uses would consist of open space or new industrial development. Further, without definition of future land uses, it cannot be stated with certainty that environmental impacts would be lesser than the proposed Project. This alternative would not achieve several of the goals of the Project to repurpose the Refinery into a renewable fuels production facility, to repurpose/reuse existing Refinery infrastructure or to produce renewable fuels that help the state progress toward achieving renewable energy goals and reducing emissions from mobile sources by providing cleaner burning fuels."

Therefore, the Draft EIR appropriately considered Refinery decommissioning as a potential Project alternative and then set forth information to determine that the potential alternative could not feasibly attain most of the basic objectives of the project, consistent with CEQA Guidelines Section 15126.6, and dismissed the alternative from further analysis.

Reduced Renewable Feedstock Throughput Alternative and Green Hydrogen Alternative

The comments assert that Reduced Renewable Feedstock Throughput, Alternative 2, and Green Hydrogen Alternative, Alternative 3 should have been combined to present one environmentally superior alternative. Consistent with CEQA Guidelines Section 15126.6, the Draft EIR describes a range of reasonable alternatives to the project but does not require analysis of a combined Reduced Feedstock Alternative and Green Hydrogen Alternative.

As cited in Chapter 5, Alternatives, Section 5.1.1 Alternatives and Screening Development, page 5-1, CEQA Guidelines Section 15126.6(a) requires an evaluation of potentially feasible alternatives. CEQA Guidelines Section 15126.6(a) states in full:

> "Alternatives to the Proposed Project. An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those

alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason."

Consistent with CEQA Guidelines, Draft EIR Chapter 5, Alternatives includes Alternative 2: Reduced Renewable Feedstock Throughput, and Alternative 3: Green Hydrogen. Each have different operational and environmental characteristics, as described on Draft EIR pages 5-4 to 5-5. Each would attain some of the objectives of the Project and would avoid or lessen significant effects. Draft EIR Chapter 5 presents and compares the environmental effects of the No Project Alternative, Reduced Feedstock Alternative, and Green Hydrogen Alternative, pages 5-5 through 5-12, and identifies the Environmentally Superior Alternative, as the Reduced Feedstock Alternative. Overall, the Draft EIR discloses the effects of "a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation."

Under "the rule of reason," the Draft EIR thus does not require analysis of a combined Reduced Feedstock Alternative and Green Hydrogen Alternative.

Project Objectives and Green Hydrogen Alternative

The comments state that the Project Objectives are narrowly drawn and may bias the consideration of the Green Hydrogen Alternative, because the objectives include the repurposing of the Refinery infrastructure. The comments then state that the economics of repurposing, rather than developing new, more environmentally sound alternatives "rise to the level of a fundamental Project objective [and] would bias the CEQA process in favor of the cheapest and most polluting alternatives." In fact, the DEIR analysis states that the Green Hydrogen Alternative would have potentially greater impacts on aesthetics and biological resources and does not cite economic factors for feasibility.

The Project Objectives are detailed in Draft EIR Chapter 2, Project Description, Section 2.2, page 2-2:

"The Applicant has identified the following objectives for the Project:

- Repurpose the Marathon Martinez Refinery to a renewable fuels production facility.
- Eliminate the refining of crude oil at the Martinez Refinery while creating high quality jobs.
- Provide renewable fuels to allow California to achieve significant progress towards meeting its renewable energy goals.
- Produce renewable fuels that significantly reduce the lifecycle generation of greenhouse gas emissions, as well as other criteria pollutants including particulate matter.
- Reduce emissions from mobile sources by providing cleaner burning fuels.
- Repurpose/reuse existing critical infrastructure, to the extent feasible."

Those objectives do include repurposing goals but do not cite economic feasibility or benefits as a Project goal. Chapter 5, Alternatives, addresses the feasibility of the Green Hydrogen Alternative in terms of its infrastructure requirements, and page 5-5 notes:

> "By contrast, use of green hydrogen for refining operations would require the construction of a new hydrogen plant and potentially new renewable energy infrastructure such as wind turbines or photovoltaic panels as a power source for the new hydrogen plant."

Page 5-6 continues:

> "This alternative would not meet the objective of the Project to repurpose and reuse existing Refinery infrastructure and instead would require installation of a new hydrogen plant and renewable energy source. It is assumed for this Alternative that the renewable energy source would be solar, as wind farms in the County are limited to the County's easternmost areas pursuant to General Plan policy (Policy 8-49). Because this alternative would instead require introduction of a renewable energy source to the Project Site, the footprint of the Refinery could increase by installation of solar panels in currently undeveloped lands on Marathon's premises."

Section 5.3, Comparative Evaluation of Alternatives found that, compared to the Project, the Green Hydrogen Alternative would have potentially greater impacts on aesthetics and biological resources. Section 5.3.1, Aesthetics, page 5-6, states:

> "As reported by Marathon and noted in Section 3.6, Energy, electricity use after conversion of the Refinery to renewable fuels production is estimated at 855,000 megawatt-hours (MWh) per year. A photovoltaic array of 800 to 900 acres would be necessary to provide this amount of energy to the Refinery (U.S. EPA 2021). Such large energy generation facilities could create a new source of light and glare along the Site's marshes or shoreline. This expansion of infrastructure into largely natural areas outside of the Refinery equipment area would change the existing industrial appearance of the property and could interfere with views of Mt. Diablo from the shoreline, in conflict with County General Plan Goal 9-F and Policy 9-25."

Section 5.3.3, Biological Resources, page 5-7, notes:

> "Compared to the proposed Project and other alternatives, the Green Hydrogen Alternative would result in the greatest long-term impacts to biological resources as a result of modification of the natural environment to develop several hundred undeveloped acres for use as a photovoltaic array."

Section 5.3.4 Cultural and Tribal Cultural Resources, page 5-5, concludes that the impacts on tribal cultural resources would be potentially greater with the Green Hydrogen Alternative, but would be less than significant with mitigation:

> "The Green Hydrogen Alternative would also require installation of new renewable energy infrastructure (e.g., solar panels), which could involve construction outside the existing developed footprint of the Refinery. Because construction of this new infrastructure would have potential to disturb unknown historic archeological and cultural resources, the potentially significant impact on cultural resources would also apply to this alternative, and application of recommended mitigation would reduce the impact to less than significant."

Thus, the Draft EIR analysis of the Green Hydrogen Alternative presents information on the alternatives' comparative environmental impacts, and the need of a large solar panel array to

supply the electric power demand. The analysis does not address or cite economic factors, and alternative.

3.1.3 Master Response 3: CEQA Cumulative Impacts

A number of comments address the adequacy of the Draft EIR analysis of cumulative impacts. The comments raise the following issues regarding cumulative impacts:

- That the Draft EIR does not address the cumulative effects of the Project together with the impacts of the Phillips 66 Rodeo Renewed Biofuels Refinery project.
- The extent of the geographic area of projects considered in the cumulative impact analysis should include local and statewide projects beyond the 2-mile geographic scope to cover "upstream," "downstream," and indirect environmental and market impacts at the global scale.
- The adequacy of cumulative air quality and greenhouse gas emission analysis.

Those issues are addressed in the following response.

Projects Considered in the Cumulative Analysis

Draft EIR Chapter 4, Cumulative Impacts presents the approach to the cumulative analysis as required by CEQA Guidelines Sections 15130 and 15355. As discussed on Draft EIR p. 4-1:

> "State CEQA Guidelines Section 15355 requires that an EIR consider the cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as identified in CEQA Guidelines Section 15065, subdivision (c). Where a lead agency is examining a project with an incremental effect that is not 'cumulatively considerable,' a lead agency need not consider that effect significant but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable. As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR, together with other projects causing related impacts. An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR."

Chapter 4 then defines the Draft EIR cumulative analysis, consistent with those guidelines:

> "CEQA Guidelines section 15130 provides that cumulative impacts analysis may be undertaken in one of two ways:
>
> > "Either: (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or areawide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency."

CEQA Guidelines Section 15130 allows the lead agency, "… to define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used." The Draft EIR, pp. 4-2 to 4-7, thus describe projects that were considered in the cumulative analysis with a "list of past, present and probable future projects" approach, as stated in Guidelines Section 15130. The list included 10 projects within a 2-mile radius of the Project, and also explicitly included the Phillips 66 project, as stated on p. 4-7:

> "In addition to the projects located within an approximately 2-mile radius of the Project Site, the following regional County project was considered in the analysis of cumulative impacts to air quality, biological resources, energy and greenhouse gases (GHG).
>
> "**Phillips 66 Rodeo Renewed Project (County Project No. LP20-2040).** The Phillips 66 Rodeo Refinery is located at 1380 San Pablo Avenue on approximately 1,100 acres of land in the unincorporated community of Rodeo, approximately 10 miles west of the [Marathon] Refinery. The Rodeo Renewed Project would transform the existing Rodeo Refinery into a facility that would process renewable feedstocks into renewable diesel fuel, renewable components of other transportation fuels and renewable fuel gas. The modified facility would mostly use existing process units and storage facilities converted to handle new feedstocks and renewable fuels, though limited other new equipment would also be installed. The project includes decommissioning and potential demolition of existing related facilities off-site in Santa Maria, California, and a petroleum coke-processing facility approximately 9 miles west of the Refinery in Franklin Canyon in unincorporated Contra Costa County. The project is currently undergoing environmental review by County staff; the Notice of Preparation of an EIR was released on December 21, 2020. If approved, construction of the project is anticipated to occur over 24 months. For purposes of this analysis, construction is anticipated to commence in 2022 and be complete by 2024."

Furthermore, cumulative analysis of issue areas with greater potential for significant impacts, such as air quality, greenhouse gas emissions, water quality, marine and aquatic resources, and risk of upset analysis included projects in a regional context.

For example, to evaluate cumulative air quality impacts, the geographic area is regional to account for the dispersion of certain pollutants over a larger area. For the Project, this included the Bay Area—BAAQMD and the nearby San Joaquin Valley—SJVAPCD. To set the analysis boundary, planning documents and projections for the affected air basins were used to evaluate whether the Project, together with the cumulative projects, would affect compliance with air emission attainment standards. For cumulative construction noise impacts, it was determined that using a 500-foot setback from construction activities was sufficient and that impacts would not occur beyond this setback from the construction site or along roadways used for construction traffic to access the site.

The Project's incremental impacts were assessed together with the incremental cumulative impacts to determine whether significant impacts result. Section 4.3, Cumulative Impacts to Environmental Resources, pp. 4-7 to 4-16 presents the analysis for each resource topic.

To clarify the geographic context used for each issue area, the following text and table is added to Section 4.4, Cumulative Impacts, p. 4-7, after the third full paragraph:

"Table 4-1, Geographic Context of Cumulative Impacts, outlines the geographic area relevant for the cumulative analysis of each resource topic."

Table 4-1. Geographic Context of Cumulative Impacts by Resource Topic

Resource Topic	Geographic Area
Aesthetics	Local – area surrounding Project sites that encompass public viewpoints
Air Quality	Regional – for pollutant emissions that have regional effects, combined air basins within the following air districts were used: BAAQMD; SJVAPCD Local/Immediate Vicinity – a defined local area surrounding the Project Site was used to evaluate highly localized air emissions, such as NOx and PM
Biological Resources	Regional – San Francisco Bay and Delta Local/Immediate Vicinity – the Project Site and immediate surrounding area was used to evaluate potential impacts from construction activities
Cultural Resources	Local/Immediate Vicinity – Area of Potential Effect (APE): i.e. the geographic area within which the Project may alter the character or use of historic properties.
Energy Conservation	Regional – energy grids serving Project Site
Geology and Soils	Local/Immediate Vicinity
Greenhouse Gas Emissions	State-wide and Global
Hazards and Hazardous Materials	Regional and Local
Hydrology and Water Quality	Regional and Local

Resource Topic	Geographic Area
Land Use and Planning	County
Noise and Vibration	Local/Immediate Vicinity
Tribal Cultural Resources	Local/Immediate Vicinity
Wildfire	Local/Immediate Vicinity
Solid Waste	Local – Service Areas

Cumulative Air Quality and Greenhouse Gas Emissions Analysis

The comments state that cumulative air quality and greenhouse gas emissions (GHG) impacts should be analyzed within a nationwide and global context to identify potential impacts. The Draft EIR has evaluated the air quality and greenhouse gas emissions pursuant to the applicable context and thresholds of significance.

Draft EIR Section 3.3, Air Quality, presents the applicable local, regional, state, and federal goals and regulations in Section 3.3.2, Regulatory Setting, pp. 3.3-16 to 3.3-23. The section defines operational and construction emissions and evaluates them pursuant to the applicable context and thresholds of significance. The air quality analysis, pp. 3.3-38 concludes:

> "The Project would result in emission reductions of all criteria air pollutants from both stationary and mobile sources. Emissions from operation of the Project would be below the BAAQMD CEQA significance thresholds and there would be no impact on localized CO concentrations. As noted above, NOx emissions from rail traffic in Placer County and marine vessels in the SJVAPCD would exceed significance thresholds. Therefore, the impact would be **significant and unavoidable."**

Therefore, other than NOx emissions in Placer County and the SJVAPCD, overall emissions reductions with the Project would not contribute to cumulative air quality impacts.

Draft EIR Section 3.8, Greenhouse Gas Emissions presents the applicable local, regional, state, and federal goals and regulations in Section 3.8.2, Regulatory Setting, pp. 3.8-7 to 3.8-18. Section 3.8.3, Impact Analysis, p. 3.8-19 concludes that operational conditions with the Project would reduce GHG emissions compared to current conditions. Section 3.8, pp. 3.8-20, Greenhouse Gas Emissions for operational conditions states, "Impact GHG-1: Generate operation-related GHG emissions that exceed the adopted BAAQMD threshold" would be less than significant; "Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, addressing California GHG plans and regulation" would also be a less than significant impact.

For both air quality and GHG analyses, operation of the Project would result in net emissions decrease of all pollutants compared to baseline levels. The operational impacts would be less than

significant, as noted above and no mitigation would be required, and those impacts would not be cumulatively considerable.

Conclusion

The cumulative analysis of each relevant resource area noted that the cumulative contribution of the Project would be minimal, mitigation measures would be implemented, and no significant cumulative impacts would occur locally, regionally, statewide, and globally (with exception of potential vessel spills and associated effects on marine biological resources and water quality impacts in the Bay).

The analysis need not examine options for mitigating or avoiding impacts not attributable to the Project's contribution to the significant cumulative effects identified in the EIR, but only the Project's contribution to those effects.

Regarding upstream land use upstream effects, see Master Response 4, *Land Use & Feedstocks*.

3.1.4 Master Response 4: Land Use & Feedstocks

A number of comments address the adequacy of Draft EIR analysis of indirect land use changes (ILUC) associated with the Project and the adequacy of mitigation of environmental impacts associated with such changes. The comments raise the following issues on the adequacy of the Draft EIR:

- Consideration of the Project's ILUC impacts based on the Project's compatibility with California's Low Carbon Fuel Standard (LCFS);
- Addressing the upstream environmental impacts of feedstock supply, including:
    - the potential for significant domestic and global land use changes;
    - the significant environmental impacts of these land use changes;
- Identification of the specific feedstocks the Project would use;
- The scale of the Project;
- The cumulative upstream impacts of the Project and similar projects; and
- Consideration of certain mitigation measures with respect to ILUC.

These issues are addressed in the following response.

Low Carbon-Intensity Liquid Fuels Standard

The Project would produce renewable diesel fuel that would be significantly less carbon intense than fossil fuels. Because California's economy (and the broader economy) will require liquid fuels for the foreseeable future, transitioning away from carbon-intense fossil fuels to less carbon-intense liquid fuels—as with those that the Project would produce—would be a critical step

towards achieving the State's ambitious climate and decarbonization objectives. The Project would be consistent with those objectives. The following summary of the carbon cycle helps describe the move away from production and combustion of fossil fuels and towards renewable liquid fuels as proposed with the Project.

Carbon is one of the most abundant elements in the universe, and it forms the foundation for much of the natural world. This element moves along various interconnected points in the environment: from the atmosphere to the ocean, to living creatures, to the rocks underground, and in between. This movement among interconnected points is called the carbon cycle. The U.S. Environmental Protection Agency (EPA) defines the "carbon cycle" as follows:

> All parts (reservoirs) and fluxes of carbon. The cycle is usually thought of as four main reservoirs of carbon interconnected by pathways of exchange. The reservoirs are the atmosphere, terrestrial biosphere (usually includes freshwater systems), oceans, and sediments (includes fossil fuels). The annual movements of carbon, the carbon exchanges between reservoirs, occur because of various chemical, physical, geological, and biological processes.[5]

Thus, carbon moves between the atmosphere, surface, and subsurface of the Earth in a vast, interconnected system. At various points in this system, carbon is stored and then eventually released, at which time it can move to a different point in the system. This storage, commonly referred to as carbon sequestration, can be relatively short-lived or extremely long-lived, depending on the specific process.[6]

Consider a relatively short sequestration cycle: when plants grow via photosynthesis, drawing carbon dioxide through their leaves, they release oxygen into the atmosphere, and, in exchange, absorb carbon. Plants store this absorbed carbon in their cells. This recently sequestered carbon can be accessed by animals, which use the carbon for fuel and to grow. It can also be released into the atmosphere when the plants die and decay.

Consider now a longer sequestration cycle: Carbon in the remains of plants and animals (diatoms) that lived millions of years ago in a marine environment which were covered by layers of sand, silt, and rock. Through geological processes lasting eons, these remains eventually become rock, such as limestone or its derivatives, or crude oil or petroleum.[7] Compared to the carbon sequestered in the leaves and seeds of plants, this geologically sequestered carbon in rocks and oil typically takes a very long time to release.

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[5] UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA), OFFICE OF AIR AND RADIATION, OFFICE OF ATMOSPHERIC PROGRAMS, CLIMATE CHANGE DIVISION, *Glossary of Climate Change Terms*, https://sor.epa.gov/sor_internet/registry/termreg/searchandretrieve/glossariesandkeywordlists/search.do?details=&glossaryName=Glossary%20Climate%20Change%20Terms.

[6] Holli Riebeek, *The Carbon Cycle*, NASA, https://www.earthobservatory.nasa.gov/features/CarbonCycle.

[7] UNITED STATES ENERGY INFORMATION ADMINISTRATION (EIA), *Oil and petroleum products explained*, https://www.eia.gov/energyexplained/oil-and-petroleum-products/#:~:text=Crude%20oil%20and%20other%20hydrocarbons,hydrocarbons%20contained%20in%20natural%20gas.

For plant leaves and seeds, the sequestered carbon is typically released shortly after it has been sequestered, either through consumption by other organisms or decay. In contrast, the carbon sequestered in rocks historically was released through long geological processes like erosion. However, when humans began burning fossil fuels for energy, this long-sequestered carbon began escaping much more quickly—and on a much larger scale—than was previously possible.[8]

The distinctions between these two cycles, including their relative length, explains why biofuels have a lower carbon intensity than fossil fuels and, therefore, a lesser impact on global climate change. While combustion of both types of liquid fuel releases carbon to the atmosphere, where it contributes to global warming, the feedstocks grown to produce renewable fuels function as carbon sinks themselves, absorbing and sequestering carbon from the atmosphere via photosynthesis. Soon after one generation of feedstock is harvested and its recently sequestered carbon is used as fuel, another generation of feedstock will take its place, absorbing its share of carbon from the atmosphere. Given the long-lived nature of carbon dioxide in the atmosphere and the fact that climate change is caused by the cumulative contribution of greenhouse gases ("GHG"), the removal and release of carbon associated with production and combustion of biofuels is one strategy that can help support jurisdictional decarbonization objectives, as opposed to continued reliance upon petroleum-based fuels for applications that cannot be quickly and easily transitioned to non-liquid fuel sources.

Renewable diesel that would be produced by the Project both releases carbon *and* sequesters carbon from the atmosphere, meaning that it is not as carbon intense as fossil fuels, which do not directly sequester carbon from the atmosphere.[9] This distinction is at the core of California's LCFS. The LCFS considers the carbon intensity of the entire lifecycle of each fuel—including the associated upstream land use changes—and creates incentives for fuel producers to provide relatively less carbon-intense fuels. It is why California recognizes that combustion of one gallon of certain biofuels, including renewable diesel produced through certain pathways, has a lower impact on global carbon dioxide emissions and, as a consequence, climate change, than an equivalent gallon of petroleum-based fuel.

For example, under the LCFS, Ultra-Low-Sulfur Diesel (ULSD) (i.e., diesel fuel that meets California's emission standards and is produced from the average crude oil supplied to California refineries and at average California refinery efficiencies) has a carbon intensity of 100.45 grams of carbon dioxide equivalent per megajoule (gCO_2e/MJ). In comparison, pathways recently approved by CARB for renewable diesel produced by the Marathon Dickinson Refinery in North Dakota using distillers' corn oil, soybean oil, tallow, and used cooking oil have respective carbon

[8] *Supra, at n. 2.*

[9] U.S. DEPARTMENT OF ENERGY: ENERGY EFFICIENCY AND RENEWABLE ENERGY, *Renewable Hydrocarbon Biofuels* ("Carbon dioxide captured by growing feedstocks reduces overall greenhouse gas emissions by balancing carbon dioxide released from burning renewable hydrocarbon biofuels compared with conventional fuels."), https://afdc.energy.gov/fuels/emerging_hydrocarbon.html.

intensities of 29.79, 57.64, 33.34, and 21.09 gCO_2e/MJ.[10] Those fuels, therefore, have a lifecycle carbon intensity—representing their total radiative forcing atmospheric burden—that is 42 to 79 percent below that of conventional diesel fuel.

As described in Draft EIR Chapter 3, Section 3.8, Greenhouse Gas Emissions, pp. 3.8-12 to 3.8-13:

> "The LCFS assigns carbon intensity (CI) scores to petroleum fuels and their substitutes based on a lifecycle analysis of the direct and indirect greenhouse gas emissions attributable to the fuel at each step of its production, refining, transportation, and use. Additionally, the LCFS establishes annually decreasing CI benchmarks that each transportation fuel providers' pool of fuels must meet in a given year. Producers can meet these benchmarks by utilizing less carbon intensive fuels, or they can utilize "credits" to offset any "deficits" incurred by fuels which have a CI score exceeding that year's benchmark. Traditional petroleum fuels tend to have CI scores that exceed the CI benchmarks, and these fuel types therefore typically incur a deficit. By contrast, renewable fuels tend to have CI scores below the CI benchmarks, so they can be a source of credits for producers. Credits and deficits are denominated in metric tons of CO2 equivalent, respectively reflecting either the reduction or the increase in total lifecycle greenhouse gas emissions attributable to production and use of a fuel, relative to the annual CI benchmark for the fuel type.
>
> "By making the annual CI benchmark scores increasingly stringent, the LCFS increases the desirability of low-carbon fuels. Because of their relatively low CI scores, biofuels are attractive to producers as a way to meet the CI benchmarks and to create credits to offset any deficits incurred by more carbon-intensive fuels."

With this structure, the LCFS increases the desirability of the types of fuels that the Project, and similar biofuel projects, would supply. This is by design, as these types of fuels are not only desirable, but considered necessary for California to achieve its carbon neutrality goals. As of 2019, the CI benchmarks for gasoline and diesel fuel under the LCFS were 93.23 gCO_2e/MJ and 94.19 gCO_2e/MJ, respectively.[11] These benchmarks will become increasingly stringent, reaching 79.55 gCO_2e/MJ and 80.36 gCO_2e/MJ, respectively, in 2030.[12] Thus, to meet those annually declining benchmarks, relatively low-CI fuels like renewable diesel would be expected to play a major role in California's transportation sector. Market analysis indicates that renewable diesel is

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[10] CALIFORNIA AIR RESOURCES BOARD (CARB), Current Fuel Pathways, https://ww2.arb.ca.gov/resources/documents/lcfs-pathway-certified-carbon-intensities; CARB Application No. B0240, Staff Summary, Dakota Prairie Refining LLC, Marathon Dickinson Refinery, Dickinson, North Dakota Renewable Diesel and Renewable Naphtha from Distillers' Corn Oil, Soybean Oil, Used Cooking Oil, and Animal Fat, https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/fuelpathways/comments/tier2/b0240_summary.pdf.

[11] *See* CARB, LOW CARBON FUEL STANDARD (PRESENTATION) at 14, https://ww2.arb.ca.gov/sites/default/files/2020-09/basics-notes.pdf#:~:text=The%20LCFS%20sets%20annual%20carbon%20intensity%20%28CI%29%20standards%2C,equivalent%20per%20megajoule%20of%20energyprovided%20by%20that%20fuel.

[12] *Id.*

already playing a central role in meeting existing CI benchmarks: data indicates that in the second quarter of 2018, the supply of renewable diesel in California reached 100 million gallons (10.1% of the total diesel supplied to California in that quarter).[13] Additionally, the U.S. Energy Information Administration anticipates that by 2024, renewable diesel could make up about 5% of current U.S. diesel production capacity.[14]

Consistent with those dynamics, the 2017 Scoping Plan, which identifies how California can reach its 2030 GHG reduction targets, the California Air Resources Board (CARB) highlights the fact that renewable fuels were already replacing fossil fuels in the vehicle sector and explained that "existing refineries have an opportunity to move away from fossil fuel production and switch to the production of biofuels and clean technology."[15] More recently, in analysis undertaken in advance of CARB's forthcoming 2022 update to the Scoping Plan, liquid biofuels are projected to play a significant role in all pathways modeled to achieve the State's 2045 carbon neutrality target.[16]

Recent statements from CARB leaders have underscored the agency's belief that the State's ultimate goal of decarbonization will require liquid fuels, at least for the foreseeable future. In December 2021, CARB Chair Liane Randolph explained that as California transitions towards a net zero emissions transportation sector, including by moving towards 100% electrical vehicle sales, a significant number of vehicles with internal combustion engines will remain on the State's roads.[17] According to Ms. Randolph, "renewable fuels will have to be a piece of the carbon reduction strategy."[18]

CARB's Transportation Fuels Branch Chief, Cheryl Laskowski, also recently described how increasing renewable diesel production capacity is consonant with the State's strategy for reducing emissions from the transportation sector, explaining that CARB is "very committed to switching to zero-emission vehicles as quickly as possible and wherever possible, but liquid fuel demand is not going to go away overnight, particularly for end uses that are difficult to electrify . . . we're interested in seeing the announcements that have been made on renewable diesel production and switching to renewable diesel production from diesel production."[19] Ms. Laskowski also emphasized that facilities, such as the proposed Project, would have a role to play in reducing emissions from heavier-duty applications less conducive to electrification, saying that, "[e]ven as California transitions away from combustion in on-road vehicles, these [renewable diesel]

[13] EIA, *Renewable diesel is increasingly used to meet California's Low Carbon Fuel Standard* (November 13, 2018), https://www.eia.gov/todayinenergy/detail.php?id=37472.
[14] EIA, *U.S. renewable diesel capacity could increase due to announced and developing projects.* (July 29, 2021), https://www.eia.gov/todayinenergy/detail.php?id=48916.
[15] *See* CARB, CALIFORNIA'S 2017 CLIMATE CHANGE SCOPING PLAN: THE STRATEGY FOR ACHIEVING CALIFORNIA'S 2030 GREENHOUSE GAS TARGET at ES8, 70 (Nov. 2017), https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf.
[16] *See* CARB, ACHIEVING CARBON NEUTRALITY IN CALIFORNIA; PATHWAYS SCENARIOS at 31 (Oct. 2020), https://ww2.arb.ca.gov/sites/default/files/2020-10/e3_cn_final_report_oct2020_0.pdf.
[17] *Biofuels Still Have Important Role to in* [sic] *California LCFS, CARB Chief Says*, OIL PRICE INFORMATION SERVICE (OPIS) BY IHS MARKIT (Dec. 2, 2021).
[18] *Id*.
[19] *CARB LCFS Chief Says Nationwide LCFS Program 'A Ways Away'*, OPIS BY IHS MARKIT (Dec. 2, 2021).

facilities will play a key role in focusing on the production of renewable diesel and sustainable aviation fuel."[20]

Therefore, the Project's production of biofuels would be consistent with the State's Low Carbon-Intensity Liquid Fuels goals

Project Consistency with California's Climate Plan and Other Applicable Plans

With respect to the Project's consistency land use and policy plans, the Draft EIR evaluated whether the Project would "conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG." See Draft EIR Chapter 3, Section 3.8, Greenhouse Gas Emissions, p. 3.8-19.[21] The key policy referenced in the Draft EIR was the California Global Warming Solutions Act of 2006 ("AB 32"), and the associated *2017 Climate Change Scoping Plan Update* developed by CARB in December 2017 ("2017 Scoping Plan"), Draft EIR pp. 3.8-10 to 3.8.11, and p.3.8-22.

As noted in Section 3.8, AB 32 and the 2017 Scoping Plan create a framework for California to reduce its GHG emissions 40 percent by 2030 compared to 1990 levels. The Project would provide low-CI liquid fuels, which would reduce GHG emissions in the transportation sector in line with the State targets. The Project would also support the broader goal of transitioning away from fossil fuel production. Accordingly, the Draft EIR concludes that the Project would be consistent with the State's climate goals. The Draft EIR, p. 3.8-22, then concludes that any conflict with GHG reduction plans, policies, or regulations would be "less than significant."

Some comments assert that the Draft EIR cannot rely on reference to the LCFS to disclose, analyze, and mitigate Project-induced land use changes. The Draft EIR, however, references the LCFS to demonstrate that AB 32 and the 2017 Scoping Plan consider increased biofuel production as key to the State's climate goals, as discussed in Chapter 3, Section 3.8, Greenhouse Gas Emissions, pp. 3.8-12 to 3.8-15, noted above in this Master Response.

Under CEQA, when considering the significance of a project's environmental impacts, the lead agency must consider direct physical changes to the environment as well as reasonably foreseeable indirect physical changes, pursuant to CEQA Guidelines Section 15064(d). The Draft EIR adequately addresses the Project's potential for land use impacts, both within and outside of California:

Draft EIR Chapter 3, Section 3.1,1 Resources with No Project Impacts addresses the potential for the Project to result in direct physical changes to surrounding agricultural and forestry land.

Section 3.1.1, Agricultural Resources, pp. 3.1-1 to 3.1-3 inventories the local mix of land surrounding the Project and the proposed physical changes with the Project and concludes that "[t]he Project would not develop on any lands designated by the State as Grazing lands or

[20] *Id.*

[21] The County first evaluated whether the Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Draft EIR at 3.8-19. Relying on the BAAQMD CEQA Air Quality Guidelines (BAAQMD 2017b) as their significance threshold, the County also concluded that the Project's operation related-GHG emissions would have a "less than significant" impact. Draft EIR at 3.8-20.

designated by the County as Important Agricultural Lands; as such, the Project would not impair opportunities for future use of those lands for livestock grazing. Therefore, the proposed Project would have no impact to agricultural or forest resources."

Draft EIR Chapter 3, Section 3.11, Land Use, pp. 3.11-12 to 3.11-14 considers the Project's potential to conflict with applicable zoning and land use plans. The Draft EIR presents the Project context with applicable land use policies and regulations, including regional, county, and city plans and zoning ordinances. After reviewing Project impacts under each applicable plan, the Draft EIR concludes that neither the construction nor operation of the Project would have significant land use impacts or conflict with applicable plans.

The Draft EIR therefore concludes that the Project's potential direct impacts on land use and land use plans would be "less than significant."

Indirect Land Use Changes Due to Renewable Feedstocks

Regarding the potential for indirect land use changes associated with the Project's feedstock supply, including deforestation, the Draft EIR appropriately assesses the land use impacts associated with the Project's use of crop-based feedstock.

CEQA requires that indirect physical changes resulting from a project be addressed only to the extent they are "reasonably foreseeable," pursuant to CEQA Guidelines Sections 15064(d) and 15358(a)(2), and those indirect impacts can be addressed in more general terms than direct impacts "where it would be difficult to predict them with any accuracy." [22] Further, CEQA does not require evaluation of speculative impacts, pursuant to CEQA Guidelines Sections15064(d)(3) and 15145. While potential upstream land use changes are difficult to predict with accuracy, the Draft EIR does address indirect land use effects related to biofuel feedstocks:

Draft EIR Section 3.8, Greenhouse Gas Emissions, pp. 3.8-12 to 3.8-14 discusses potential land use impacts beyond California's borders:

CARB has previously evaluated, considered, and mitigated the environmental impacts associated with increased production and consumption of biofuels to meet the demand created by the LCFS in association with its adoption, re-adoption, and amendment of the LCFS. In particular, the Draft EIR notes CARB's efforts to assess the LCFS's potential impact on upstream land use changes and to incorporate features into the LCFS that would mitigate any such impacts, most significantly through:

(i) Application of the Global Trade Analysis Project (GTAP) model to quantify the anticipated transformation of nonagricultural and agricultural land that would occur both in the United States and internationally, as demand for crop-based fuels increases; and

[22] *Muzzy Ranch Co. v. Solano County Airport Land Use Com.* (2007) 41 Cal.4th 372, 388 (also holding that "[l]ess detail . . . would be required where those effects are more indirect than effects felt within the project area . . . .").

(ii) Adoption of a mechanism to assure that any such land use changes and resulting greenhouse gas emissions are fully accounted for within a fuel's assigned CI score.

The Draft EIR discusses CARB's modeling efforts specifically with respect to soybean oil, which included publication of additional analysis and refinement of the original model's shortcomings as it relates to biodiesel and renewable diesel made from Midwest soybeans, on Draft EIR pp. 3.8-13 to 3.8-14. The Draft EIR also discusses how CARB has since updated its understanding of indirect land use change in response to the newest science. Section 3.8.2.2 p. 3.8-14 describes various changes CARB has made to the LCFS models, including that, "[w]hen CARB re-adopted the LCFS in 2015, CARB updated its CI scores based on new, more sophisticated approaches to measuring upstream land use changes," including "the anticipated conversion of forestland, pastureland, and existing cropland—both domestically and abroad—as increased demand for biofuels creates an increased demand for farmland to produce farm-based feedstocks (CARB 2017)."

Draft EIR Chapter 3.8, Greenhouse Gas Emissions, pp.3.8-12 to 3.8-14 discusses potential land use impacts beyond California's borders:

> "Because the LCFS was designed to incentivize the production and use of biofuels, CARB has previously evaluated, considered, and mitigated the environmental impacts associated with increased production and consumption of such fuels at a programmatic level, as part of its adoption, re-adoption and amendment of the LCFS. Throughout its rulemaking process, CARB has undertaken a searching review of the policy's direct and indirect environmental impacts, including the foreseeable environmental impacts occurring both within and beyond California's borders, attributable to the increased production and consumption of biofuels needed to achieve the LCFS's goals. CARB has done this, both to ensure that the greenhouse gas reductions achieved by its LCFS are real and not offset by emissions increases occurring elsewhere, and to satisfy the requirements of CEQA, which apply to its rulemaking decisions.
>
> "Upstream land use changes associated with certain crop-based biofuels have been a central focus of CARB's efforts to analyze and mitigate the LCFS's direct and indirect environmental impacts, ever since the initial adoption of the LCFS. In the Initial Statement of Reasons (ISOR) that supported CARB's proposal to adopt the LCFS, CARB concluded, after a detailed analysis, that "the land use impacts of crop-based biofuels are significant and must be included in LCFS fuel carbon intensities." (CARB 2009a). CARB utilized a worldwide model for estimating land use change impacts (the Global Trade Analysis Project [GTAP] model) to quantify the anticipated transformation of nonagricultural and agricultural land that would occur both in the United States and internationally, as demand for crop-based fuels increases. CARB then adopted a mechanism within the LCFS to mitigate the impact of any such land use changes and assure that the greenhouse gas emissions attributable to such changes are fully accounted for within a fuel's assigned CI score. As a consequence, fuels produced from feedstock that results in greater land use change are assigned a higher CI score, which acts as an economic disincentive to produce such fuels as a substitute for petroleum-based fuels.

> "Specifically with respect to soybean oil, CARB published additional analysis estimating the land use change CI associated with use of soybean oil as a substitute for petroleum-based diesel (CARB 2009b). In a detailed technical discussion, CARB explained that it had identified several limitations with the original models that were available when it was developing the proposed rule. CARB worked with scientists to remedy these shortcomings and produced a new model for biodiesel and renewable diesel made from Midwest soybeans, which considered, among other variables, the transformation of forestland and pastureland (both within the United States and globally) into soy cropland. CARB supplemented this with additional analysis, reflecting its complete re-evaluation of the land use change CI associated with soy biodiesel and renewable diesel (CARB 2010)."

The Draft EIR, Chapter 3.8, p. 3.8-15, also explains how the credit and deficit system at the heart of the LCFS framework operates as a disincentive to the production of fuels from feedstocks that result in upstream land use changes:

> "[B]iofuels produced from feedstock with a high land use change score will be disadvantaged; that is, they would produce greater deficits or fewer credits, relative to those produced from a feedstock that causes less land use change. This creates an economic incentive for producers to utilize the lowest CI feedstock available, as the product's value is inextricably linked to the number of credits it can produce."

The Draft EIR, Chapter 6, Other CEQA Considerations, Section 6.2.1 Reduction of Land and Forest Resources, p. 6-5, notes that the "connections between agricultural production and environmental quality are complex and vary widely across the country." Chapter 6 continues and provides information on feedstock crop selection, forestry bioenergy systems, and water quality impact assessment related to feedstock production.

Despite documented scientific uncertainty, and uncertainty where any upstream indirect land use changes might occur, the Draft EIR considered potential indirect upstream environmental impacts. In Section 6.2.1, p. 6-4, for instance, the Draft EIR notes that given the Project's demand for certain agricultural inputs, the Project would "entail the irreversible and irretrievable commitment of some land." Draft EIR pp. 6-6 to 6-7 states, however, that by choosing locally appropriate mixes of crops and following best management practices, growers of agricultural feedstocks can ameliorate environmental concerns associated with increased crop production, including soil and water quality deterioration. Insofar as the Draft EIR discussed the land use analyses prepared for the LCFS pathways, the Draft EIR also considered the cumulative land use impact of the Project with other similar projects. Taking those considerations into account, Draft EIR, p. 6-7 concludes that, "the Project would not have significant irretrievable impacts on land, forest, or agricultural resources."

Therefore, Draft EIR Chapter 3.6, Energy, Chapter 3.8, Greenhouse Gas Emissions, and Chapter 6, Other CEQA Considerations, adequately assess the impacts on land use associated with feedstocks for the Project. The comments regarding the impacts associated with indirect land use change do not warrant corrections or additions to the Draft EIR.

Though the information in the Draft EIR adequately assess the impacts on land use associated with the project, the following information is included to provide additional background on indirect land use impacts related to biofuels feedstocks.

There is uncertainty on the links between biofuel development and deforestation and the complications in drawing direct links between the two, much less quantifying them.[23] This is because "the high variability in pathways, uncertainties in technological development and ambiguity in political decision-making" make modeling feedstock-driven ILUC incredibly difficult.[24] One study concludes that it is "currently almost impossible to quantify the relationship between biofuel production and deforestation and to map it at the global level."[25] Another notes that upstream land-use modeling "persistently suffer[s] from multiple forms of uncertainty[.]"[26]

One of the main studies cited in the comments also recognizes that indirect environmental impacts, including "[e]missions from [land use changes] . . . are notoriously difficult to estimate and represent one of the most uncertain components of the global [carbon] budget."[27] Consistent with this, the EPA recently summarized five leading studies on land use changes and biofuels and concluded: "Biofuel feedstock production is responsible for some of the observed changes in land used for agriculture, but we cannot quantify with precision the amount of land with increased intensity of cultivation nor confidently estimate the portion of crop land expansion that is due to the market for biofuels."[28]

The difficulty in accurately predicting the upstream land use impacts of crop-based biofuels is further exacerbated when, as is the case here, a mix of feedstocks is used. Commenters themselves acknowledge this uncertainty, noting that "the environmental and climate impacts" of different biofuel feedstocks "may vary." (Comment O12-41). Among this feedstock mix, Commenters pay special attention to the Project's anticipated use of soybean oil ("SBO"). Specifically, Commenters argue that the Project's potential to create a demand shock for SBO will lead to increased demand for other crops worldwide, including palm oil, and will ultimately result in deforestation in the Brazilian Amazon and Indonesia (see for example comments O12-62, O12-63, and I1-8).

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[23] Yan Gao *et al.*, A GLOBAL ANALYSIS OF DEFORESTATION DUE TO BIOFUEL DEVELOPMENT, CENTER FOR INTERNATIONAL FORESTRY RESEARCH (CIFOR) (2011), https://www.cifor.org/publications/pdf_files/WPapers/WP68Pacheco.pdf; *see also Felix* Creutzig *et al.*, *Bioenergy and climate change mitigation: an assessment*, 7 GLOBAL CHANGE BIOLOGY: BIOENERGY 916–944 (2015) ("The climate change mitigation value of bioenergy systems depends on several factors, some of which are challenging to quantify."), https://onlinelibrary.wiley.com/doi/epdf/10.1111/gcbb.12205.

[24] *See* Felix Creutzig *et al.*, *supra*, at n. 18.

[25] *See* Yan Gao *et al.*, *supra*, at n. 18.

[26] Vassilis Daioglou *et al.*, *Progress and barriers in understanding and preventing indirect land-use change*, 14 BIOFUELS, BIOPRODUCTS, AND BIOREFINING 924–934 (2020), https://onlinelibrary.wiley.com/doi/epdf/10.1002/bbb.2124.

[27] Seth A. Spawn *et al.*, *Carbon emissions from cropland expansion in the United States*, ENVIRON. RES. LETTERS 14 (2019), https://iopscience.iop.org/article/10.1088/1748-9326/ab0399/pdf.

[28] UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA), BIOFUELS AND THE ENVIRONMENT: SECOND TRIENNIAL REPORT TO CONGRESS at 43 (June 2018), https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=IO&dirEntryId=341491.

There are reasons to doubt this conclusion, which itself depends on complex variables, such as the relative price-elasticities of crop-based cooking oils and consumers' willingness to substitute them. As a threshold matter, the Marathon has said it would not use palm oil as part of the Project, and the comment's market-based argument is necessarily indirect by nature.

Moreover, this Project would be compatible with a wide array of feedstock and may rely heavily on non-crop feedstock, such as tallow, in which case the Project would have a limited effect on crop-based markets, pursuant to Draft EIR Chapter 2, Project Description, p. 2-36. Additionally, to the extent studies have undertaken quantifying links between domestic crop demand and international deforestation, the studies have found limited impacts. For example, one study evaluating the links between American biofuel production and deforestation in Malaysia and Indonesia determined that less than 1% of Malaysian and Indonesian cropland expansion between 2000 and 2016 could be attributed to increased American biofuel production.[29]

Even if the precise feedstock mix could be known, the different methods of producing that feedstock add additional variability that complicates ILUC modeling. A case study of soy production in the Brazilian Amazon, notes that "often grazing land (and not forests) are converted for soy production as biofuel feedstock."[30] As such, some feedstock crops do not necessarily entail deforestation. The emergence of certified deforestation free biofuel feedstock is notable for climate change purposes.[31] For example, the World Bank has found that using pastureland for biofuel production has a relative GHG benefit.[32]

Potential Project Blend of Feedstocks

The comments raise the concern that the Project would rely on non-waste food system oils and the Draft EIR did not describe the specific blend of feedstocks. The comments argue that the EIR must "specify the exact amount of each feedstock that will be used in the Project year to year" or

[29] Farzad Taheripour & Wallace E. Tyner, *US biofuel production and policy: Implications for land use changes in Malaysia and Indonesia*, 13 BIOTECHNOLOGY FOR BIOFUELS 11 (2020), https://biotechnologyforbiofuels.biomedcentral.com/articles/10.1186/s13068-020-1650-1?_ga=2.257034639.564950388.1642089054-2106591765.1642089053. This is consistent with a 2011 study. *See* Seungdo Kim & Bruce E. Dale, *Indirect Land Use Change for Biofuels: Testing predictions and improving analytical methodologies*, 35:7 Biomass and Bioenergy 3235–3240 (July 2011), https://www.sciencedirect.com/science/article/abs/pii/S0961953411002418.

[30] Mendelson Lima *et al*., *Deforestation and the Social Impacts of Soy for Biodiesel: Perspectives of Farmers in the south*, ECOLOGY AND SOCIETY 16:4 (Dec. 2011), https://www.jstor.org/stable/pdf/26268958.pdf.

[31] *See, e.g.*, ROUNDTABLE FOR SUSTAINABLE BIOMATERIALS (RSB), RSB GLOBAL FUEL CERTIFICATION (noting that "In order to ensure that fuel production can demonstrate real greenhouse gas emission reductions while not contributing to issues like deforestation . . . the RSB has developed the most robust and credible standard for the production of fuels anywhere in the world."), https://rsb.org/rsb-global-fuel-certification; FEEDSTOCK SPECIFIC CERTIFICATIONS, ROUNDTABLE ON SUSTAINABLE PALM OIL (RSPO) (noting that certification "has strict deforestation cutoff requirements . . . ."), https://cdn.scsglobalservices.com/files/program_documents/Feedstock_Specific_Certifications_onesheet_V1.3.pdf.

[32] Govinda R. Timilsina, *et al*., *The impacts of biofuels targets on land-use change and food supply: A global CGE assessment*, 43:3 AGRICULTURAL ECONOMICS 315-332 (2012), https://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-5513.

otherwise the County must evaluate a reasonable array of feedstock scenarios, including a "reasonable worst-case scenario" for feedstock consumption and its impacts

Draft EIR Chapter 2, Project Description, p. 2-36, notes that the Project is "expected to include" three identified feedstocks: (1) distillers corn oil (DCO), soybean oil (SBO), and tallow or previously rendered fats. Processing facilities for these feedstocks "are usually in the region of the initial agricultural suppliers, such as the Midwest" and "as technology evolves, other biological fuel sources such as used cooking oils, and plant and animal processing by-products, may also be used as feedstock using substantially the same equipment and processes as those proposed under the proposed Project."

The Draft EIR specified presently contemplated project feedstock, and CEQA does not require speculation about future fuel sources that might materialize. CEQA Guidelines Sections 15124(c) and (d) requires a general description—avoiding "extensive detail"—of the project's technical, economic, and engineering characteristics.

Further Comments on Agricultural Land Use Impacts

Comments further assert that the Draft EIR does not grapple with the scale of the Project and impacts on upstream land use changes. Specifically, the comments point to the total anticipated consumption of feedstocks relative to data for domestic agricultural yield (See for example comments O12-57 *et seq.*). The comments estimate that the Project would consume 13% of current feedstocks, and that this potential shock in demand would almost certainly lead to upstream deforestation.

As presented above in this Master Response, the Draft EIR adequately addresses potential indirect land use impacts related to biofuels feedstocks. Many academics have discussed the difficulty in predicting upstream deforestation attributable to domestic biofuel demand and production.[33] This suggests that comments' extrapolation from past models to estimate the number of forest acres that will be lost is an oversimplification of a complex mix of variables (see Comment O12-61). Furthermore, some of the anticipated increased demand for soybean oils will be satisfied as producers shift supply from current bio-based fuels to the renewable biodiesel supply chain. Recently, the U.S. Department of Agriculture reported that "renewable diesel has replaced biodiesel production in a near 1:1 tradeoff throughout 2021."[34] The comments provide no substantial evidence of indirect environmental effects attributable to use of agricultural feedstocks not already considered in the Draft EIR.

Additionally, at the federal level, the Renewable Fuel Standard (RFS) creates potential buffers against deforestation. Briefly, "[t]he RFS program is a national policy that requires a certain volume of renewable fuel to replace or reduce the quantity of petroleum-based transportation fuel,

[33] *See supra*, at n. 18.
[34] Aaron M. Ates & Maria Bukowski, *Oil Crops Outlook: December 2021*, OCS-21L, U.S. DEPARTMENT OF AGRICULTURE, ECONOMIC RESEARCH SERVICE (December 13, 2021), https://www.ers.usda.gov/webdocs/outlooks/102821/ocs-21l.pdf?v=5891.6.

heating oil or jet fuel."[35] Relevant here, in 2007, the Energy Independence and Security Act ("EISA") changed the definition of renewable fuel, requiring that it be made from feedstocks that qualify as "renewable biomass." Among the qualifying criteria for "renewable biomass" is that the feedstock be grown on agricultural land that had been "cleared or cultivated" prior to the 2007 enactment of the law. This would safeguard against widespread upstream deforestation. As analysts have noted: "specifically excluded under the EISA definition are virgin agricultural land cleared or cultivated after December 19, 2007, as well as tree crops, tree residues, and other biomass materials obtained from federal lands. These restrictions are applicable to both domestic and foreign feedstock and biofuels producers."[36] Additionally, the text of the RFS explicitly instructs the EPA to consider environmental impacts, which should include land use changes such as deforestation, when setting annual renewable fuel volumes for 2022 and beyond. 42 U.S.C. 7545(o)(2)(B)(ii)(I). These features of the RFS program–like the LCFS's inclusion of ILUC in calculating a fuel's carbon intensity score–further support the conclusion that the Project would not itself result in upstream land use changes.

Adequacy of Cumulative Impact Analysis

Some comments assert that the Draft EIR's discussion of cumulative impacts from the Project and other similar projects is inadequate.

The Draft EIR, Chapter 4, Cumulative Impacts, Section 4.2, Related Projects Considered in the Cumulative Impact Analysis, identifies related projects, including other refiners of renewable fuels. Section 4.3, Cumulative Impacts to Environmental Resources, pp. 4-7 to 4-16, explicitly addresses the potential for cumulative direct environmental impacts from those similar projects. While such direct impacts can be understood and assessed with greater clarity, the comments characterize land use emissions associated with these feedstocks as "difficult-to-predict" (see for example O12-88). For cumulative indirect impacts as suggested in the comments, there are again limits to how accurately they can be predicted in the Draft EIR. As such, the Draft EIR discusses those upstream impacts at an appropriate level of generality. Since this generality is appropriate for the Project alone, it is likewise appropriate when considering the cumulative upstream impacts from the Project and other similar projects, each with their own blend of feedstock types and sources. In sum, the Draft EIR identification of an extensive list of similar projects, together with an appropriate discussion of upstream land use changes, is adequate under CEQA.

In addition, CEQA case law makes clear that the Draft EIR's discussion of these cumulative impacts is sufficient.[37] The discussion of cumulative impacts need not provide as great detail as is

[35] UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA), OVERVIEW FOR RENEWABLE FUEL STANDARD, https://www.epa.gov/renewable-fuel-standard-program/overview-renewable-fuel-standard#:~:text=Volume%20Standards%20as%20Set%20Forth%20in%20EISA%20,%20%2036.0%20%2012%20more%20rows%20.

[36] Randy Schnepf & Brent D. Yacobucci, *Renewable Fuel Standard (RFS): Overview and Issues*, CONGRESSIONAL RESEARCH SERVICES at 8 (2013), https://sgp.fas.org/crs/misc/R40155.pdf.

[37] *Cadiz Land Co. v Rail Cycle* (2000) 83 Cal. App. 4th 74, 110 (finding an EIR's "generalized discussion" of cumulative impacts to be adequate, and noting that the EIR contained references to a more detailed discussion in other

provided for the effects attributable to the project alone and should be guided by the standards of practicality and reasonableness.

Consideration of Mitigation Measures

The comments assert that the Draft EIR should have identified certain mitigation measures to address ILUC concerns, including mandating best management practices and capping feedstocks (Comments O12-65 to O12-68). The comments state that "CARB anticipated local governments like the County to use their land use authority to mitigate projects by requiring feedstock sources to be developed under Best Management Practices specific to the ecological needs of feedstock origins."

The comments mischaracterize what CARB anticipated with respect to local land use authorities such as the County, which only has jurisdiction over the permitting of a renewable fuels production facility, and no authority over projects related to cultivation of feedstocks. What CARB actually stated is that "mitigation measures [could be] prescribed by local, State, federal, or other land use or permitting agencies (either in the U.S. or abroad) with approval authority over the particular development projects," meaning those particular projects that would result in the direct conversion of land from one use to another.[38] The CARB analysis was silent with respect to the authority of a local land use authority with jurisdiction over only a fuel production facility to impose conditions that would mitigate the impact of land use occurring as a result of the cultivation of crop-based fuels.

As CARB acknowledged, "[b]ecause the LCFS program is market-driven, it is not possible to determine the exact locations where these feedstocks may be cultivated."[39] Just as it was not possible for CARB to impose such mitigation upon projects directly resulting in the conversion of land as part of its readoption of the LCFS, so, too, is it not possible for the County to impose such mitigation conditions, including best management practices, upon upstream suppliers that will ultimately grow any crop-based feedstocks supplied to the Project. The comments incorrectly suggest that CARB expected that an agency such as the County could develop and apply best management practices to mitigate impacts on hydrology, soil and geology resulting from land use changes when permitting a project thousands of miles away and several steps downstream in the feedstock supply chain from the actual agricultural development projects causing such impacts.

To the extent the comments suggest that the County could require upstream out-of-state and international growers to adopt best management practices, the County is unaware of any legal mechanism by which it could impose such requirements and comments have suggested none.

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sections, and background technical reports, and noting that the discussion of cumulative impacts "need not provide as great detail as is provided for the effects attributable to the project alone" and "should be guided by the standards of practicality and reasonableness"

[38] CARB, Final Environmental Analysis Prepared for the Proposed Amendments to the Low Carbon Fuel Standard and the Alternative Diesel Fuels Regulation, Sep. 17, 2018, at 65, https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2018/lcfs18/finalea.pdf?_ga=2.169730145.1722635571.1642626006-994147807.1608159414.

[39] *Id*. at 64.

Pursuant to CEQA Guidelines Section 15126.4(a)(5), "if the lead agency determines that a mitigation measure cannot be legally imposed, the measure need not be proposed or analyzed."

The comments also acknowledge that best management practices are "specific to the ecological needs of feedstock origins" (Comment O12-66). Comments that suggest that the County can develop and impose best management practices on upstream suppliers assume that the County is able to make reasonably accurate predictions about the source of potential feedstocks. Such predictions depend upon the dynamic economic conditions affecting agricultural commodities; potential growth in their demand from a variety of uses; availability of waste and cellulosic feedstock sources that could be used in lieu of crop-based feedstocks; and broader market and political developments, such as whether proposed federal legislation providing tax credits for sustainable aviation fuel will be enacted into law and the resulting impacts that such a demand signal would have on cultivation of crop-based feedstocks used for renewable diesel production.

Those complex economic and political dynamics clearly fall beyond the County's purview in considering whether to grant an application for a land use permit for the Project and how to mitigate the environmental impacts resulting from that Project. The comments that the County must impose best management practices upon cultivation of feedstocks supplying the Project's needs assumes that the County has both the ability to foresee where land use change would occur as a result of cultivation of those feedstocks and jurisdiction over those land use changes, neither of which is the case. CEQA Guidelines Section 15064 states that the lead agency shall consider "reasonably foreseeable indirect physical changes in the environment which may be caused by the project," and Section 15126.4(a)(5) states that mitigation measures that cannot be legally imposed need not be proposed or analyzed.

Draft EIR Chapter 6, Other CEQA Considerations, Section 6.2.4 Best Management Practices (BMPs), p. 6-7, states "the complex matrix of forest and agricultural ecosystems, climates, soils and topography, crop establishment and tending systems and harvesting systems requires ongoing evaluation and refinement to achieve BMPs to best fit local management and environmental conditions." CARB, however, found upon readoption of the LCFS, "it is not possible to determine the exact locations where these feedstocks may be cultivated."[40] The comments provide no substantial evidence to demonstrate that the County has any greater ability to determine the exact locations of feedstock cultivation or to condition projects resulting in "conversion of rangeland, grassland, forests and other land uses to agriculture" than CARB disclaimed it had upon readoption of the LCFS.[41]

Nonetheless, Draft EIR Section 6.2.4 acknowledges that best management practices could be an effective way to mitigate some of the upstream environmental impacts associated with the Project. In addition, recent developments suggest that best management practices are becoming more widely adopted and encouraged. For instance, in January 2022, U.S. Secretary of Agriculture Tom Vilsack outlined plans to double, over the next eight years, the amount of corn and soybean acres

[40] *Id*.
[41] *Id*.

using cover crops,[42] a strategy that is recognized to reduce GHG emissions by increasing carbon storage in soils and reducing applications of nitrogen-based fertilizers.[43]

Additionally, CARB is currently receiving public input on potential amendments to the LCFS. Many commenters are advocating that CARB incorporate the reductions in emissions associated with site-specific agricultural practices that sequester carbon and reduce GHG emissions into a fuel's carbon intensity score.[44] Thus, it is possible that the LCFS might be amended to incentivize agricultural practices that reduce GHG emissions and better avoid land use changes, in which case the Project would have an economic incentive to propose pathways that adopted such practices.

Capping Specific Feedstocks

The commenters suggest that the Draft EIR is inadequate because it does not identify mitigating upstream land use changes associated with certain feedstocks by capping the amount of specific feedstocks the Project could use (Comment O12-68).

Such a mitigation approach, requiring a prescribed blend of feedstocks, would be in tension with the intentional flexibility of the LCFS. The LCFS is designed to encourage innovation. First, LCFS allows fuel producers to find the best way to meet the increasingly stringent annual CI benchmarks. The LCFS does not limit pathways to only those approved at this time. Its design is therefore intended to provide an incentive for producers to innovate and produce lower carbon pathways that will reduce emissions throughout the lifecycle of the resulting product, including any emissions resulting from ILUC.

Imposing caps on specific feedstocks or requiring the Project to use only specific feedstocks could prevent the Applicant from proposing new lower carbon intensity-pathways and, consequently, minimizing ILUC associated with the Project's products. Given the rapid pace of development of the science and technology of low carbon fuel production, it would make little sense for a local land use agency such as the County to impose conditions on the Project limiting it to using only certain feedstocks or capping the amounts of particular feedstocks.

Conclusions

Draft EIR Section 6.2.5 concludes that "the Project would not have significant irretrievable impacts on land, forest, or agricultural resources." Thus, no mitigation would be required, pursuant

[42] Ximena Bustillo, *Vilsack touts USDA goal to double cover crop acres at Farm Bureau*, POLITICO:PRO (Jan. 10, 2022), https://subscriber.politicopro.com/article/2022/01/vilsack-touts-usda-goal-to-double-cover-crop-acres-at-farm-bureau-3993193.

[43] J.P. Kaye & M. Quemada, *Using cover crops to mitigate and adapt to climate change. A review*, AGRON. SUSTAIN. DEV. 37**,** 4 (2017), https://link.springer.com/content/pdf/10.1007/s13593-016-0410-x.pdf.

[44] *See*, *e.g.*, letter from Low Carbon Fuels Coalition, Jan. 7, 2022, to C. Laskowski, Branch Chief, Transportation, CARB, Re: Recommended LCFS Rulemaking Issue- Recognizing Soil Carbon Sequestration within CA-GREET, https://www.arb.ca.gov/lists/com-attach/124-lcfs-wkshp-dec21-ws-UGcFXAZtADIFbVIN.pdf.

to CEQA Guidelines Section15126.4(a)(3).[45] For the reasons previously discussed in this Master Response, the indirect land use impacts attributable to the Project are inherently speculative.

The Draft EIR addresses the unforeseeable indirect land use changes that might result from the complex global demand for agricultural products stimulated by the Project at an appropriate level of detail. As presented in this Master Response, the Draft EIR meets the requirements of relevant CEQA Guidelines:

- Guidelines Sections 15126.4(a)(5), 15126.4 Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects, "if the lead agency determines that a mitigation measure cannot be legally imposed, the measure need not be proposed or analyzed. Instead, the EIR may simply reference that fact and briefly explain the reasons underlying the lead agency's determination."
- Guidelines Section 15144, Forecasting, "drafting an EIR or preparing a Negative Declaration necessarily involves some degree of forecasting. While foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can."
- Guidelines Section 15145. Speculation, "if, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact."

This conclusion is affirmed by the fact that CARB, the expert agency with the requisite scientific expertise and technical experience to assess such indirect land use changes, already accounts for emissions associated with ILUC in approving new pathways and issuing credits pursuant to existing pathways as a means of mitigating any changes stimulated by its LCFS program.

3.1.5 Master Response 5: Public Safety

The comments address public safety concerns regarding the processing of renewable feedstocks and request information on refining technology and methods, particularly with regard to the potential for increased flaring. This information was reviewed in the Draft EIR and is expanded upon in this Master Response.

Hydroprocessed Esters and Fatty Acid (HEFA) Processing

Draft EIR Chapter 2, Project Description, Section 2.5.2 Renewable Fuels Production, page 2-15, outlines the refining technology and methods that will be used for processing renewable feedstocks. The section states "conversion of the Refinery to a renewable fuels production facility would primarily involve the alteration and addition of refinery equipment to process non-petroleum feedstocks into renewable diesel fuel, renewable propane, renewable naphtha, and

[45] *North Coast Rivers Alliance v Marin Mun. Water Dist.* (2013) 216 CA4th 614, 649, found that an EIR need not discuss green energy credits as mitigation measure for energy impacts that EIR determined were less than significant.

potentially renewable aviation fuel" nd "the hydrogen plants at the Refinery would provide hydrogen to the Hydrotreating and Hydrocracking Units to support the hydrodeoxygenation (HDO) and isomerization reactions, the principal processes required for creating renewable fuels. The production of renewable fuels would primarily use existing process equipment, although some construction for new and modified equipment would be necessary."

The Project would use HEFA (Hydroprocessed Esters and Fatty Acids) hydrotreating processes to produce renewable fuel from renewable feedstocks. HEFA is free of aromatics and sulfur and produces so-called drop-in fuel, meaning that it is chemically equivalent to fossil diesel fuel and can be used in existing diesel engines without blending.

Hydrotreating is a chemical process that uses hydrogen to react with "impurities" in a feed stream. On the molecular level, a hydrogen atom is used to break the bond between a hydrocarbon chain and an impurity. The hydrogen attaches to the impurity so that it can be removed. On a molecular level, the chemical reaction for hydrotreating crude oil feedstock or renewable feedstock is the same; the difference lies in the impurities removed and the waste produced. Hydrotreating crude oil removes sulfur, nitrogen, oxygen, olefins, metals, and aromatics and produces hydrogen sulfide as waste. Hydrotreating renewable feedstock removes oxygen and produces wastewater.

Process Safety Management

All hydrogen processing units, regardless of feedstock, must be evaluated for process safety risks. A principal purpose of process safety is to reduce the magnitude of incidents, thereby reducing the harm to people and environment. All refinery design changes undergo review by cross disciplinary teams to ensure the proposed design meets the process safety management (PSM) requirements and acceptable level of risk. As part of the engineering and planning process, Marathon has conducted facility siting analyses, process hazard analyses (PHAs), damage mechanism reviews, and management of changes. The facility siting analysis and PHA are described below.

See Response A6-51 for a discussion of management of change procedures.

Facility Siting

Under Marathon procedures, every facility requires a facility siting study to ensure non-essential employees are not put into harm's way in the event of a release of hazardous materials. The study assumes the worst-case release scenario based on the maximum amount of the hazardous product that could be released. In petroleum refining, there are many worst-case releases, including failure of butane storage, alkylation unit, cat cracker, sulfur plant, ammonia plant, or hydrogen. With HEFA technology, there are only two such scenarios: hydrogen and propane release. The worst-case scenario for a hydrogen release is based on the maximum amount of hydrogen produced, which would be the same both pre- and post-Project conditions. Because the controlling scenarios would exist both pre- and post-Project, there would be no increased process safety risk from renewable feedstock refining. There would be an overall decrease in worst-case releases because most of the potential toxic releases noted above would be eliminated with the transition from petroleum to renewable feedstock refining.

Process Hazard Analysis

Process hazard analysis reviews process upsets, flaring events, and process safety risk reductions.

Process Upsets

The causal events for upset conditions in hydrotreating would be the same for HEFA and petroleum. Those events include loss of cooling, loss of power, loss of feed, and loss of hydrogen. Since there is no change to the feed supply, cooling source, feed pumps, and hydrogen plants between hydrotreating petroleum and hydrotreating HEFA, the risk of a causal event that would result in a process upset would be the same for HEFA and petroleum. Therefore, the transition from petroleum processing to HEFA would not result in more or additional process upsets.

Flaring

Flares are essential safety devices used in refineries to burn hydrocarbon gases that cannot be recovered or recycled. Refineries are designed and operated so that there is a balance between the rates of gas production and consumption. Under normal operating conditions, essentially all gases that are produced are routed to the refinery fuel gas system, allowing them to be used as fuel for combustion equipment such as refinery heaters and boilers. During startups, shutdowns, and process upsets (e.g., process safety valve pops), excess hydrocarbon can be produced. When this happens, flares are used to safely combust the excess, rather than release hydrocarbon to the atmosphere.

Flares function when collected excess gases are conveyed into flare headers (piping). Any gases that are not captured by the flare gas recovery compressors go through knockout drums to remove liquids and then through seal drums. The collected gases are then sent to the tip of the flare, which have a redundant system of pilots (similar to the pilot light on a gas stove) to safely burn the hydrocarbon. The method for flare use would not change between pre- and post-Project conditions; however, the Project would reduce the number of flare units from nine to six and therefore fewer flaring events would be expected. The Refinery uses nine open stack gas flares for petroleum processing and has two flare gas recovery compressors, of which normally one is in operation; the second compressor is started up during turnaround to capture and recover more gases. With implementation of the Project, the number of gas flares would be reduced to six. There would be no change to the flare gas recovery compressors number or use.

The use of flares is often planned during maintenance activities, including startup and shutdown, as scheduled maintenance activities can result in higher-than-normal flow of material to the flare. During equipment maintenance, the equipment and associated piping must be cleared of hydrocarbon before opening, based on both safety and environmental considerations, including compliance with BAAQMD Regulation 8 Rule 10 (Process Vessel Depressurization). Typical procedures include multiple steps of depressurization and purging with nitrogen or steam to the flare header. Other planned uses include startup of hydrogen plants, as off-spec hydrogen with excessive carbon monoxide can poison catalyst, induce hydrogen imbalances, fuel gas imbalances, Gas Plant shutdowns, and flare gas recovery compressor shutdowns. Unplanned uses of flares include compressor trips due to vibration from earthquakes, power outages, instrument malfunctions, and unit upsets. There would be no change to the planned and unplanned use of flares with implementation of the Project.

Pollutants released during flaring in petroleum refining include criteria pollutants, greenhouse gases, and toxic air contaminants (TACs) resulting from hydrocarbon combustion. Table 3-2 provides a list of pollutants and emissions during the baseline period compared with the expected pollutants and emissions released following conversion of the Refinery to renewable fuels production. During renewable feedstock refining, pollutants released during flaring would be the same as pre-project Refinery operation. However, the mass emissions would be less due to shutdown of several process units and multiple flares. Although mass emissions may also be less with processing renewable feedstocks, which would contain less sulfur and TACs than crude oil, these potential decreases are not included in the tabulated emissions estimates.

Table 3-2. Pre- and Post-Project Refinery Flare Emissions (Tons per Year)

Pollutant Name	Pre-Project Emissions	Post-Project Emissions
NO_x	5.615	4.759
SO_2	4.846	3.132
CO	13.147	10.690
POC	6.618	6.399
PM_{10}	4.236	3.401
$PM_{2.5}$	4.236	3.401
CO_2	4,421.013	3,417.221
N_2O	1.77E-02	1.08E-02
CH_4	2.332	2.293
CO_2e	4,469.439	3,462.718
1,3-butadiene	4.49E-02	4.49E-02
Acetaldehyde	2.75E-03	2.41E-03
Ammonia (NH_3) pollutant	1.01E-02	5.66E-03
Arsenic (all)	2.24E-05	1.87E-05
Benzene	9.53E-03	8.43E-03
Beryllium (all) pollutant	2.64E-06	2.12E-06

Pollutant Name	Pre-Project Emissions	Post-Project Emissions
Cadmium	5.80E-05	4.85E-05
Carbonyl Sulfide	3.31E-03	1.86E-03
Chromium (hexavalent)	3.13E-05	2.69E-05
Cobalt	1.95E-06	1.41E-06
Copper (all) pollutant	9.87E-05	8.01E-05
Dichlorobenzene	2.80E-05	2.03E-05
Ethylbenzene	2.24E-03	1.95E-03
Formaldehyde	8.69E-02	7.70E-02
Hexane	1.23E-01	1.03E-01
Hydrochloric acid mist pollutant	2.97E-03	1.67E-03
Hydrogen Sulfide (H_2S)	2.08E-03	1.53E-03
Lead (all) pollutant	4.21E-05	3.56E-05
Manganese	7.26E-05	6.27E-05
Mercury (all) pollutant	3.16E-05	2.77E-05
Naphthalene	4.79E-04	4.18E-04
Nickel pollutant	2.57E-04	2.20E-04
PAHs (benzo[a]pyrene equiv)	2.60E-05	2.04E-05
Phenol	1.65E-03	1.48E-03
Propylene	8.37E-01	8.35E-01
Selenium	8.65E-05	7.45E-05
Sulfuric Acid mist pollutant	6.25E-04	5.35E-04
Toluene	5.14E-03	4.61E-03

Pollutant Name	Pre-Project Emissions	Post-Project Emissions
Vanadium	1.57E-04	1.31E-04
Xylene	5.54E-03	4.98E-03
Source: Marathon 2022		

The Refinery's permitting flare limits and monitoring requirements are specified by regulatory limits and BAAQMD permits, including:

- The 2005 consent decree incorporates NSPS Subpart J, which limits H2S to 162 ppmv on a 3-hour average for all flares except S944 and S945. Limitations for visible emissions, flare tip velocity, vent gas net heating value and combustion zone heating value are specified in 40 CFR 63 Subpart CC at 63.670 and in the 2016 consent decree.
- The 2016 consent decree limits flaring to 1,516,353 SCFD on a 30-day rolling average and 1,010,902 SCFD on a 365-day rolling average basis.
- Flare monitoring is required by BAAQMD Regulation 12, Rule 11, NSPS Subpart J, 40 CFR 63 Subpart CC, and the 2016 consent decree. Flare minimization plans are required by BAAQMD Regulation 12, Rule 12 and NSPS Subpart J.

There would be no changes to the permitted limits for flares operating post-Project. The requirements at 63.670 and 63.671 would still apply via 40 CFR 63 Subpart FFFF.

Reporting requirements for flare use would remain the same pre- and post-Project:

- Monthly reporting of flow and composition monitoring is required under BAAQMD Regulation 12, Rule 11.
- Reportable flaring events are those with more than 500,000 SCFD of vent gas flared or where SO2 emissions are greater than 500 lb/day under BAAQMD Regulation 12, Rule 12.
- The specific cause of flaring must also be reported following investigation of the primary cause and contributing factors. 40 CFR 63 Subpart CC requires reporting of any instances where visible emissions are observed for more than 5 minutes during any 2 consecutive hours.

Process Safety Risk Reductions

Process safety risk reduction measures are evidenced in the number of finite elements that are required for temperature and pressure control during the refining process. The more elements a process has, the higher the probability of a failure. Hydrotreating depends on temperature and pressure control. Temperature is controlled by flow, furnaces, and heat exchangers. In the repurposed 3HDS unit there were 17 shell and tube exchangers; in the new 3HDO unit there would

be 10 shell and tube exchangers. As a Refinery, the site has maintained 1,276 shell and tube heat exchangers controlling temperature and reactions as high as 900+°F. In summary, the new process would have less equipment to monitor and maintain than a traditional HDS unit.

Although more heat is produced when a hydrogen molecule reacts with an oxygen molecule during HEFA processing than when hydrogen reacts with sulfur during petroleum processing, in HEFA the reaction occurs at a much lower operating temperature. Most chemical reactions require heat to promote the reaction. Due to the amount of aromatics in the petroleum feed that need to be hydrotreated to meet the CARB Diesel specification, the reactor operated at approximately 650° F. In the proposed processing, the HEFA reactor temperature would be approximately 535°F. Since a lower temperature is needed and the reaction is more exothermic, less heat is added from external sources. For example, during petroleum processing in the 3HDS unit, two gas fired furnaces ran with all seven burners lit. In the HEFA 3HDO reaction, only one gas fired furnace would run with only four burners lit. Overall, the heat balance is the same whether the heat comes from the reaction or an external source like a furnace. This leads to not only a process safety risk reduction but also an environmental improvement.

Process safety risk reduction between HEFA and petroleum is also achieved by a change of feedstock. Crude oil is flammable, toxic, contains heavy metals, and stratifies when released to water. Crude oil is a controlled hazardous substance and has an NFPA Health Hazard rating of 2 and Fire Hazard of 3. The Material Safety Data Sheet (MSDS) designation for the Fire and Explosion Hazards for crude oil states: "Fire and Explosion Hazards HIGHLY FLAMMABLE! This material releases flammable vapors at or below ambient temperatures. When mixed with air in certain proportions and exposed to an ignition source, these vapors can burn in the open or explode in confined spaces. Flammable vapors may travel long distances along the ground before reaching a point of ignition and flashing back. Open top tanks involved in a fire have a potential for "boil-over" if water or water-in-oil emulsion is at the bottom of the tank. Boil-over may result in a large expulsion of burning oil from the tank, greatly increasing the fire area." (https://oilspill.fsu.edu/images/pdfs/msds-crude-oil.pdf) By contrast, fats, oils, and greases that make up the distilled corn oil, soybean oil and previously rendered fats that would be used as renewable feedstocks are not a regulated substance and have an NFPA Health Hazard of 0 and a Fire Hazard of 1.

Therefore, process safety and flaring risks with the Project would be similar or reduced compared to petroleum processing at the Refinery.

3.1.6 Master Response 6: Non-CEQA Topics and Project Merits

Some of the comments that were received in response to the Draft EIR do not state a specific concern or question regarding the sufficiency of the analysis or mitigation measures raised in the Draft EIR. These comments are acknowledged for the record and will be provided as part of the Final EIR to the decision-making bodies for their consideration in reviewing the Project.

Several commenters expressed their support for Marathon and the proposed Project and identified benefits associated with approval of the Project. Benefits noted include improvements to local air quality, positive contribution to global greenhouse gas emission reduction goals, reduced facility

water use, and economic benefits from project-related employment. Comments received concerning the commenter's opinions and judgments of the proposed Project are noted. These comments concern the preferences of the commenter but do not raise any concern regarding the adequacy of the EIR analysis. No revisions to the Draft EIR are necessary pursuant to these comments.

3.2 AGENCY COMMENTS

3.2.1 Response to Comment Letter A1, Contra Costa Local Agency Formation Commission

A1-1

This comment confirms that the Contra Costa Local Agency Formation Commission (LAFCO) has reviewed the Draft EIR. This comment also summarizes the proposed Project and introduces the ensuing comments.

Response A1-1: The comment does not state a specific concern or question regarding the sufficiency of the analysis or mitigation measures raised in the Draft EIR; therefore, no response is required. The comment is acknowledged for the record and will be provided as part of the Final EIR to the decision-making bodies for their consideration in reviewing the Project.

A1-2

This comment identifies LAFCO as a regulatory agency pursuant to CEQA with discretionary approval over changes of organization or reorganizations relating to boundary and sphere of influence (SOI) changes that pertain to the provision of municipal services and infrastructure to a project site. The comment requests that the EIR identify in the Project Description any local agency boundary changes pursuant to Government Code sections 56668 and 56425 that would be required for the project and therefore subject to LAFCO approval. If such a change is necessary, the comment requests that LAFCO be included in the list of Other Public Agencies whose approval is required, and that the LAFCO actions be evaluated in the EIR.

Response A1-2: No local agency boundary changes subject to LAFCO approval pursuant to Government Code sections 5668 and 56245 are proposed as part of the Project.

A1-3

This comment recommends that subject parcel APN 159-260-013 be annexed by Contra Costa County Fire Protection District (CCCFPD). Annexation to the district would be subject to LAFCO approval.

Response A1-3: Provision of fire prevention, fire suppression, and emergency response operations at the Refinery are discussed in Section 3.13.3.2 of the Draft EIR. The parcel identified as Assessor's Parcel Number (APN) 159-260-013 is part of the developed area of the Refinery. As discussed in the Draft EIR, the Refinery maintains internal fire response teams and fire suppression systems for the developed areas of the Refinery including fire pumps, foam systems, firefighting engines and trucks, and fire hydrants approximately every 200 feet. In addition, the Refinery is a

member of the Petrochemical Mutual Aid Organization which provides emergency response assistance to Bay Area refineries and industrial facilities.

No change to the existing fire prevention, fire suppression, and emergency response operations at the Refinery are proposed or required as a result of the proposed Project. Marathon would continue to provide fire protection services, and the on-site fire brigade maintains a mutual aid agreement with the Contra County Fire Protection District (CCCFPD). With continuing maintenance of existing on-site fire suppression systems, no significant increases in demands for fire response service from CCCFPD is anticipated, nor would implementation of the Project require an expansion of CCCFPD facilities. Therefore, annexation of the subject parcel into the CCCFPD district is not proposed as a result of the Project. Any proposed annexation of the subject parcel to the CCCFPD would need to be initiated as a separate project under CEQA. For the aforementioned reasons, there is no discussion of potential LAFCO actions in the EIR.

A1-4

This comment notes that the parcel does not receive municipal wastewater services; if proposed by the Project, annexation to a municipal wastewater service provider would be required, subject to LAFCO approval.

Response A1-4: No municipal wastewater services are proposed as part of the Project. Therefore, annexation of the subject parcel to a municipal wastewater service provider is not required.

A1-5

This comment confirms that the parcel is within Contra Costa Water District's service boundary.

Response A1-5: Comment noted. No response is required.

A1-6

This comment contains closing language for the comment letter.

Response A1-6: No response is required.

3.2.2 Response to Comment Letter A2, Contra Costa Water District

A2-1

This comment confirms that the Contra Costa Water District (CCWD) is in receipt of the Draft EIR. It also accurately summarizes the project.

Comment response: Comment noted. No response is required.

A2-2

This comment notes various untreated water lines currently serving the Marathon Refinery that are not discussed in the Public Draft EIR. The commenter requests that this information be added to the administrative record for the project, and states that any changes or projections resulting from project implementation will need to be coordinated with the CCWD.

Response A2-2: Information regarding the water lines serving the Marathon Refinery is noted and will be provided to decision makers as part of the Final EIR. There are a number of water lines that serve the Marathon Facility, including the Shortcut Pipeline and Lateral 25-6 (owned by USBR and operated by CCWD), the Tesoro Lateral, and two Foster Wheeler lines. While the project will result in an estimated 70 percent decrease in water use (see Draft EIR, page 5.15-29), the project proposes no changes to the water lines that supply water to the facility and they will remain in the same location as they currently exist. No changes to water lines or projections to water use are proposed as part of the Project.

A2-3

This comment requests that the title of the plan listed as the first entry under Section 3.15.1.3, Local Regulations on page 3.15-4 be revised to Contra Costa Water District Management Plan and provides additional information about the plan.

Response A2-3: The plan title has been changed as requested. The following sentence will be added to page 3.15-4: "The County's Water Management Plan was last updated in 2017 and accepted to the Federal Registry in 2018." The revisions are shown in Chapter 4, *Revisions to the Draft EIR*.

A2-4

This comment notes that the page 3.15-4 under the second entry of Local Regulations, the Water District adopted and submitted the 2020 Urban Water Management Plan (UWMP) in June 2021.

Response A1-4: Comment noted.

A2-5

This comment notes that since the Final UWMP has been published, the references in the Draft EIR to this document should not state "Draft 2020 UWMP" (i.e., remove "Draft").

Response A1-5: References to the 2020 UWMP in the Final EIR have been updated to remove the word "Draft". The revisions are shown in Chapter 4, *Revisions to the Draft EIR*.

A2-6

Commenter references Table 3.15-3 on page 3.15-3, and states that the last two values in the column labeled "Actual Volume (AFY)" should be 9,200 and 116,970 to be consistent with the 2020 UWMP. Commenter also requests that the word "Draft" be removed from the source reference at this table.

Response A2-6: Table 3.15-5 on page 3.15-13 has been revised as requested; the term "Draft" has been removed from the "Table Source." The revisions are shown in Chapter 4, *Revisions to the Draft EIR*.

A2-7

The comment states that the completion date for the Los Vaqueros improvements project Phase II on page 3.15-14 is incorrect.

Response A2-7: The completion date in the Draft EIR has been changed from 2021 to 2029. The revision is shown in Chapter 4, *Revisions to the Draft EIR*.

A2-8

The comment states that Draft EIR tables 3.15-3 and 3.15-5 are identical. The commenter suggests reproducing Table 6-9W from the 2020 UWMP would be more useful.

Response A2-8: Table 6-9W — Water Supplies, Projected from the 2020 UWMP has replaced Table 3.15-5 — CCWD Wholesale Water Supply (Actual). The revision is shown in Chapter 4, *Revisions to the Draft EIR.*

A2-9

The comment references page 3.15-27: under the Current and Future Water Demand, stating the text "County's 2015 Urban Water Management Plan" is incorrect and the reference should be revised to CCWD June 2021.

Response A2-9: The Draft EIR has been revised to reflect the changes above. The revisions are shown in Chapter 4, *Revisions to the Draft EIR.*

A2-10

The commenter states that the reference to Current and Projected Recycled Water Uses on page 3.15-28 of the Draft EIR needs to be updated to reflect the 2020 UWMP.

Response A2-10. The Draft EIR text has been changed from 73,000 AF to 86,000 AF. The revisions are shown in Chapter 4, *Revisions to the Draft EIR*. The proposed Project will not use recycled water, therefore no further changes to the Draft EIR are required as a result of this comment.

A2-11

The commenter states that in section 3.15.5 References, the Draft Urban Water Management Plan should have the word "Draft" removed.

Response A2-11: See comment response A2-5.

3.2.3 Response to Comment Letter A3, California Department of Transportation, District 4

A3-1

This comment confirms that the California Department of Transportation, District 4 has reviewed the Draft EIR.

Response A3-1: The comment does not state a specific concern or question regarding the sufficiency of the analysis or mitigation measures raised in the Draft EIR; therefore, no response is required. The comment is acknowledged for the record and will be provided as part of the Final EIR to the decision-making bodies for their consideration in reviewing the Project.

A3-2

This comment correctly summarizes the proposed Project and location.

Response A3-2: No response is required.

A3-3

This comment confirms that the Draft EIR's project VMT analysis and significance determination are consistent with the Office of Planning and Research's Technical Advisory and affirms that the proposed Project will have a less than significant VMT impact.

Response A3-3: The comment is acknowledged for the record and will be provided as part of the Final EIR to the decision-making bodies for their consideration in reviewing the Project.

A3-4

This comment requests clarification of the nexus for the U.S. Army Corps of Engineers (USACE) under Section 7 of the Endangered Species Act, the Marine Mammal Protection Act, and Essential Fish Habitat.

Response A3-4: As noted on page 1-4 of the Draft EIR, the project proposes work that will require authorization from the USACE and the National Marine Fisheries Service (NMFS). Work over the water at the Avon and Amorco Terminals requires authorization from the USACE under Section 10 of the River and Harbors Act. In-water work at the Amorco Terminal additionally requires authorization under Section 404 of the Clean Water Act. The USACE will consult with the NMFS under Section 7 of the Endangered Species Act for work at the Amorco Marine Terminal. As described on page 2-17 of the Draft EIR, modifications at the Amorco Marine Terminal include installation of a new super cone fender that will extend into the water, and maintenance activities on two dolphins consisting of repairs to the concrete and five of the pilings. Work at the Avon Marine Terminal does not include in-water work.

A3-5

This comment requests clarification regarding the applicability and implementation of the 2018 NLAA Programmatic Biological Opinion to the proposed Project.

Response A3-5: As described in Response A3-4, the project requires authorization for in-water and overwater work from the USACE and the NMFS. Through the permitting process, the USACE determined that the proposed fender installation and dolphin and piling repairs at the Amorco Marine Terminal described on page 2-17 of the Draft EIR fall within two of the project types described in the 2018 NLAA Programmatic Biological Opinion; Project Type 1: Boat Docks, Piers, Wharfs, and Overwater Decks (Amorco); and Type 5: Pipeline Repair or Replacement (Avon).The USACE conducted informal consultation with the NMFS, who concurred that the project meets the criteria for inclusion in the 2018 NLAA Programmatic Consultation (WCRO-1018-00077). Coordination between Marathon and the USACE is described further in Response to Comment A3-8.

A3-6

This comment requests clarification on the applicability of Section 7 consultation to the proposed Project and whether the proposed Project will result in take of species regulated by the US Fish & Wildlife Service.

Response A3-6: Section 3.4.4 of the Draft EIR describes effects analyses for fish, mammal, and birds, including species regulated by the United States Fish & Wildlife Service (USFWS). Impacts to terrestrial species will be avoided at both the Avon and Amorco Marine Terminals because work will not cause ground disturbance since work is limited to existing elevated structures. Project impacts were determined to be less than significant with the implementation of mitigation measures. Take of species would be avoided through the implementation of in-water work restrictions (MM BIO-1c), preconstruction focused soft-bird's beak surveys (MM BIO-1i), preconstruction nesting bird surveys (MM BIO-1j), and California Ridgway's rail and California black rail surveys (MM BIO-1k). Furthermore, as described on Draft EIR page 3.4-28, no construction activity would occur within vegetated areas, and access to project components in marshlands would be from the existing approachway, access road, and scaffolding attached to the existing pipe rack. For these reasons, the project does not require Section 7 consultation by the USACE with the USFWS.

A3-7

This comment requests clarification on how the project impacts non-listed special status species with potential to occur at the project site.

Response A3-7: Impacts to special status species, including species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, as well as bird species protected under state and federal law, are discussed in the DEIR under Impact BIO-1 on pages 3.4-26 to 3.4-32 of Chapter 3.4, *Biological Resources*. Impacts to fish movement, wildlife corridors, and native wildlife nursery sites are discussed under Impact BIO-3 on page 3.4-33 of Chapter 3.4, *Biological Resources*.

A3-8

This comment requests a summary of agency communications conducted in support of the Appendix BIO: Biological Resources Appendices.

Response A3-8: A list of communications between Marathon and the United States Coast Guard (USCG), US Army Corps of Engineers (USACE), National Marine Fisheries Service (NMFS), San Francisco Bay Conservation and Development Commission (BCDC), and California State Lands Commission (CSLC) is provided below.

- **USCG**
    - Marathon contacted MST2 Vanhxay Sean Bounheuangviseth Port Safety and Security USCG.
- **USACE**
    - Marathon met with the Katerina Galacatos, USACE South Branch Chief, on December 2, 2020, to discuss project permitting. Based on subsequent discussions, Marathon

submitted a Pre-Construction Notification (PCN) for Nationwide Permit #3 to the USACE.

- **NMFS**
  - The USACE contacted NMFS as part of Section 7 consultation under the Endangered Species Act. The contact was Brian M. Meux, NOAA Fisheries, West Coast Region. On May 24, 2021, Mr. Meux replied to the Corps that proposed work at the Amorco Marine Terminal met the criteria for inclusion in the 2018 NLAA Programmatic Biological Opinion.
- **BCDC**
  - Marathon contacted Erik Buehmann, BCDC Bay Resources Permit Program Manager, regarding the permitting process for the Renewable Fuels Project on October 23, 2020.
  - A meeting was held on December 3, 2020, attended by Rafael Montes (BCDC Staff Engineer) and Erik Buehmann. BCDC staff indicated that the proposed work at the Avon and Amorco marine terminals would be considered incidental changes, and to submit two Regionwide Permit applications. No exemptions were identified for the proposed work.
- **CSLC**
  - Marathon held an initial meeting on October 20, 2020, to provide an overview of the project and discuss the leases. CSLC attendees included Chris Beckwith (Division Chief for Marine Environmental Protection), Sarah Mongano, Marlene Schroeder, Vicki Caldwell, and Kendra Oliver.
  - During a follow up meeting on October 27, 2020, CSLC staff indicated that the project would require either amendments to the existing leases or new leases, and that the application process is the same. No exemptions were identified for the proposed work.

A3-9

This comment requests the names and numbers of all biological permits required for implementation of the proposed Project.

Response A3-9: Biological permits required for implementation of the proposed Project are listed in Section 1.5, *Use of this EIR by Responsible Agencies* on page 1-3 in Chapter 1, *Introduction* of the Draft EIR.

A3-10

This comment specifies that any affected Caltrans facilities must be returned to Americans with Disabilities Act (ADA) standards following construction, and that bicycle and pedestrian access must be maintained during construction.

Response A3-10: As discussed on page 3.14-8 of the Draft EIR, physical changes off-site of the Refinery are not proposed, and therefore there will be no construction impacts to Caltrans facilities requiring their return to ADA standards following construction. In addition, no full closures or obstructions to bicycle or pedestrian use of public roads and trails within the Project vicinity would be necessary during construction; therefore, bicycle and pedestrian access will be maintained.

A3-11

This comment contains closing salutations.

Response A3-11: No response is required.

3.2.4 Response to Comment Letter A4, Bay Area Air Quality Management District

A4-1

This comment points out that the project's operation emissions (in excess of the thresholds of significance, a significant and unavoidable impact due to nitrogen oxide (NOx) emissions from marine and rail transport) are not presented in a transparent way.

Response A4-1a: The source-specific listing of pre-project actual, and post-project potential emissions are presented in Appendix A from the Draft EIR Appendix AQ_GHG: Air Quality and Greenhouse Gas Technical Analysis. In response to this comment, Tables 3.3-14 and 3.3-15 have been revised. Changes can be found in Chapter 4, *Revisions to the Draft EIR*.

Revisions

Table 3.3-14 on page 3.3-34 of Section 3.3, *Air Quality* is replaced with the following table:

Table 3.3-14-REVISED. Summary Total Project Daily Emission Changes (lbs./day)

Project Source		NOx	SO2	CO	POC	PM_{10}	$PM_{2.5}$
Stationary	Pre-project	4335.46	2297.39	6639.82	10193.31	1526.64	1487.24
	Post-project	2551.94	906.99	3285.55	3248.45	314.17	314.17
	Change	-1783.52	-1390.40	-3354.26	-6944.86	-1212.46	-1173.07
Mobile	Pre-project	2054.03	2217.20	305.35	135.94	201.00	81.14
	Post-project	712.61	19.88	256.92	51.66	40.07	23.68
	Change	-1341.42	-2197.32	-48.43	-84.28	-160.93	-57.47
Off-site Stationary	Pre-project	1248.80	461.40	2410.12	9.20	131.06	131.06
	Post-project	1301.74	478.30	2420.70	13.48	132.87	132.87
	Change	52.94	16.90	10.57	4.28	1.81	1.81
Total Project	Pre-project	7638.28	4975.99	9355.29	10338.45	1858.69	1699.44
	Post-project	4566.28	1405.17	5963.17	3313.59	487.11	470.72
	Change	-3072.00	-3570.82	-3392.12	-7024.85	-1371.58	-1228.73

Table 3.3-15 on page 3.3-35 of Section 3.3, *Air Quality* is replaced with the following table:

Table 3.3-15-REVISED. Summary Total Project Annual Emission Changes (tons/year)

Project Source		NOx	SO2	CO	POC	PM_{10}	$PM_{2.5}$
Stationary	Pre-project	401.99	290.48	649.06	186.29	245.81	238.62
	Post-project	97.57	36.51	56.40	108.96	27.60	27.60

	Change	-304.42	-253.97	-592.66	-77.33	-218.21	-211.02
Mobile	Pre-project	374.70	404.63	54.77	24.78	36.12	14.72
	Post-project	129.99	3.63	46.87	9.42	7.31	4.32
	Change	-244.71	-401.00	-7.91	-15.36	-28.81	-10.40
Off-site Stationary	Pre-project	46.08	18.25	13.26	8.31	14.36	14.36
	Post-project	55.75	21.34	15.19	9.09	14.69	14.69
	Change	9.66	3.08	1.93	0.78	0.33	0.33
Total Project	Pre-project	822.78	713.37	717.10	219.38	296.29	267.70
	Post-project	283.31	61.48	118.46	127.48	49.60	46.61
	Change	-539.47	-651.89	-598.64	-91.90	-246.69	-221.09

Response A4-1b: A new table has been presented which summarizes post-project potential emissions based on new emission sources, and existing emission sources. The following should be noted:

- Emissions from new and modified equipment have been estimated at their potential to emit (PTE)
- Emissions from existing sources that are not modified as part of the project are estimated on a projected actual basis. The future projection considers the effect of the project on the non-modified equipment.

Accordingly, Table 3.3-15B is added to the text. Revisions can be found in Chapter 4, *Revisions to the Draft EIR*.

Revisions

The following table is inserted following Table 3.3-15 on page 3.3-35 of Section 3.3, *Air Quality*:

Table 3.3-15B: Summary Stationary Source Annual Emissions, New vs. Existing Sources (tons/year)

Project Source	Source Type	NOx	SO2	CO	POC	PM_{10}	$PM_{2.5}$
Stationary	New	1.82	1.71	0.25	5.19	0.06	0.06
	Existing	96.22	35.30	56.24	106.96	29.60	29.60
Stationary Source Total		**98.04**	**37.01**	**56.49**	**112.14**	**29.66**	**29.66**

Response A4-1c: The methodology is detailed in the "Martinez Renewable Fuels Project Air Quality and Greenhouse Gas Technical Analysis" included as an appendix to this Final EIR. Stationary Sources: Please see Section 3.1 and Section 4.1 of the DEIR Appendix AQ_GHG: Air Quality and Greenhouse Gas Technical Analysis for details pertaining to the methodology applied to calculate emissions from new and existing on-site stationary sources, and off-site stationary sources.

A consistent approach was used to calculate emissions from each of the source types, as further described in Appendix AQ_GHG. Baseline emissions were determined based on Rule 12, Regulation 15 inventories. For equipment that is being modified, post-project potential to emit was calculated using the same methodology as baseline emissions. For equipment that will continue to

operate in the same manner as the baseline scenario, projected actual emissions were estimated for the post-project scenario.

Baseline emissions associated with wastewater equipment were based on the use of WATER9, which was the accepted tool for the baseline period. Post-project emissions were estimated using the current state-of-the-art emission estimation tool, ToxChem.

Mobile Sources: Please see Section 3.2 and Section 4.2 of Appendix AQ_GHG: Air Quality and Greenhouse Gas Technical Analysis for details pertaining to the methodology applied to calculate emissions from trucks, trains, vessels, and employee vehicles.

Response A4-1d: Additional mitigations are not warranted given the overall reductions in NOx emissions and explanation of likely reduced NOx in San Joaquin Valley from reductions in NOx in the BAAQMD jurisdiction.

A4-2a

The comment identifies that the cumulative criteria pollutant health risk is in excess of the thresholds of significance identified in the Air District CEQA Guidelines. Since the criteria pollutants exceed the threshold of significance, the Air District strongly encourages the County to include and require criteria pollutant reductions as conditions of Project approval in order to minimize the cumulative air pollution burden in the disproportionately impacted community.

Response A4-2a: MM AQ-1b is revised as follows:

> Implement best management practices for construction activities.
>
> The following air emissions reduction BMPs shall be implemented to the maximum extent practicable by the applicant and construction contractors. The measures shall be ~~included as recommended practices~~ incorporated into all construction contracts related to the Project.

A4-2b

The measures identified in the Best Management Practice Greenhouse Gas (GHG)-1 measure (DEIR p 3.8-19) will reduce PM2.5 emissions. The Air District recommends that the GHG measures be updated, expanded, and required through contractual relationships with the marine and railroad operators.

Response A4-2b: Best Management Practice GHG-1 is revised as follows:

> **Best Management Practice GHG-1: Operational Measures to Reduce GHG Emissions.** The following GHG reduction BMPs shall be implemented to the maximum extent practicable during all on-going business operations. The measures shall be ~~included as recommended practices~~ incorporated into all construction contracts and operations related to the Project.
>
> All heavy-duty trucks entering or operated on the project site shall be model year 2014 or later, to the maximum extent practicable, and transition to zero-emission vehicles shall be expedited, with the fleet fully zero emission beginning in 2030 or when such vehicles are commercially available, whichever date is later.

- All ocean-going vessels calling at the Refinery shall use engines meeting the International Maritime Organization's Tier 4 ~~3~~ engine standard or higher to the maximum extent practicable.
- All ocean-going vessels calling at the Refinery shall comply with CARB's At- Berth Regulation, including meeting the onboard auxiliary diesel engine operational time limits and onboard auxiliary-diesel-engine power generation reductions to the maximum extent practicable. All ocean-going vessels shall comply with the voluntary vessel speed reduction zones established by National Oceanic and Atmospheric Administration.
- All engines in articulated tug-barge combinations and tugboats assisting oceangoing vessels shall meet U.S. Environmental Protection Agency (EPA) Tier ~~3 and~~ 4 engines standards, and be equipped with diesel particulate filters to the maximum extent practicable.
- All locomotives shall meet U.S. EPA Tier 4 engine standards to the maximum extent practicable.
- Utilize a "clean fleet" (e.g., zero-emission light-and medium-duty delivery trucks, vans, automobiles, railcar engines, and vessels) as part of business operations to the maximum extent practicable.
- Ensure all service equipment (e.g., yard hostlers, yard equipment, forklifts, and pallet jacks) used within the project site are zero-emission to the maximum extent practicable.
- Use the cleanest technologies available and provide the necessary infrastructure to support zero-emission vehicles and equipment that will be operating on-site to the maximum extent practicable.
- Idling is strictly prohibited on the subject property and adjacent streets in the Martinez area. All truck drivers associated with the business shall be informed of this prohibition.
- Periodically sweep the property to remove road dust, tire wear, brake dust and other contaminants in parking lots.
- Diesel back-up generators shall not be used on the property unless absolutely necessary. If absolutely necessary, generators shall have Best Available Control Technology (BACT) that meets CARB's Tier 4 emission standards or meets the most stringent in-use standard, whichever has the least emissions to the maximum extent practicable.
- Shore power shall be provided to all vessel fleets and all fleets shall be shore power compatible to the maximum extent practicable.

A4-2c

The Project is subject to Air District Regulation 6-6: Prohibition of Trackout. In addition, MM AQ-1 should commit to the following additional best practices during both phases of construction.

Response A4-2c: Comment noted. MM AQ-1a is revised to include the following:

> a. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or field moisture probe.

b. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.

c. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.

d. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.

e. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.

f. All trucks and equipment, including tires, shall be washed off prior to leaving the site.

g. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.

h. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.

i. Tier 4 engines shall be used when practicable for construction equipment and zero-emission equipment as available.

A4-3

Impact AQ-5: Creation of objectionable odors (DEIR page 3.3-41). The DEIR states that the Project's odors are less than significant with Mitigation Measure AQ-2 (MM AQ-2). MM AQ-2 states that during the construction phase of the Project, an Odor Management Plan (Odor Plan) shall be developed and implemented upon commencement of the renewable fuels processes. List of specific comments follows (a-f).

Response A4-3a: The Odor Management Plan shall be submitted to the Department of Conservation and Development for review and approval prior to commissioning of the renewable fuels process. Impact AQ-5 is amended to include the following:

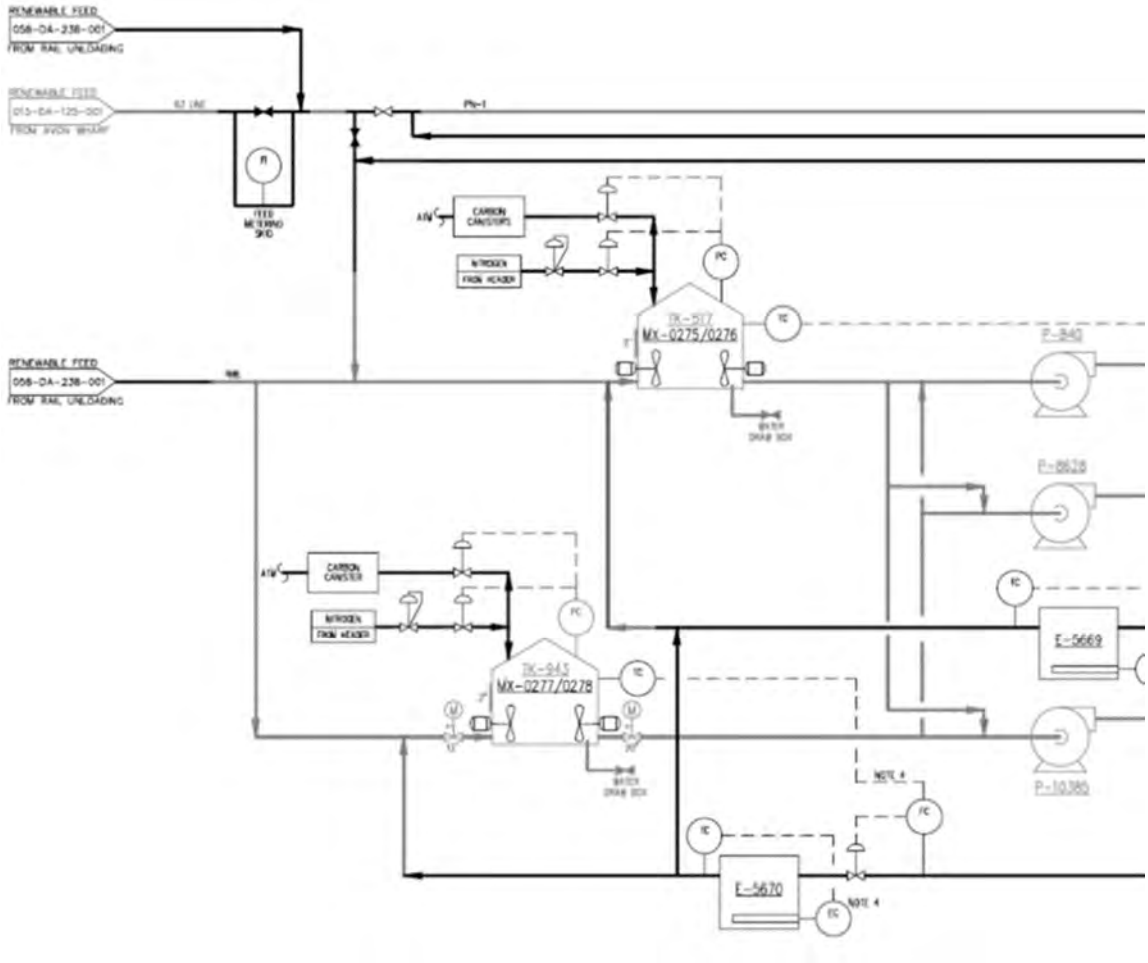
Odor management controls including, but not limited to, carbon adsorption, incineration, biofilter use, and chemical scrubbing, all in conjunction with a vapor recovery system and nitrogen blanketing of storage tanks are being evaluated to determine the most effective and practicable method to reduce odors from the storage tanks and loading and unloading activities. These options are the most utilized odor control methods for biofuel production. The chosen method will be reviewed with the BAAQMD and County prior to implementation.

The current (February 2022) control strategies identified during Odor Control Plan development are discussed here:

The primary source of odors from pre-Project operations are the treatment of sour gas streams, the Sulfur Recovery Unit (SRU), the Sulfuric Acid Plant (SAP), storage of crude oil and the wastewater treatment plant. The SRU, SAP, and crude oil storage would be shut down as part of this Project resulting in a reduction of odors. Furthermore, renewable feedstocks have much less sulfur content than crude oil and no aromatic hydrocarbons resulting in reduced odor-causing hydrogen sulfide (H2S), mercaptans, and aromatic organic compounds.

Engineered odor controls were incorporated into the project design including provision of fixed and floating roof sealed covers on storage tanks and process vessels as well as nitrogen blanketing of the vapor space. Emissions of vapors at product loading and offloading facilities of the Refinery would continue to be collected in the Refinery's existing vapor recovery system. Tanks that are not on the vapor recovery system would be vented through carbon cannisters to capture any hydrocarbons in the vapor space. A schematic of a typical process is included in Figure 3-5.

Figure 3-5. Carbon Vessels for Odor Control



The renewable feedstocks would not be delivered via trucks; therefore, there would not be potential for odors from trucks traveling through nearby neighborhoods.

The selection of carbon adsorption technology for odor control was based on a well-documented and proven technology commonly used in the chemical and petrochemical, food, and other industrial and municipal facilities. Carbon adsorption technology is well suited for applications where a variable mix of complex hydrocarbons are present at variable flow rates and concentration levels. The technology is not subject to upsets commonly encountered with biologically based systems (e.g., Vapor Phase Biofilters or Bio Trickling Units). Used carbon can be regenerated and reused resulting in less waste disposal and requires no chemicals (such as acids, caustic, and bleach) as commonly employed in Chemical Scrubbers. A summary evaluation of common full scale odor control technologies is depicted in Figure 3-6.

Figure 3-6. Comparison of Odor Control Technologies

Technology	Chemicals	Footprint	Complexity	H2S Efficiency	Multiple Odor Compounds	Media Life	Capital Cost	Operational Cost
Chemical Scrubbers	Caustic, Bleach, H2SO4	Small	Most	>99%	Yes	Long	Medium	High
Biotrickling Units	Non Hazardous Nutrient	Medium to Large	Moderate	>99%	No	Medium	Medium	Medium
Carbon Adsorption Units	None	Large	Little	>99% at low inlet loadings	Yes	Short	Low	Low
Combination Biotrickling with Carbon Adsorption	Non Hazardous Nutrient	Large	Moderate	>99%	Yes	Medium	High	Medium

Carbon Vessels are typically sized for a range of air flow rates with the only limitation being media life and operational cost due to frequency of carbon change out. Carbon vessels attached to covered vessels and tanks are characterized by a low air flow rate caused by periodic “out- breathing” when levels in the tank rise during filling operations. 5,000-pound carbon vessels were determined to be the best fit for this project application that will result in a reasonable carbon change out frequency.

The tank nitrogen blanketing system will minimize emissions of odor causing compounds that may be generated from feedstock material by oxidative reactions that can cause rancid conditions. Any other rancid conditions due to hydrolysis of fats and oils or microbial activity that may generate volatile fatty acids (VFAs) will be captured by the carbon vessels when exiting the vapor space.

The wastewater treatment plant will be upgraded with a new Moving Bed Biological Reactor (MBBR) to treat wastewater from the PTU unit. The MBBR is inherently an odor control system based on biological treatment. Any odors in the wastewater will be broken down (oxidized) by the microbial population present. This wastewater is characterized by low to no sulfur content thus eliminating any odors due to hydrogen sulfide emissions. Other potential odors from wastewater are often created when treatment systems are under designed or there is poor control of operational variables. The upgraded wastewater treatment plant will have an equalization tank to provide a

consistent feed to the plant creating fewer process swings and better control of process operating limits. The controls for chemical addition and outfall would be automated with updated technology and instrumentation that is more reliable. The combination of these upgrades will result in reduced odor from the wastewater treatment plant.

These control measures would be incorporated into applicable permits issued by the BAAQMD. A third-party contractor would be used to conduct odor monitoring throughout the facility and surrounding community to evaluate the type and intensity of detected odors. Implementation of the above control measures and odor monitoring would prevent the creation of objectionable odors.

Response A4-3b: MM AQ-2 is revised as follows:

> **Mitigation Measure AQ-2:** During the construction phase of the Project, the operational Odor Management Plan (OMP) shall be developed and implemented upon commissioning of the renewable fuels processes, intended to become an integrated part of daily operations at the Facility and other sites, so as to prevent any objectionable offsite odors and effect diligent identification and remediation of any potential objectionable odors generated by the facility and associated sites. The plan shall outline equipment that is in place and procedures that facility personnel shall use to address odor issues, facility wide. The OMP shall include continuous evaluation of the overall system performance, identification of trends to provide an opportunity for improvements to the plan, and updating the odor management and control strategies, as necessary. This plan shall be retained at the facility for County or other government agency inspection upon request. The following practices shall be included in the OMP to reduce the potential of objectionable odors from the storage of renewable feedstocks, operation of the wastewater treatment plant, and any other odor generating activity:
>
> - Develop operating procedures to inspect and evaluate the effectiveness of odor control equipment and operation of the wastewater treatment plant.
> - Inspections to be conducted on a semi-annual basis.
> - If there are fewer than an average of five confirmed complaints per year during the first 3 years of operation, then the inspection frequency can be reduced to an annual basis.
> - If there are more than five confirmed complaints in any single year, then the application shall develop additional mitigation strategies in consultation with the BAAQMD.
> - In the event that odor complaints are reported, the permittee shall immediately take action to prevent repeat complaints. The permittee shall also develop and implement remedial odor mitigation strategies in consultation with the BAAQMD and County.
> - Prepare an annual evaluation report of the overall system performance, identifying any trends to provide an opportunity for improvements to the plan, and updates to the odor management and control strategies, as necessary. The report shall be provided to the BAAQMD and County for review and approval.

Response A4-3c: Comment noted. See Response A4-3b.

Response A4-3d: The renewable feedstocks would not be delivered via mobile sources; therefore, there would not be potential for odors from mobile sources. Closure of wastewater ponds is not anticipated as part of the project.

Response A4-3e: Comment noted. See Response A4-3b.

Response A4-3f: Comment noted. See Response A4-3b.

A4-4

Section 6.2.3 Resource Impacts discusses the land-use impacts of agricultural crops and forest system feedstocks, but there is no consideration of other cellulosic feedstocks from municipal waste streams. The Air District recommends that the County investigate requiring that the Project Sponsor procure a percentage of organic waste from local sources for use as feedstock at the facility.

Response A4-4: Regarding organic waste from local sources, the County is reviewing local organic waste programs that could be coordinated with the Refinery's renewable feedstock needs. Based on the availability of local feedstocks, the County could include a Condition of Approval (COA) in the Project's permit.

A4-5

As described above in the discussion of Air Quality Impact AQ-2, Table 3.3-17 requires a companion table and discussion to document the Project's net operational emissions.

The Air District also recommends modifications to the emissions calculation and HRA methodology.

Response A4-5: Comment noted. See Response to Comment A4-1.

3.2.5 Response to Comment Letter A5, San Francisco Bay Conservation and Development Commission

A5-1

This comment confirms that the San Francisco Bay Conservation and Development Commission (BCDC) is in receipt of the Draft EIR but has not reviewed it. The intent of the BCDC letter is to provide information about the San Francisco Bay Plan 2020.

Response A5-1: Comment noted.

A5-2

This comment accurately summarizes the proposed project.

Response A5-2: Comment noted.

A5-3

This comment summarizes the BCDC's jurisdiction.

Response A5-3: Comment noted.

A5-4

This comment indicates that while BCDC has a regional jurisdiction, it is a state agency. In several places of the Draft EIR, BCDC is listed as a local rather than a state agency.

Response A5-4: BCDC is a state agency. In response to this comment, the following changes have been made to the Draft EIR:

- Reference to BCDC on page 1-4 of the Draft EIR has been moved from the list of Local agencies to the list of state agencies.
- Reference to the San Francisco Bay Plan 2020 in Section 3.4.1 Environmental Setting has been moved under the "State" from the "Regional and Local" context.
- Reference to BCDC and the Bay Plan in Section 3.10.1 Environmental Setting has been moved under the "State" from the "Local" context.

The revisions are shown in Chapter 4, *Revisions to the Draft EIR.*

A5-5

This comment accurately summarizes elements of the Draft EIR relevant to Bay Plan policies and tidal marsh habitat.

Response A5-5: Comment noted.

A5-6

This comment introduces the subsequent sections, which are intended to identify additional relevant policies not already acknowledged in the Draft EIR or considered in all applicable contexts.

Response A5-6: Comment noted.

A5-7

This comment describes and clarifies the difference between Water-Related Industrial Uses and Port Uses in the San Francisco Bay Plan 2020.

Response A5-7: Comment noted.

A5-8

This comment states that sea level rise is of particular concern to facilities with operational infrastructure located on or near the shoreline of San Francisco Bay.

Bay Plan Climate Change policies require a risk assessment for larger shoreline projects, and if the risk assessment determines the project could pose a risk to public safety or ecosystem services, the project should be resilient to mid-century. If the Project would last beyond mid-century, it should be adaptable to end-of-century sea level rise projections, including storms. BCDC staff recommends that the Project proponent engage with BCDC regulatory staff to determine the appropriate analysis under the Climate Change and Safety of Fills policies for the Project.

The Draft EIR includes an analysis of the site's relationship to the FEMA 100-year flood zone as a minimal hazard. However, the project only describes plans for sea level rise projections through the year 2030. While a previous permit amendment to BCDC Permit No. 2014.006.00 authorized work at the Project site which included conditions related to project resiliency up to the years 2030 and 2070, the Project subject to the Draft EIR may require additional analysis in order to be consistent with the Bay Plan policies related to sea level rise.

In the Final EIR, the Project proponents should include the mean higher high water level along the shoreline and up Pacheco Creek, the 100-year flood elevation, the mid- and end-of-century sea level projections using 2050 and 2100, anticipated site-specific storm surge effects, and a preliminary assessment of the project's vulnerability to future flooding and sea level rise. Additional analysis and project modification may be required to be consistent with the Climate Change and Safety of Fills policies.

Response A5-8: As cited on page 3.10-11 of Section 3.10.2, *Environmental Setting, Project Area* in Section 3.10, *Hydrology and Water Quality* of the Draft EIR, Simpson Gumpertz & Heger Inc. conducted a site-specific evaluation of future water level elevations at the Avon Marine Terminal in May 2021. The report serves as guidance for future planning at the terminal and fulfills requirements in the San Francisco Bay Conservation and Development Commission (BCDC) Permit No. 2014.006.00 Article II, Section I. As discussed in this evaluation, water level rise at the Avon terminal will be approximately 2.7 inches by 2030, and, based on the lookback trends for various time periods, the pipelines will not likely be inundated until 2070 assuming the measured rate of water level rise of 0.1 inches per year. However, if inundation does occur, the risk of an oil spill is very low, and both the structure and the pipeline can be exposed to flood inundation without significant risk of damage.

Marathon is required to monitor water levels periodically with each Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) Audit relative to the pipeway and pipelines. The water levels to be monitored include extreme tide, flood, and storm events. The next MOTEMS Audit will be completed in 2025, and water levels (including the 100-year flood elevation) will be re-examined and re-evaluated at that time.

A5-9

This comment accurately summarizes the Project site, including approximately 870 acres of undeveloped marshlands and grasslands, and recognizes the inclusion of avoidance and minimization measures in the Draft EIR to protect these habitats and the species that live there. The comment highlights Bay Plan Tidal Marshes and Tidal Flats Policies 3. The comment also advises that risk of spills may be increased as a result of increased ship traffic and points out that the new products brought in and produced may have environmental impacts and hazards that differ from petroleum products. The comment advises that construction and operation should be consistent with BCDC policies and recommends safety plans, training, and incident planning.

Response A5-9: Bay Plan Tidal Marshes and Tidal Flats Policies 3 recommends that projects be sited and designed to avoid or minimize adverse impacts on transition zones present between tidal and upland habitats, or—in the absence of a transition zone—projects be designed to provide one.

No changes to the configuration of the tidal marshes, adjacent upland habitats, or the transition zone between them are proposed as part of the Project, therefore this policy is inapplicable to the Project.

Potential environmental impacts and hazards to habitat areas caused by renewable fuels and feedstocks are discussed in the Draft EIR in Section 3.4, Biological Resources, on pp 3.4-40 to 3.4-41 and Section 3.9, Hazards and Hazardous Materials, on page 3.9-15. Additional details regarding environmental impacts and hazards from renewable feedstocks and renewable fuels are provided in Master Response 4: Public Safety and in responses to California State Lands Commission comments, particularly Response A6-31.

Consistency with the San Francisco Bay Plan is analyzed in Draft EIR Section 3.4 Biological Resources on page 3.4-33. Safety plans, training, and incident planning required for Refinery operations and transfer of hazardous materials over water are discussed in Draft EIR Section 3.9, Hazards and Hazardous Materials.

A5-10

This comment states that the Draft EIR recognizes that construction and operation of the Project, including marine transportation of feedstock and fuels, effluent discharges and stormwater runoff from new and repurposed facilities, could affect water quality at and around the Project Site.

The project proponent should engage with the San Francisco Bay Regional Water Quality Control Board and California Department of Fish and Wildlife Oil Spill Prevention and Response to address and examine any risks from operation of the proposed Project, particularly those of accidental release or incident. Potentially significant release of hazardous materials and water quality impacts may result from spills of feedstocks or refined products causing adverse impacts to the San Francisco Bay Estuary and associated biota. Even with the implementation of the lease conditions listed in the Draft EIR, contingency planning and required response measures, a large spill could still occur and result in impacts on water quality that would be significant and unavoidable.

Response A5-10: Operational impact HWQ-1 discusses the protocols in place to minimize the potential for accidental releases. However, as stated in the Draft EIR, adherence to these protocols and spill response measures will not guarantee that contaminants will never be released. The probability of a serious spill would be minimized to the extent feasible with implementation of the SLC lease conditions, but the risk cannot be eliminated. Because a large spill could still occur and result in impacts on water quality that would be significant and unavoidable, this impact is listed as "potentially significant."

A5-11

This comment describes the future applicability of amendments to the Bay Plan to include Environmental Justice and Social Equity policies to future projects at the Marathon Martinez Refinery.

Response A5-11: Comment noted.

A5-12

Commentor notes that installation of the new fender at the Amorco Marine Terminal will require a permit from the BCDC.

Response A5-12: The requirement for the proposed Project to obtain a permit from the BCDC is noted on page 1-4 of the Draft EIR.

A5-13

This comment contains closing language for the letter.

Response A5-13: Comment noted.

3.2.6 Response to Comment Letter A6, California State Lands Commission

A6-1

This comment confirms that the California State Lands Commission (CSLC) has reviewed the Draft EIR and confirms role of the CSLC as a responsible agency under CEQA.

Response A6-1: Comment noted.

A6-2

This comment explains that CSLC's regulatory authority and jurisdiction.

Response A6-2: Comment noted.

A6-3

This comment accurately describes the proposed Project.

Response A6-3: Comment noted.

A6-4

This comment refers the reader to an attached table for further comments.

Response A6-4: Comment noted.

A6-5

This comment requests that the County coordinate with CSLC staff to clarify which agency will be responsible for implementing and enforcing mitigation measures provided in the Tesoro Amorco Marine Oil Terminal Lease Consideration EIR (Amorco EIR) and Tesoro Avon Marine Oil Terminal Lease Consideration EIR (Avon EIR) which are referred to and, in some cases, updated in the Draft EIR.

Response A6-5: The Avon and Amorco Marine Oil Terminals (MOTs) will either be exporting renewable fuels produced at the Refinery or importing petroleum or petroleum products for transfer or storage at the Refinery, which triggers MOTEMS oversight and regulations for operations and design by the California State Lands Commission (CSLC) at the MOTs. As such, the two terminals will continue to operate under MOTEMS regulations. To clarify that the renewable feedstocks themselves are not covered under CSLC authority, though the terminals will

continue to operate under the same strict standards that apply to petroleum-handling terminals, Chapter 4, Revisions to the Draft EIR, include changes in Section 3.9, *Hazards and Hazardous Materials,* Regulatory and Policy Context, State, California State Lands Commission, page 3.9-5, and Mitigation Measure HAZ-1, pages 3.9-16 to 3.9-17.

Revisions

The following text is added to page 3.9-5, after the last paragraph under California State Lands Commission:

> Renewable feedstocks handled at the MOT are not regulated under the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (LKS Act) (e.g., soybean oil and tallow) and therefore not subject to OSPR or CSLC oversight nor under MOTEMS (MOTEMS, Article 5, Article 5.3 and Article 5.5, depending on the materials handled).
>
> Regulated products (i.e., "Oil" and "Renewable Fuels" defined in Public Resources Code Section 8750) would continue to be transferred at the MOT, which would require MOTEMS-compliant Terminal Operating Limits for those products within the jurisdiction of the CSLC.

Mitigation

Measure HAZ-1 on pages 3.9-16 to 3.9-17in Section 3.9, *Hazards and Hazardous Materials* is revised as follows:

> Mitigation Measure HAZ-1: The permittee shall comply with mitigation measures as outlined in the Operational Safety/Risk of Accident sections of the EIRs for both Amorco and Avon MOTs and as incorporated by reference into the leases as regulatory (lease) conditions. These measures include CLSC-established requirements for preventative maintenance, including periodic inspection of all components related to transfer operations pipelines. The permittee shall comply with those requirements, as well as with the CSLC's operational requirements, including Article 5.5 Marine Terminal Oil Pipelines 17 (California Code of Regulations, Title 2, Sections 2560-2571).
>
> The permittee shall comply with MOTEMS requirements, as well as with the CSLC's operational requirements, including Article 5.5 Marine Terminal Oil Pipelines 17 (California Code of Regulations, Title 2, Sections 2560-2571). The requirements, which are discussed in detail in the Amorco and Avon EIRs, are as follows:
>
> - Installation of Remote Release Systems
> - Maintaining of Tension Monitoring Systems
> - Maintaining of Allision Avoidance Systems
> - Development of a Fire Protection Assessment
> - Participation in USCG Ports and Waterways Safety Assessment Workshops
> - Response to any Vessel Spills near the Project

Prior to Project operations, the permittee shall complete routine inspection, testing and maintenance of all equipment and systems conducted in accordance with manufacturers' recommendations and industry guidance, as well as consideration of for general industry guidance on effective maintenance of critical equipment at the MOT.

Upon request, Marathon shall provide evidence to relevant regulatory agencies that these facilities, operational response plans, and other applicable measures have been inspected and approved by CSLC and OSPR and determined to be in compliance.

If terminal operations do not allow for regular compliance and inspection of LKS and MOTEMS requirements by the CSLC and/or OSPR, Marathon shall employ a CSLC-approved qualified third-party to provide oversight as needed to ensure the same level of compliance as for a petroleum-handling MOT facility, and to ensure maximum protection of the environment from potential spills and resulting impacts.

Although proposed Project transportation activities would not be expected to result in increases in the magnitude of hazardous materials handled, Project activities would result in increased vessel calls, thereby increasing the potential for corresponding accidental releases of renewable feedstocks. Even with implementation of Mitigation Measure HAZ-1, the potential for an increased transportation risk would be **significant and unavoidable**.

A6-6

This comment recommends including a Worker Awareness Training Program in Mitigation Measure BIO-1a.

Response A6-6: In response to this comment, Mitigation Measure BIO-1a has been revised to include an environmental awareness training program. The revisions are shown in Chapter 4, *Revisions to the Draft EIR*.

Revisions

Mitigation Measure BIO-1a on page 3.4-29 in Section 3.4, *Biological Resources* is revised as follows:

Mitigation Measure BIO-1a: General Work Site Best Management Practices. The following measures shall be included on all plans and employed by Marathon and its contractors to avoid and minimize impacts to water quality and other beneficial characteristics of wetlands at the Project Site:

- All renovation personnel shall receive environmental awareness training provided by a County-approved qualified biologist. The training shall provide information about special-status species potentially occurring in the Project area, measures being implemented to avoid impacts to the species, and procedures to follow should a listed species be encountered during routine activities. Training shall be conducted to assure understanding by both Spanish and English speakers. Training materials and the qualified biologist's resume shall be submitted to County staff for approval 2 weeks prior to program initiation.

- No debris, soil, silt, sand, cement, concrete or washings thereof, or other construction-related materials or wastes, oil or petroleum products, or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into marshes or open water/ditches adjacent to the work areas.

A6-7

This comment recommends updating the text describing the Marine Invasive Species Program (MISP) regulatory program be updated with additional details regarding its statutory origin and relevant legislative activity. Namely, that federal ballast water discharge standards have been adopted and that the implementation of interim and final California ballast water discharge performance standards has been delayed to 2030 and 2040, respectively, due to a lack of available ballast water treatment technologies that would enable vessels to meet the California standards.

Response A6-7: This comment provides additional clarifying detail that would allow readers of the Draft EIR to better understand the regulatory framework for the MISP. In response to this comment, the regulatory context for the Marine Invasive Species Act (MISA) has been updated to include the text provided by the CSLC. The revisions are shown in Chapter 4, *Revisions to the Draft EIR*.

Revisions

The regulatory context describing the Marine Invasive Species Act on page 3.4-5 in Section 3.4.1.1, *Regulatory and Policy Context* of Section 3.4, *Biological Resources* is revised as follows:

> Marine Invasive Species Act
>
> The Marine Invasive Species Act (MISA) of 2003, made permanent by the Coastal Ecosystems Protection Act of 2006, requires ballast water and biofouling management for all vessels that intend to discharge ballast water in California waters. Regulations depend on the vessel's size and origin of voyage. Under MISA, CSLC administers the Marine Invasive Species Program (MISP), a multiagency program tasked with preventing the introduction of non-indigenous aquatic species from ballast water and biofouling. All vessels covered under the law are required to complete and submit a ballast water report form to the CSLC upon departure from each port of call in California and must comply with good housekeeping practices.
>
> MISP was reauthorized and expanded in 2003 with the passage of the Marine Invasive Species Act (MISA; AB 433, Chapter 491, Statutes of 2003) which, among other provisions, directed the Commission to adopt ballast water management regulations for vessels moving coastally between ports on the west coast of the U.S. Since 2003, the MISA has been amended numerous times, most notably to establish California's ballast water discharge performance standards (SB 497, Chapter 292, Statutes of 2006) and to authorize the Commission to adopt and implement biofouling management regulations (AB 740, Chapter 370, Statutes of 2007).
>
> The Commission adopts and amends regulations to implement the MISA (Public Resources Code section 71201.7). The ballast water management regulations for coastal

vessels were adopted in 2006 (California Code of Regulations, title 2, section 2280 et seq.); ballast water discharge performance standards were codified in 2007 (California Code of Regulations, title 2, section 2291 et seq.); and the biofouling management regulations (see section 7.1) were adopted and implemented in 2017 (California Code of Regulations, title 2, section 2298.1 et seq.). These regulations were strengthened through the adoption of enforcement regulations in 2017 (California Code Regulations, title 2, section 2299.01 et seq.).

In 2019, the Commission sponsored AB 912 (Chapter 433, Statutes of 2019) which authorizes the Commission to:

- Adopt and enforce the federal ballast water discharge performance standards set forth in section 151.2030(a) of Title 33 of the Code of Federal Regulations
- Delay implementation of the interim and final California ballast water discharge performance standards to 2030 and 2040, respectively, due to a lack of available ballast water treatment technologies to enable vessels to meet the California standards

In 2021, the Commission amended existing regulations (California Code of Regulations, title 2, section 2291 et seq.) to implement the requirements of AB912.

A6-8

This comment requests adding language to the extent that title to all archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the state under the jurisdiction of the Commission (Pub. Resources Code, § 6313). Consequently, the Commission staff requests that the County consult with Staff Attorney Jamie Garrett should any cultural and/or Tribal Cultural resources on state lands be discovered during construction of the proposed project.

Response A6-8: In response to this comment, Mitigation Measure CR-1 has been updated to include the suggested language. The revisions are shown in Chapter 4, *Revisions to the Draft EIR*.

Revisions

Mitigation Measure CR-1 on page 3.5-17 and 3.5-18 of the Draft EIR is revised as follows:

Mitigation Measure CR-1: Discovery of Unknown Cultural or Archaeological Resources. The following Mitigation Measures shall be implemented during project related ground disturbance, and shall be included on all construction plans:

All construction personnel, including operators of equipment involved in grading, or trenching activities will be advised of the need to immediately stop work if they observe any indications of the presence of an unanticipated cultural resource discovery (e.g., wood, stone, foundations, and other structural remains; debris-filled wells or privies; deposits of wood, glass, ceramics). If deposits of prehistoric or historical archaeological materials are encountered during ground disturbance activities, all work within 50 feet of the discovery shall be redirected and a qualified archaeologist, certified by the Society for California

Archaeology (SCA) and/or the Society of Professional Archaeology (SOPA), shall be contacted to evaluate the finds and, if necessary, develop appropriate treatment measures in consultation with the County and other appropriate agencies. In addition, all archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the state and under the jurisdiction of the CSLC (Pub. Resources Code, § 6313). Consequently, the CSLC staff requests that the County consult with CSLC Staff Attorney Jamie Garrett (Jamie.garrett@slc.ca.gov) should any cultural and/or Tribal Cultural resources on state lands be discovered during construction of the proposed project. If the cultural resource is also a tribal cultural resource (TCR) the representative (or consulting) tribe(s) will also require notification and opportunity to consult on the findings.

If the deposits are not eligible, avoidance is not necessary. If eligible, deposits will need to be avoided by impacts or such impacts must be mitigated. Upon completion of the archaeological assessment, a report should be prepared documenting the methods, results, and recommendations. The report should be submitted to the Northwest Information Center and appropriate Contra Costa County agencies. In addition, the final disposition of archaeological, historical, and paleontological resources recovered on State land under the jurisdiction of the California State Lands Commission must be approved by the CSLC.

Should human remains be uncovered during grading, trenching, or other on-site excavation(s), earthwork within 30 yards of these materials shall be stopped until the County coroner has had an opportunity to evaluate the significance of the human remains and determine the proper treatment and disposition of the remains. Pursuant to California Health and Safety Code Section 7050.5, if the coroner determines the remains may be those of a Native American, the coroner is responsible for contacting the Native American Heritage Commission (NAHC) by telephone within 24 hours. Pursuant to California Public Resources Code Section 5097.98, the NAHC will then determine a Most Likely Descendant (MLD) tribe and contact them. The MLD tribe has 48 hours from the time they are given access to the site to make recommendations to the landowner for treatment and disposition of the ancestor's remains. The landowner shall follow the requirements of Public Resources Code Section 5097.98 for the remains.

In the event the Project design changes, and ground disturbance is anticipated beyond the Area of Potential Effect, as it is currently defined by the Cultural Resources Inventory Reports, further surveys shall be conducted in those new areas to assess the presence of cultural resources. Any newly discovered or previously recorded sites within the additional survey areas shall be recorded (or updated) on appropriate Department of Parks and Recreation (DPR) 523-series forms. If avoidance of these cultural resources is not feasible then an evaluation and/or data recovery program shall be drafted and implemented.

A6-9

This comment requests that the following statement be included as a mitigation measure in the Final EIR, "The final disposition of archaeological, historical, and paleontological resources

recovered on State land under the jurisdiction of the California State Lands Commission must be approved by the Commission."

Response A6-9: In response to this comment, Mitigation Measure CR-1 has been updated to include the suggested language. The revisions are shown in Chapter 4, *Revisions to the Draft EIR*.

A6-10

This comment contains closing language for the letter.

Response A6-10: Comment noted.

A6-11

This comment describes the CSLC Marine Environmental Protection Division (MEPD) and identifies its regulatory authority and jurisdiction.

Response A6-11: Comment noted.

A6-12

This comment indicates that CSLC MEPD regulations apply to MOTs that transfer oil, petroleum products, and renewable fuels only and related activities in accordance with the statutory authority granted in the Lempert-Keene- Seastrand Oil Spill Prevention and Response Act (LKS) and requests that MM HAZ-1 articulate that mitigation measures (MM) will be required for all vessels calling and related operations at the Amorco and Avon MOTs regardless of product type and LKS regulatory status.

Response A6-12: Although renewable feedstocks (e.g., vegetable oil, waste cooking oils and tallow) proposed to be handled by the Amorco and Avon MOTS may not be regulated under the LKS, they may be detrimental to the environment if spilled. MOTEMcS operational regulations, as codified in Article 5, Marine Terminals Inspection and Monitoring (2CCR§2300 et seq), Article 5.3 Marine Terminals Personnel Training and Certification (2CCR§2540 et seq), and Article 5.5 Marine Terminals Oil Pipelines (2CCR§2560 et seq) and including items such as static liquid pressure testing of pipelines, will also be required for all operations at the MOTs regardless of feedstock type and LKS regulatory status. In response to this comment, the description of the CSLC's regulatory authority in Section 3.9, *Hazards and Hazardous Materials* of the Draft EIR is revised to specify that transfer of renewable feedstocks over water at the Amorco and Avon MOTs will continue to be subject to MOTEMS. Additionally, Mitigation Measure HAZ-1 has been revised to articulate that MOTEMS standards will be required for all vessels and operations at the Avon and Amorco MOTs regardless of feedstock type and LKS regulatory status (see Response A6-5). The revisions are shown in Chapter 4, *Revisions to the Draft EIR*.

Revisions

The description of the CSLC in Section 3.9.1.1, *Regulatory and Policy Context* of Chapter 3.9, *Hazard and Hazardous Materials* on page 3.9-5 of the Draft EIR is revised to include the following:

The CSLC also developed MOT Engineering and Maintenance Standards (MOTEMS) to establish standards for the design, construction and maintenance of marine oil terminal berthing and cargo loading/unloading facilities. MOTEMS is intended to minimize the possibility of accidents at MOTs during extreme weather events, seismic activity and routine operations that could lead to releases of petroleum substances to the environment. Existing facilities are required to retrofit or rebuild as necessary to meet MOTEMS.~~, which the Refinery operators have already done pursuant~~ Pursuant to recently-renewed leases with CSLC, ~~and the terminal~~ the two MOTs will continue to be subject to compliance with MOTEMS requirements~~.~~, and if deficiencies are identified by CSLC MEPD during routine MOTEMS audits and inspections, the Amorco and Avon MOTs will take appropriate corrective actions to correct these deficiencies.

Pursuant to California Building Code Chapter 31f – Marine Oil Terminals, Section 3101F.2, the purpose of the code is to establish minimum engineering, inspection and maintenance criteria for MOTs in order to prevent oil spills and to protect public health, safety and the environment. The code defines "oil" as any kind of petroleum, liquid hydrocarbons, or petroleum products or any fraction or residues thereof, including but not limited to, crude oil, bunker fuel, gasoline, diesel fuel, aviation fuel, oil sludge, oil refuse, oil mixed with waste, and liquid distillates from unprocessed natural gas.

California Assembly Bill 148, adopted in 2021, defined the terms "renewable fuel," "renewable fuel production facility," and "renewable fuel receiving facility" for purposes of the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act and would include renewable fuel within the definition of "oil" for purposes of the act.

A6-13

This comment describes how CSLC MOTEMS are not enforceable on MOT assets that are converted from petroleum to non-regulated products, such as renewable feedstocks.

Response A6-13: Refer to Response A6-12.

A6-14

This comment further discusses the limitations of MEPD regulatory authority over renewable feedstocks.

Response A6-14: Refer to Response A6-12.

A6-15

This comment clarifies the role of the CSLC Marine Environmental Protection Division (MEPD).

Response A6-15: This comment provides clarifying information that would allow the reader to better understand the role of the MEPD in the enforcement of the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act. Page 3.4-4 of Section 3.4, *Biological Resources*, has been revised to include the clarifications provided by the CSLC.

Revisions

The regulatory context describing the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act on page 3.4-4 of Section 3.4, Biological Resources, is revised as follows:

> Lempert-Keene-Seastrand Oil Spill Prevention and Response Act
>
> The Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990 covers all aspects of marine oil spill prevention and response in California. Administration of the act is under the authority of a chief deputy director of the CDFW, who is also then responsible for carrying out the CDFW's water pollution enforcement duties. Through the act, California State Lands Commission (CSLC) responsibilities were expanded through the creation of the Marine Environmental Protection Division (MEPD; formerly the Marine Facilities Division) ~~to oversee the safety of marine terminals and the transfer of crude oil from ships to shore-based facilities~~. The MEPD adopts and enforces engineering and operations regulations at all California Marine Oil Terminals in order to prevent oil spills and to protect public health, safety and the environment in accordance with the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act. The act also authorizes trustee agencies to seek monetary compensation for injured natural resources.

A6-16

This comment indicates that references to the Amorco EIR are excluded from the statement "The implementation of the measures, which are discussed in detail in the Avon EIR…" (pgs. ES-18 to 19 and 3.9-17).

Response A6-16: References to Amorco EIR will be added to the applicable sections. The revisions are shown in Chapter 4, *Revisions to the Draft EIR.*

A6-17

This comment adds additional clarification to the scope of MEPD engineering review for MOTEMS compliance.

Response A6-17: Comment noted.

A6-18

This comment indicates that CSLC MEPD regulatory authority over modifications and long-term asset would be limited for the Avon MOT with the proposed transfer of the pipeline to renewable feedstock and that mitigation measures should be considered to safeguard the design, construction, testing, inspection, maintenance and operations of these pipeline and hoses or require MEPD regulatory compliance via MMs at the Avon and Amorco MOTs.

Response A6-18: Please see response to A6-12. In addition, as detailed in MOTEMS, standards include the design, construction and maintenance of marine oil terminal berthing and cargo loading/unloading facilities including pipelines and any required modifications to the MOTs infrastructure to accommodate the transition to renewable feedstocks would follow operational regulations, as codified in Article 5.5 Marine Terminals Oil Pipelines (2CCR§2560 et seq).

A6-19

This comment requests that the Final EIR identify the size of the smaller marine vessels visiting the terminals and the product types that the vessels are anticipated to transfer.

Response A6-19: Vessel sizes proposed to visit the terminals is described in Sections 2.4.5.3 and 2.5.5.1 of the Draft EIR. The "smaller marine vessels" will be medium range vessels, articulated tow barges, and river barges with draft weight tonnage (DWT) of approximately 50,000, 27,500, and 12,000 respectively. Chartered bunker barges for feedstock delivery from Richmond & Stockton to the Avon Terminal would be smaller, for example Double Skin 501 barge (8,838 DWT) or Double Skin 311 barge (4,999 DWT). The Amorco Terminal will be used to distribute the renewable diesel product via larger ocean-going vessels, on the order of 260,000 barrels (50,000 DWT). The Avon Terminal will be used to receive the renewable feedstocks via smaller marine vessels, specifically barges with capacity between 25,000 and 50,000 barrels.

A6-20

This comment indicates that CSLC MEPD regulatory authority over the fender and pipelines at the Amorco MOT may be limited by jurisdictional authority and it is recommended that supplemental mitigation measures be considered to safeguard the design, construction, testing, inspection, maintenance and operations of the fender, pipelines, etc.

Response A6-20: Please see responses to A6-12 and A6-18. These recommendations will also be specified in Mitigation Measure HAZ-1. Changes can be found in Chapter 4, *Revisions to the Draft EIR.*

A6-21

This comment indicates that the MOTEMS mooring and berthing analysis and design and TOLs standards may not be regulatorily enforceable by the CSLC MEPD at the Amorco and Avon MOTs unless supplementally required by the MMs and it is specified that that MOTEMS compliant mooring and berthing analysis and design and TOLs standards be required for all MOT modifications and vessels calling at the Amorco and Avon MOTs regardless of product type and LKS regulatory status.

Response A6-20: Please see responses to A6-12 and A6-18. These requirements will also be specified in Mitigation Measure HAZ-1.

A6-22

This comment requests additional clarification regarding built modifications at the Amorco and Avon MOTs, including mechanical or electrical components or systems required by mitigation measures.

Response A6-22: Modifications to the Avon MOT are described in Section 2.5.4.2, *Project Modifications at Avon MOT*; modification to the piping system is the only scope. No modifications will be made to any of the monitoring or mechanical systems. Modifications to the Amorco MOT are described in Section 2.5.4.3, *Project Modifications at Amorco MOT.* At the Amorco MOT, a new fender will be installed to allow for receiving smaller vessels. To allow to proper tie-up of the

smaller vessels, some mooring hooks will be rotated. The overall tension monitoring and mooring systems will remain the same. No modifications will be made to any monitoring or mechanical systems.

A6-23

This comment requests clarification if built mitigations resulting from the SPCC will be implemented.

Response A6-23: The Martinez Renewable Site will continue to follow the SPCC regulation and any deficiencies in the plan will involve a mitigation and corrective plan as approved by local CUPA and federal USEPA.

A6-24

This comment requests information regarding whether the Project requires additional piping or pipeline changes as part of the proposed Project.

Response A6-24: The only piping modifications proposed will be insulation and heat tracing along the 26 Line between Avon MOT and the Refinery storage tanks.

A6-25

This comment requests information regarding any piping or pipelines that will be removed from service.

Response A6-25: No lines at either Amorco or Avon MOT would be removed from service as part of the proposed Project.

A6-26

This comment states that there are no MOTs in the Stockton region that are active and approved for operations pursuant to MEPD records. Therefore, Stockton Terminal would be required to upgrade to MOTEMS standards prior to use for marine transportation of renewable feedstocks and fuels.

Response A6-26: Comment noted. Use of the Stockton Terminal and upgrades to the facility would be a separate project subject to review under CEQA. As discussed in the Draft EIR, Marathon has investigated the use of third-party terminals in the San Francisco Bay Area or the San Joaquin Valley (see Draft EIR page 2-17) but agreements have not been finalized with existing third-party terminals. It is Marathon's policy to only use third-party contractors that comply with all applicable rules and regulations, including the California State Land's Commission MOTEM requirements as well as other applicable requirements. Marathon will require contractors to provide evidence that the terminal will comply with all applicable regulations, as part of determining the appropriate terminals to use and prior to executing any contracts.

Until a determination has been made on the actual third-party terminal or terminals that will be used, details on any upgrades that may be needed at these terminals is unknown and considered speculative under CEQA Guidelines Section 15145.

A6-27

This comment requests additional information regarding the timing of roundtrip barge trips between the Avon MOT and the Stockton terminal.

The Avon MOT will receive approximately 300 barges per year with renewable feedstock delivered downriver from either Stockton Terminal or similar location. Based on this annual estimate, an average of five to six barge trips per week will travel roundtrip between the Avon and Stockton terminals.

A6-28

This comment recommends that the word "ship" be changed to "vessel" on page 2-36 of the Draft EIR.

Response A6-28: The language has been changed as recommended. The revisions are shown in Chapter 4, *Revisions to the Draft EIR.*

A6-29

This comment requests that the baseline quantity of products transferred at the Avon MOT be identified.

Response A6-29: The Amorco and Avon Marine Oil Terminals were both subject to comprehensive environmental review in 2014 and 2015, respectively (State Clearinghouse Numbers 2012052030 and 2014042013). The EIRs for the marine oil terminals assessed the potential impacts associated with the renewal of the California State Lands Commission leases for additional 30-year terms through 2044 and 2045. These EIRs remain informative, relevant, and are an appropriate reference for evaluating the impacts of the proposed physical and operational changes to the marine oil terminals that are proposed with the Project.

The baseline for the wharfs were not based on a 2015-2019 timeline for the reason stated above. The 2015-2019 actuals across the wharves are not used in this document.

A6-30

This comment requests additional information regarding the proposed throughput at each MOT.

Response A6-30: Post-Project, the majority of the renewable feedstock will be received via barge at the Avon MOT, with the remaining renewable feedstock delivered by Ocean-Going Vessels (OGV) to Avon (See Section 2.5.5.1 of the Draft EIR). The Amorco MOT will then be used to distribute the finished renewable fuels products via OGV (See Section 2.5.5.3 of the Draft EIR).

The Avon MOT will receive an average of 70,000 barrels/day of renewable feedstocks, gasoline product for distribution, and naphtha for transfer (See Section 2.5.5.2 of the Draft EIR). The Amorco MOT will distribute an average of 27,000 barrels/day of renewable fuel (See Section 2.5.5.3 of the Draft EIR). The anticipated distribution of these products is summarized below and detailed in Draft EIR Appendix AQ, *Air Quality and Greenhouse Gas Technical Analysis*, Tables B-9a - B-9d.

Table 3-3. Proposed Throughput at Avon and Amorco MOTs

Commodity	Units	Received		Distributed	
		Avon (barge)	Avon (OGV)	Amorco (OGV)	Avon (OGV)
Renewable Feedstock	MBPD	26.5	15.0	--	--
Gasoline	MBPD	--	28.0	--	--
Renewable Diesel	MBPD	--	--	27.8	--
Renewable Naphtha	MBPD	--	--	--	1.0
MBPD = One thousand barrels per day Source: Marathon Petroleum Corporation, 2022					

A6-31

This comment indicates that it is unclear how environmental impacts are influenced by the proposed changes in vessel sizes/types, vessel calls per year, changes in throughput over the water, etc. (e.g., biological resources due to changes in vessel drafts, propeller vs. tug activities, worst case oil spill scenarios).

Response A6-31: There are two major aspects to the potential environmental impacts:

- Impacts of vessel traffic on the environment, such as the change in turbidity from vessel passage or propulsion or the risk of impact with marine mammals or sturgeon;
- Impacts of releases of the cargo – specifically:
    - The applicability of previously conducted vessel traffic analysis with regard to risk of collision, allision, and grounding, based on the proposed change to the number and type of vessels; and
    - The applicability of previously conducted spill modeling (e.g., worst-case oil spill scenarios), based on properties of the proposed feedstocks and products.

Vessel Impacts on Environment

The impact of a vessel on the environment, for example, generation of turbidity through interaction with bottom sediments, is related to the vessel's draft and speed. Reducing either or both of these factors reduces the potential for environmental impact.

Medium range vessels, articulated tow barges, and river barges, such as the proposed 25,000 to 50,000 barrel capacity vessels, are typically used for local or inland-waterway transit and have a shallower draft than oceangoing tankers. And the typical 4 to 5 miles per hour (mph) cruising speed of a river barge is much lower than that of an oceangoing tanker, which typically have

cruising speeds in the 12 to 18 mph range (Frittelli 2014). Qualitatively, the change from larger, faster, deep-draft tankers, which also require a tug escort pursuant to 14 CCR 851.5(b)(1)), to smaller, slower, shallow-draft barges would be expected to reduce the potential for generation of turbidity.

Similarly, the potential risk of collision with marine organisms, such as marine mammals or sturgeon, is related to the speed of the vessel. Again, the change from tankers to barges would be expected to reduce the potential for collisions with organisms.

Applicability of Vessel Traffic Analysis

The analysis of vessel traffic described for the WesPac Pittsburg Energy Infrastructure Project (WesPac, 2013) considered the potential impact of a proposed increase in vessel traffic of 18 tank vessels per month (216 per year). The analysis determined whether such a change would 1) adversely affect safe navigation resulting in substantial increases in the number of incidents in the San Francisco Bay Area, or 2) substantially increase vessel congestion in the San Francisco Bay Area.

The analysis (Impact MT-4) considered whether such an increase in vessel traffic would substantially increase vessel congestion in the San Francisco Bay Area arising from the calling of marine vessels at the Terminal. The analysis concluded the increase in vessels was a relatively small increase in the total number of commercial vessels in the waterways monitored by the Vessel Traffic Service (VTS) in San Francisco Bay, which handled nearly 400 vessel movements per day in 2010 (WesPac, 2013) and currently handles 3,300 vessel transits per week (USCG, 2022). Therefore, the expected increase in vessel traffic was expected to be modest and could be accommodated in San Francisco Bay.

The Impact MT-4 analysis pointed out that commercial vessel traffic in Suisun Bay has historically been as high as 2,365 upbound trips (in 2005) and that the San Francisco Bay Harbor Safety Plan (Harbor Safety Committee of the San Francisco Bay Region, 2020) did not identify vessel traffic problems or propose recommendations for improvements. The historic high of 2,365 is almost triple the 830 vessel trips in 2010 (see Table 16-1; WesPac, 2013). It concluded that impacts on vessel congestion would be less than significant.

This analysis remains relevant to the current proposed increase in vessel traffic. The proposed vessel traffic of approximately 98 oceangoing vessels would result in a less than 1.0 percent increase in the total number of commercial vessels in San Francisco Harbor and a 12 percent increase in Suisun Bay (compared to 2010 vessel traffic). When considered cumulatively with the current vessel traffic, the total vessel traffic is still well below the historic high of 2,365 vessel trips per year. The conclusions of the original analysis hold for vessel congestion.

The analysis (Impact MT-5) considered whether such an increase in vessel traffic would substantially increase the number of incidents in the San Francisco Bay Area arising from unsafe navigation conditions caused by tank vessels transiting to and/or from the marine terminal. The analysis concluded that the proposed increase in vessel traffic was modest (see Impact MT-4, above) and would not create unsafe navigational conditions. It went on to describe the mitigation measures already in place to ensure safe navigational conditions, which include use of pilots, tug

assists, the VTS, and the seven Regulated Navigational Areas (RNAs) in San Francisco Bay. It concluded that impacts on navigation conditions would be less than significant.

Although the vessel analysis did not specifically address barge traffic in the San Joaquin River channel to Stockton, the Port of Stockton managed 234 to 268 vessel calls per year between 2016 and 2020 (Port of Stockton, 2020), which is well below the capacity for this channel. The additional barge trips would not be expected to substantially increase vessel congestion in the Port of Stockton or the San Joaquin River channel.

Except for the required tug escort for tank vessels carrying more than 5,000 tons of bulk oil (89,000 barrels), in accordance with 14 CCR 851.2, these mitigation measures would apply equally to the proposed vessel traffic. The conclusions of the original analysis hold for navigation conditions.

Applicability of Spill Modeling

WesPac Spill Modeling

The analysis of the impacts of oil spills described in WesPac (2013) considered the potential impact of the potential for crude oil releases and potential impacts areas resulting from operation of the MOT.

The WesPac (2013) analysis (Impact MT-7) considered whether an oil spill at the marine terminal posed a risk of injury or death to the public. Qualitatively, there is no reason to anticipate that the likelihood of a spill as a result of natural factors (e.g., earthquake) or human error (e.g., faulty hose connection) would be affected by the feedstock or product being transported. Because the estimated worst-case discharge volume is based on the size of the cargo vessels, the use of a large number of smaller-capacity vessels would indicate that the WesPac (2013) analysis should be considered conservative.

The WesPac (2013) analysis considered both light Alaskan North Slope crude oil and heavy Fuel No. 6 and determined that there was very little difference in their oil spill trajectories. The analysis concluded that a release from the MOT would not be expected to result in injury or death to members of the public. Although an oil spill would result in short-term impacts on other marine traffic, the anticipated impacts would be short term and not considered to be significant.

Golden Eagle Refinery Oil Spill Modeling

The Offsite Consequences Analysis of the Golden Eagle Refinery Oil Spill Contingency Response Plan (Tesoro, 2012) considered the fate and trajectory of spills of crude oil at several potential locations was based on a release of crude oil at the Amorco MOT.

For the purpose of oil-spill modeling, oils may be considered in five groups in ascending viscosity, ranging from Group 1 oils, which are low viscosity and relatively volatile (Tesoro, 2012, refers to these as “non-persistent materials”) to Group 5 oils, which are semi-solid at ambient temperatures. Crude oil can be found in all five groups, depending on the source (e.g., Brent crude is a Group 2 oil while heavy bituminous oils can be Group 5) but the historic analyses treated it as Group 3.

The feedstocks and products considered in the proposed project would generally be categorized as Group 1/Non-persistent materials (gasoline, renewable naphtha) or Group 2 (renewable diesel, soybean oil, corn oil)

The Tesoro (2012) analysis considered the trajectory and fate of oil, which takes into account both the movement and weathering of surface oil. The model considered spreading, evaporation, entrainment, and emulsification but omitted shoreline stranding to create a more conservative model (i.e., ignored the potential sink represented by stranding of oil).

The analysis was based on release of crude oil, a Group 3 material, but the analysis offered guidelines to approximating potential fate and effects of other potential materials according to their Group number, which can be applied to the proposed feedstocks and products.

Of the proposed products, gasoline and renewable naphtha are Group 1/Non-persistent materials and will generally evaporate very rapidly and not present significant environmental threats in terms of persistence. Renewable diesel is a Group 2 material, which is less persistent than the materials modeled. The oil spill modeling should be considered to be somewhat to very conservative in terms of fate and transport of these products.

The proposed feedstocks – rendered fats; soybean, corn, and vegetable oil – are natural products, and like crude oil, are likely to be found in more than one group, generally in Group 2 and Group 3. The oil spill modeling should be considered somewhat conservative in terms of fate and transport of these feedstocks.

These analyses remain relevant to the current proposed feedstocks and products. The modeling of the fate and transport of crude oil provides a conservative estimate of the trajectory of potential spills of the proposed feedstocks and products. Because the toxicity of the feedstocks and products is typically less than that of petroleum hydrocarbons, the environmental and human impacts of potential spills would be no more than – and likely less than – those anticipated for the modeling materials. The conclusions of the original analyses are applicable to the current project.

It should be noted that the renewable feedstocks are generally more biodegradable than petroleum hydrocarbons and would be expected to undergo more rapid microbial degradation in the environment. This rapid degradation would serve to remove them from the environment more quickly than the modeled materials; however, it would place a higher biological oxygen demand on the environment, which could lead to hypoxic/anoxic conditions is areas with low mixing.

A6-32

This comment requests that the County identify why vessels were not analyzed by type (i.e., tanker, bare, and tugs) in the vessel traffic analysis including proposed Project changes in vessel traffic type.

Response A6-32: Refer to Response A6-31 for a discussion regarding impacts based on vessel type.

A6-33

This comment states that the vessel traffic numbers presented in DEIT Table 3-2 differ from MEPD records, which identify fewer vessel calls in each of the 5 years.

Response A6-33: Marathon provided estimated number of vessel calls between the Avon and Amorco Marine Oil Terminals based on a review of the Bills of Lading (BOLs) logged at each terminal over the baseline period between 2015 and 2020. The annual count of vessel calls per calendar year was adjusted to a period from October to September in order to correspond to the Refinery's air permit reporting year.

A comparison of vessel calls between the Draft EIR and the CSLC Oil Spill Prevention Database (OSPD) baseline data is provided in Table 3-4. Although the number of vessel calls recorded in the two databases varies slightly, with the number of vessels based on review of the BOLs slightly higher than the OSPD data, the difference in vessel traffic is minor and would not change the conclusions reached regarding vessel traffic in the Draft EIR.

Table 3-4 Annual Vessel Traffic for Marathon Refinery

Annual Vessel Traffic for Marathon Refinery	Year 1 (2015-2016)	Year 2 (2016-2017)	Year 3 (2017-2018)	Year 4 (2018-2019)	Year 5 (2019-2020)
Draft EIR Table 3-2	116	149	166	161	124
OSPD Vessel Calls for Avon and Amorco MOTs[1]	104 (=70+34)	131 (=86+45)	163 (=98+65)	151 (=92+59)	122 (=56+66)

[1] California State Lands Commission, 2022

A6-34

This comment identifies inconsistencies with the amount of existing and proposed vessel traffic stated in Section 3.4, Biological Resources, Impact BIO-6 on page 3.4-34 of the Draft EIR.

Response A6-34: See Response A6-31 for a discussion of pre- and post-project vessel traffic for the Marathon Refinery. Vessel traffic numbers in Section 3.4, Biological Resources have been revised; the changes can be found in Chapter 4, *Revisions to the Draft EIR*. The minor change in vessel traffic numbers does not change the significance level of the impact analysis or require additional mitigation to reduce the impact discussed.

A6-35

This comment states that the Refinery turnaround discussion and schedule (Table 3-5) presented do not address:

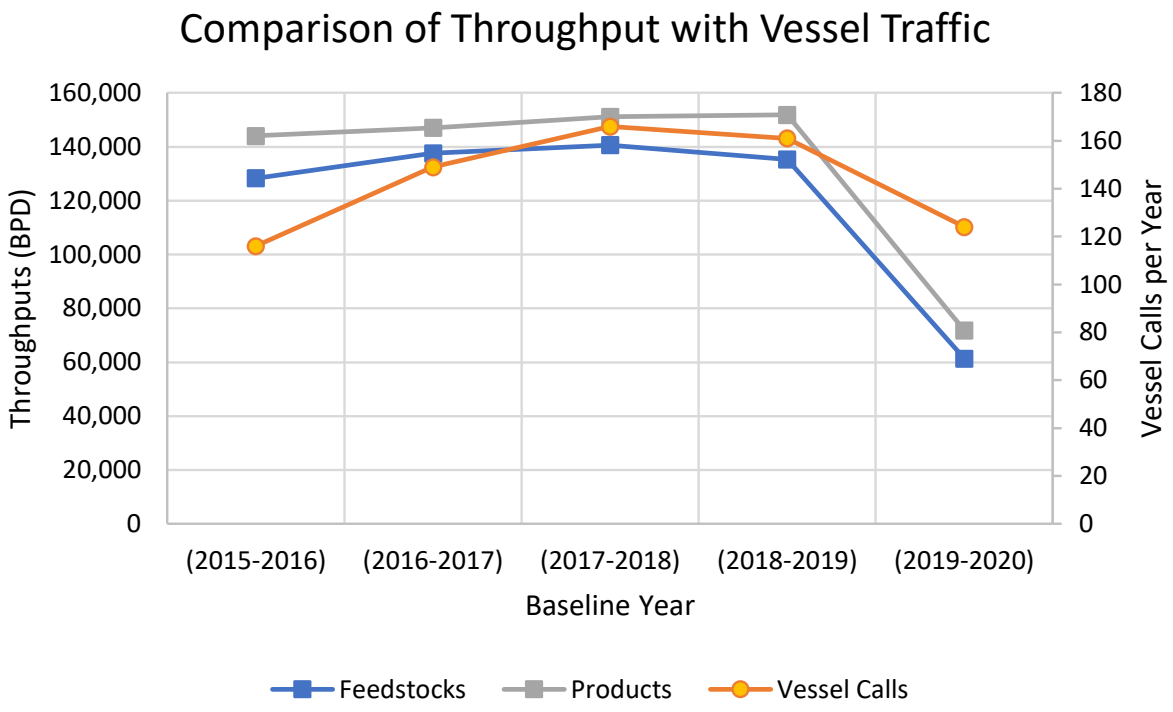
(a) the impact of turnarounds on vessel traffic, and
(b) turnarounds which occurred during this 5-year period at the Amorco MOT and Avon MOT (e.g., Tesoro Avon Berth 1A construction and commissioning in 2015- 2017) and their impacts on vessel traffic and refinery throughput.

Response A6-35: The wharfs do not go through turnaround cycles and therefore is not represented in the baseline data of the 2014 and 2015 FEIR (Final Environmental Impact Report for the Tesoro Amorco Marine Oil Terminal Lease Consideration (CSLC 2014), and Final Environmental Impact Report for the Tesoro Avon Marine Oil Terminal Lease Consideration (CSLC 2015).

The purpose of providing the schedule of turnarounds in Table 3-5 of the Draft EIR is to clarify the rationale for using a five-year period to establish a baseline for environmental conditions. Although there may be many factors that cause fluctuations in a refinery's operations and corresponding impacts, turnarounds are a predictable cause of fluctuation occurring on an established schedule; therefore, it is appropriate to consider the turnaround schedule when selecting the baseline period.

Turnarounds reduce the refinery's operations in a given year by taking equipment offline for some period (given as 40 to 80 days in the Draft EIR). The magnitude of this reduction varies according to which equipment is taken offline, as indicated by comparing the equipment taken offline (Draft EIR Table 3-5) to the variation in annual vessel traffic (Draft EIR Table 3-2). Turnarounds typically occur on a five-year cycle, with every major piece of equipment being taken offline at some point during that cycle. By using a five-year period to establish a baseline, the Draft EIR incorporates the full five-year turnaround cycle and captures the fluctuations in operations inherent due to turnarounds. The annual throughputs of feed stocks and products and of vehicle and vessel traffic for each year within the five-year baseline period are given in Draft EIR Tables 3-1 and 3-2, respectively. This correlation is clearly shown in the plot, below, comparing the throughput of feedstock and products in barrels per year (BPD) on the left axis with the vessel traffic in calls per year on the right axis.

Figure 3-7. Comparison of Throughput with Vessel Traffic



A6-36

This comment identifies inconsistencies in the use of terminology used in Section 3.4, Biological Resources, Impact BIO-8 discussion on page 3.4-41 of the Draft EIR.

Response A6-36: Section 3.4, Biological Resources, Impact BIO-8 uses the incorrect terminology "biofuel" to describe the project's feedstocks and products. As stated in the Project Description, the feedstocks and products are "renewable." As a result of this comment, the Impact BIO-8 discussion has been revised with the correct terminology.

A6-37

This comment states that regulatory compliance requirements may be different for biofuels and renewable fuels and renewable feedstocks.

Response A6-37: See Response A6-36 for clarification of terminology.

A6-38

This comment requests that the County identify all biofuels that will be transferred at the marine terminals post-project.

Response A6-38: No "biofuels" will be transferred. See Response A6-30 for expected feedstock and product transfers.

A6-39

This comment states that the EIR should indicate that the facility's Spill Prevention, Control, and Countermeasure (SPCC) Plan should be updated to address all hazards associated with the Project operations at the Amorco and Avon MOTs (i.e., not just "to demonstrate preparedness to respond to vegetable oil and animal fat spills").

Response A6-39: Refer to Response A6-40.

A6-40

This comment asks that the EIR explain why the SPCC Plan is required to be updated for the post-Project phase only and not for other phases of the Project (e.g., during construction and demolition).

Response A6-40: Marathon already has contingency planning and response measures for oil releases in place, including an existing facility SPCC Plan, Northern California Blanket Oil Spill Response Plan, and Stormwater Pollution Prevention Plan (SWPPP). Not only future Project operations, but also construction activities for the proposed Project would comply with the existing SPCC and other response plans. A statement to this effect has been added to Construction Impact HWQ-1. Changes can be found in Chapter 4, *Revisions to the Draft EIR*.

Revisions

Impact HWQ-1 on page 3.10-14 of Section 3.10, *Hydrology and Water Quality* is revised to include the following:

> Terminals at the Project Site are subject to U.S. EPA regulations that require the preparation of a Spill Prevention, Control, and Countermeasures Plan (SPCC Plan), and regulations from the U.S. EPA and California Department of Fish and Wildlife (CDFW) Office of Spill Prevention and Response (OSPR) for the development and maintenance of oil spill response and contingency plans. Marathon has contingency planning and response measures for oil releases in place, including an existing facility SPCC Plan (Tesoro 2016, revised 2018), Northern California Blanket Oil Spill Response Plan (Tesoro 2017, updated 2020), and SWPPP (2013). Construction activities for the proposed Project would comply with the existing SPCC and other response plans.

A6-41

This comment references MOTEMS Section 3101F.5 for SPCC Plan related design/built and operational/administrative regulatory requirements.

Response A6-41: This comment does not state a specific concern or question regarding the SPCC Plan in the Draft EIR; therefore, no response is required. The comment is acknowledged for the record and MOTEMS Section 3101F.5 will be used as reference during any required SPCC Plan updates.

A6-42

This comment states that MOTEMS (24CCR§3101F et seq) establishes minimum engineering, inspection, and maintenance criteria for all MOTs in California, including the design and evaluation (i.e., not just "design, construction and maintenance") of new and existing MOTs.

Response A6-42: Comment noted.

A6-43

This comment provides clarifications regarding the MOTEMS standards.

Response A6-43: Comment noted.

A6-44

This comment provides additional clarifications regarding the applicability of MOTEMS.

Response A6-44: Comment noted.

A6-45

This comment indicates that the statement "…to meet MOTEMS, which the Refinery operators have already done…" on page 3.9-5 is misleading and that because MOTEMS compliance is a living process and that no MOT, including the Amorco and Avon MOTs, has fully satisfied the MOTEMS compliance requirements.

Response A6-45: The statement "which the Refinery operators have already completed" will be removed and the text updated to indicate "Pursuant to recently-renewed leases with CSLC, the terminals will continue to be subject to compliance with MOTEMS requirements and if deficiencies are identified by CSLC MEPD during routine MOTEMS audits and inspections, the Amorco and Avon MOTs will take appropriate corrective actions to correct these deficiencies." Revisions can be found in Chapter 4, *Revisions to the Draft EIR*.

A6-46

This comment states that the statement "These [MOTEMS] standards include conditions for operation which are specified in leases that Tesoro maintains with the CSLC" (pg. 3.10-18) is inaccurate.

Response A6-46: As this statement is inaccurate, it has been removed from the Draft EIR text.

A6-47

This comment indicates that at MOTS, under CalARP, MOTEMS Sections 3104F.5.2 and 3109F.4 requires seismic assessment of existing nonstructural components, nonbuilding structures and building structures and their supports and attachments in accordance with CalARP or ASCE Guidelines

Response A6-47: Provisions of the MOTEMS standards for the design, construction and maintenance of marine oil terminal berthing and cargo loading/unloading facilities is discussed under the CSLC heading in Section 3.9.1.1 of the Draft EIR. As detailed in the section, existing facilities are required to retrofit or rebuild as necessary to meet MOTEMS. The text of 3.9.1.1 will

be updated to indicate "Pursuant to recently-renewed leases with CSLC, the terminals will continue to be subject to compliance with MOTEMS requirements and if deficiencies are identified by CSLC MEPD during routine MOTEMS audits and inspections, the Amorco and Avon MOTs will take appropriate corrective actions to correct these deficiencies." In addition, the description of the California Accident Release Prevention Program will be revised to specify that seismic assessments at the MOT facilities must be performed in accordance with MOTEMS. Revisions can be found in Chapter 4, *Revisions to the Draft EIR*.

Revisions

The regulatory context describing the California Accident Release Prevention Program in Section 3.9.1.1 *Regulatory and Policy Context* in Section 9.3, *Hazards and Hazardous Materials* on page 3.9-7 of the Draft EIR is revised as follows:

> California Accident Release Prevention Program
>
> The California Accident Release Prevention (CalARP) Program (19 CCR Division 2, Chapter 4.5) requires the preparation of RMPs. RMPs are documents prepared by the owner or operator of a stationary source and contain detailed information including: (1) regulated substances held on site at the stationary source; (2) off-site consequences of an accidental release of a regulated substance; (3) the accident history at the stationary source; (4) the emergency response program for the stationary source; (5) coordination with local emergency responders; (6) hazard review or process hazard analysis; (7) operating procedures at the stationary source; (8) training of the stationary source's personnel; (9) maintenance and mechanical integrity of the stationary source's physical plant and (10) incident investigation.
>
> In addition, at MOT facilities, seismic assessment of existing nonstructural components, nonbuilding structures and building structures and their supports and attachments must be performed in accordance with MOTEMS sections 3104F.5.2 and 3109F.4 under the CalARP guidelines.

A6-48

This comment requests that the construction schedule be clarified.

Response A6-48: Construction is anticipated to commence in 2022, pending project permitting.

A6-49

This comment requests clarification regarding project duration.

Response A6-49: Construction is anticipated to take two years to complete.

A6-50

This comment asks whether construction needs to be completed to attain "full buildout and operation of the Project" (pg. 3.6-6) or "reaching full capacity of 48,000 bpd fresh feed processing" (pg. 3.10-16).

Response A6-50: Yes, construction of the proposed Project would need to be complete in order for the Project to operate at the expected full capacity. No edits to the EIR are required.

A6-51

This comment requests that the Final EIR address the Management of Change (MOC) procedures undertaken as a result of implementation of the proposed Project.

Response A6-51: The Martinez Refinery is operated under the Process Safety Management (PSM) program which requires all changes on the property require an MOC and a Hazard Review. The MOC procedure followed at the site is subject to compliance with the following regulations:

- OSHA 1910.119 Process Safety Management
- EPA 40 CFR 68.83 Risk Management Program
- PSM-1070 Corporate PSM Standard
- RSP-1307 Marathon Refining PSM/RMP Management of Change and Pre-Startup Safety Review Standard
- CCR Title 8 Section 5189.1 Cal-OSHA'S Process Safety Management for Petroleum Refineries
- CCR Title 19 Chapter 4.5 Office of Emergency Services' Cal-ARP Program
- Contra Costa County's Industrial Safety Ordinance No 98-48 Chapter 450-8 Risk Management

3.3 PUBLIC COMMENTS

3.3.1 Response to Comment Letter O1, International Bird Rescue

O1-1

This comment provides support for the Project and thanks Marathon Company for their financial support of International Bird Rescue's work rescuing and rehabilitating native Contra Costa wildlife.

Response O1-1: Comment noted.

3.3.2 Response to Comment Letter O2, The Industrial Association of Contra Costa County

O2-1

This comment provides support for the Project and identifies various benefits from its implementation.

Response O2-1: Comment noted.

3.3.3 Response to Comment Letter O3, Food Bank of Contra Costa & Solano

O3-1

This comment provides support for the Project and thanks Marathon Company for their support of the Food Bank of Contra Costa & Solano's work providing food to food insecure members of the community.

Response O3-1: Comment noted.

3.3.4 Response to Comment Letter O4, Boilermakers Local 549

O4-1

This comment provides support for the Project and identifies various benefits from its implementation.

Response O4-1: Comment noted.

3.3.5 Response to Comment Letter O5, Boys and Girls Club of Contra Costa

O5-1

This comment provides support for the Project and thanks Marathon Company for their support of the Boys and Girls Club of Contra Costa.

Response O5-1: Comment noted.

3.3.6 Response to Comment Letter O6, California Business Roundtable

O6-1

This comment provides support for the Project and identifies various benefits from its implementation.

Response O6-1: Comment noted.

3.3.7 Response to Comment Letter O7, California Manufacturers & Technology Association

O7-1

This comment provides support for the Project and identifies various benefits from its implementation.

Response O7-1: Comment noted.

3.3.8 Response to Comment Letter O8, Chevron Products Company

O8-1

This comment requests that the description of the Chevron Avon Connectivity Project in the cumulative impacts analysis of the Draft EIR be updated and revised.

Response O8-1: In response to this comment, the description of the Chevron Avon Connectivity Project has been revised as requested. The revisions are shown in Chapter 4, *Revisions to the Draft EIR*. The revisions do not alter the analysis or conclusions of the Draft EIR.

3.3.9 Response to Comment Letter O9, Habitat for Humanity East Bay/Silicon Valley

O9-1

This comment provides support for the Project and thanks the Marathon Company for their support of Habitat for Humanity's work.

Response O9-1: Comment noted.

3.3.10 Response to Comment Letter O10, The Industrial Association of Contra Costa County

O10-1

This comment provides support for the Project and identifies various benefits from its implementation.

Response O7-1: Comment noted.

3.3.11 Response to Comment Letter O11, Mt. Diablo Unified School District

O11-1

This comment provides support for the Project and thanks the Marathon Company for their support of the school district.

Response O11-1: Comment noted.

3.3.12 Response to Comment Letter O12, Asian Pacific Environmental Network • Biofuelwatch • California Environmental Justice Alliance • Center For Biological Diversity • Citizen Air Monitoring Network • Communities For A Better Environment • Community Energy Resource • Extinction Rebellion San Francisco Bay Area • Fossil Free Calidornia [sic] • Friends Of The Earth • Interfaith Climate Action Network Of Contra Costa County • Natural Resources Defense Council • Rainforest Action Network • Richmond Progressive Alliance • Rodeo Citizens Association • San Francisco Baykeeper • Stand.Earth • Sunflower Alliance • The Climate Center • 350 Contra Costa

O12-1

This comment introduces and summarizes the ensuing comments on the Draft EIR. It asserts that the Draft EIR fails to adequately describe or mitigate the proposed Project's significant effects.

Response O12-1: Comment noted.

O12-2

The comment states that the Draft EIR fails to meet legal standards.

Response O12-2: Comment noted. Specific comments related to the adequacy of the Draft EIR are addressed in Master Responses and throughout the responses to this comment letter.

O12-3

The comment asserts that the Draft EIR baseline is incorrect.

Response O12-3: Refer to Master Response 1, *CEQA Baseline*.

O12-4

The comment states that the Draft EIR Project Description fails to disclose essential information regarding biofuel processing operations.

Response O12-4: Refer to Master Response 5, *Public Safety*.

O12-5

The comment states that the Draft EIR fails to consider safety impacts associated with processing biofuel feedstocks.

Response O12-5: Refer to Master Response 5, *Public Safety*.

O12-6

The comment states that the Draft EIR fails to fully evaluate air quality impacts.

Response O12-6: Refer to Responses O12-93 to O12-102.

O12-7

The comment states that the County failed to assess short-term hazards from flaring.

Response O12-7: Refer to Master Response 5, *Public Safety*.

O12-8

The comment states that the Draft EIR fails to fully evaluate marine impacts.

Response O12-6: Refer to Responses O12-148 to O12-152.

O12-9

The comment states the Draft EIR fails to consider environmental impacts of land use changes.

Response O12-9: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-10

The comment states that the Draft EIR failed to consider the indirect impacts of the proposed Project on California's climate goals.

Response O12-10: Refer to Master Response 4, *Land Use & Feedstocks*. The impact of a large influx of combustion fuel on climate goals for the transportation Sector was not considered since combustion fuel produced post-project will be used in the same fashion as combustion fuel from pre-project production. The post-project fuel will have a lower GHG impact due to its renewable origin.

O12-11 and O12-12

This comment indicates that there was an inadequate discussion of hazardous contamination, and that the DEIR should have considered the environmental impacts associated with decommissioning the Refinery site and the DEIR inadequately evaluated the impact of Project construction and operation on ongoing efforts to remediate and monitor hazardous waste contamination.

Response O12-11 and O12-12: No widespread demolition activities are being proposed as part of the Project, and decommissioning of the Refinery site is an alternative that was considered but rejected for detailed analysis (See Section 5.1.3 of the DEIR). For the units that are being shutdown (e.g., Delayed Coker, Crude Units, Fluid Catalytic Cracking Unit, as well as others), decommissioning activities would generally include emptying the equipment of any petroleum materials, removing vapors by venting and capturing gases, and cleaning out the equipment. The equipment within these shutdown units is expected to be left in place. For units that are being modified as part of the Project (e.g., No. 1, No. 2 and No. 3 HDS; Hydrocracker; and the No. 5 Gas Plant), equipment that is no longer being used would be decommissioned and left in place. The type of equipment that would be expected to be removed would be piping that is being upgraded. After decommissioning and cleaning out the pipe, the equipment could be left on-site or sent off-site for repurposing or recycling of metal content.

As discussed in Section 2.5.1 of the Project Description "Crude oil processing equipment that cannot be repurposed for processing of renewable feedstock would be shut down and removed from the Refinery based on an event-based decommissioning plan" and as discussed in Section 2.6.2 the equipment that would not be reused as part of the Renewable Fuels project, logistics operations, and continuing terminal operation would be "decommissioned and disposed of according to local, state, and federal laws and regulations". Furthermore, "any demolished equipment would be either preferentially recycled or disposed of according to all applicable waste regulations and would occur in accordance with a demolition and decommissioning program submitted to the County prior to the first demolition permit of the Project Description."

As detailed in the Environmental Setting Section 3.9.1 page 3.9.8, the San Francisco Bay Regional Water Quality Control Board (S.F. Bay Regional Board) regulates discharges and releases to surface and groundwater in the Project area, has direct regulatory oversight of the Project Site, and oversees the ongoing remedial programs at the Site under Cleanup and Abatement Order (CAO) No. 00-021. Impact HAZ-4 details that construction, which would also include equipment decommissioning activities, would have no effect on these cleanup actions nor otherwise impede activities underway pursuant to the existing CAO. The CAO will remain in effect and construction activities and the Project will be designed to minimize impacts to the in-place remedial systems with or without the Project, and as a result, the currently proposed Project changes are not expected to have an impact on these cleanup actions nor create any additional hazards to the public or the environment associated with cleanup activities. Under this CAO, any additional groundwater and soil contamination identified as a result of decommissioning activities or taking equipment offline would be required to be remediated and managed with S.F. Bay Regional Board oversight. Remediation activities associated with the CAO have improved historic contamination at the

Facility, are not part of the Project, and are required to continue, regardless of the Project. Therefore, the Project will not adversely impact the existing remediation activities.

It is also noted that site operational and decommissioning activities are regulated by the Contra Costa County Health Services, Hazardous Materials Department (County) The County is the CUPA through contract with the state and administers the CalARP Program and Industrial Safety Ordinances (ISO) by the County as well as the Hazardous Materials Business Plan, aboveground and underground storage tank programs. Decommissioning or activities that necessitate taking equipment offline would require approval under the CUPA program, which would mitigate the potential for the propagation of existing contamination or the release of additional hazardous materials.

O12-13

The comment states that the Draft EIR cumulative impacts analysis is deficient.

Response O12-13: Refer to Master Response 3, *CEQA Cumulative Impacts*.

O12-14

The comment states that the Draft EIR's proposed Project's 'no project' alternative is deficient.

Response O12-14: Refer to Master Response 1, *CEQA Baseline*, and Master Response 2, *Alternatives*

O12-15

The comment states that the Draft EIR's alternative analysis is deficient.

Response O12-15: Refer to Master Response 2, *CEQA Alternatives*.

O12-16

The comment refers to the March 22, 2021 CEQA scoping comments provided by the commentors on the Notice of Preparation and asserts that the County ignored these comments while drafting the Draft EIR.

Response O12-16: The County took all comments received during the scoping period into consideration during preparation of the Draft EIR. The Draft EIR and addressed those comments to the extent required under CEQA.

O12-17

The comment states that the Draft EIR is flawed and that County must re-circulate a revised Draft EIR that addresses comments raised in this letter.

Response O12-17: The County has determined that recirculation of the EIR is unnecessary. Comments related to inadequacy of the Draft EIR are responded to throughout this document.

O12-18

The comment states that it includes and incorporates the previously submitted Scoping Comments and a report included in the appendices.

Response O12-18: Comment noted. As stated above, the County took all comments received during the scoping period into consideration during preparation of the Draft EIR. The Draft EIR has addressed those comments to the extent required under CEQA.

O12-19

This comment provides a table of contents to the comment letter.

Response O12-19: Comment noted.

O12-20

This comment lists the appendices.

Response O12-20: Comment noted. While the appendices are presented as technical references, they are not peer-reviewed technical papers.

O12-21

This comment describes the interests of the commenters in the Draft EIR and the proposed Project.

Response O12-21: Comment noted.

O12-22

The comment states that the Draft EIR Project Description is legally inadequate because of its cursory description of renewable feedstock refining processes and because it did not address the operational duration of the Project.

Response O12-22: Pursuant to CEQA Guidelines Section15124, the Project Description provided in a Draft EIR must meet the following criteria:

> The description of the project shall contain the following information but should not supply extensive detail beyond that needed for evaluation and review of the environmental impact.
>
> (a) The precise location and boundaries of the proposed project shall be shown on a detailed map, preferably topographic. The location of the project shall also appear on a regional map.
>
> (b) A statement of the objectives sought by the proposed project. A clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the project and may discuss the project benefits.
>
> (c) A general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities.
>
> (d) A statement briefly describing the intended uses of the EIR.

The Project Description in Chapter 2 of the Draft EIR meets those requirements.

Pursuant to CEQA Guidelines Section15124, a Project Description must provide a general description of the project's technical characteristics. Accordingly, a general description of the

technical characteristics of renewable fuels production is provided in Section 2.5.2, *Renewables Fuel Production* on page 2-16 of Chapter 2, *Project Description.*

CEQA Guidelines Section 15124 do not require the life of the project to be included in the project description. Refinery history and the proposed conversion from crude oil refining to renewable feedstock refining is described in Section 2.1, *Refinery History and Proposed Project Summary*, in Chapter 2, *Project Description* on pages 2-1 and 2-2 of the Draft EIR. As discussed, Marathon plans to operate the renewable diesel facility into the foreseeable future.

The analysis in the CEQA document evaluates the project impacts against the relevant time periods contained in the significance thresholds. Most environmental topics are evaluated on a daily or annual basis with no determinate end date; health risk impacts, however, are evaluated based on the Office of Environmental Health Hazard Assessment (OEHHA) requirements, which require acute effects to be analyzed based on hourly emissions, chronic effects based on annual emissions, and carcinogenic effects based on annual emissions over 25 years for offsite workers, 30 years for resident receptors, and 70 years for lifetime exposures. In addition, the Draft EIR included modeling of annual PM2.5 cumulative impacts (see p. 3.3-39 of the Draft EIR). Therefore, the project analysis evaluated the operating renewables remains valid for 70 years.

O12-23

The comment provides a listing of the aspects of the proposed refining process that is essential to analyzing the Project impacts.

Comment noted.

O12-24

The comment states that the Draft EIR fails to disclose information regarding the HEFA biofuel refining process needed to evaluate the Project's impacts.

Response O12-24: Refer to Master Response 5, *Public Safety*.

O12-25

The comment discusses capabilities and limitations of HEFA.

Response O12-25: Refer to Master Response 5, *Public Safety*.

O12-26

The comment describes the differences between HEFA process chemistry and petroleum processing.

Response O12-26: Refer to Master Response 5, *Public Safety*.

O12-27

The comment states that different renewable feedstocks require different amounts of hydrogen.

Response O12-27: Refer to Master Response 5, *Public Safety*.

O12-28

The comment states that the process chemistry uses carbon intensive fossil gas hydrogen production.

Response O12-28: The hydrogen usage for renewable fuels production is described in the Draft EIR on page 2-16 and 2-17. As described in Table 2-1, *Refinery Equipment Modifications* the Refinery produces hydrogen on-site and pipes it to reactors where it is immediately consumed in the deoxygenation and cracking reactions. Marathon would continue to maintain the hydrogen plant limit of 31,025 million standard cubic feet per year (MMscf/yr) and no increase beyond that limit is proposed.

O12-29

The comment states that HEFA processing increases public safety risks, namely risk of upsets, fires, explosions, and flaring.

Response O12-29: Refer to Master Response 5, *Public Safety*.

O12-30

The comment states that the Draft EIR fails to disclose past incidents concerning use of the type of refinery units that will be used for renewable fuel refining.

Response O12-30: Refer to Master Response 5, *Public Safety*.

O12-31

The comment states that impacts cannot be meaningfully evaluated due to the lack of disclosure of HEFA processing technology.

Response O12-31: Refer to Master Response 5, *Public Safety*.

O12-32

The comment states that the Draft EIR's Project purpose is overly narrow and precludes analysis of alternative technologies.

Response O12-32: Refer to Master Response 1, *CEQA Baseline* and Master Response 2, *CEQA Alternatives*.

O12-33

The comment states that the Draft EIR failed to disclose adequate information concerning HEFA feedstocks.

Response O12-33: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-34

The comment states that the Draft EIR should have developed scenarios for likely renewable feedstock mixes and sources in order to analyze upstream environmental impacts of renewable feedstocks.

Response O12-34: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-35

The comment states that the Draft EIR fails a presumed need to boost low jet fuel yield for mid-term Project viability.

Response O12-35: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-36

The comment states that the Draft EIR fails to sufficiently describe changes affecting the Project's marine facilities, specifically (a) marine terminal modifications and (b) changes to vessel calls.

Response O12-36: Modifications to the Avon and Amorco marine terminals are described in Section 2.5.4.2, *Project Modifications at Avon MOT* and Section 2.5.4.3, *Project Modifications at Amorco MOT* on page 2-17 of Chapter 2, *Project Description*. As described in these sections, part of the system of pipes and hoses at the Avon MOT—primarily those associated with the 26 Line—would be reconfigured to keep the finished petroleum products separate from the renewable feedstocks, and to facilitate transmission of the renewable feedstock through receiving pipelines. The 26 Line would be equipped with heat tracing intended to keep feedstock liquid. At the Amorco MOT, modifications are proposed to accommodate smaller marine vessels, including installation of a fender and repairs to concrete and five pilings.

Baseline vessel calls are described on Draft EIR pages 2-14, 2-36, and 3-4. Under the proposed Project, calls of large vessels to the terminals would decrease and calls of smaller marine vessels would increase. Refer to Response A6-31 as well as later responses to this comment letter.

O12-37

The comment states that the Draft EIR failed to disclose the operational duration of the Project.

Response O12-37: Refer to Response O12-22.

O12-38

The comment states that the Draft EIR identifies an improper baseline for the proposed Project.

Response O12-38: Refer to Master Response 1, *CEQA Baseline*.

O12-39, O12-40

The comments state that the EIR analyses should use the non-operation of the Refinery as a baseline because Marathon has permanently ceased petroleum processing at the Refinery, and Marathon does not intend to restart the Refinery, based on operational and economic conditions presented in the comments.

Response O12-39, O12-40: Refer to Master Response 1, *CEQA Baseline*.

O12-41

The comment states that the Draft EIR failed to consider the upstream environmental impacts of feedstocks.

Response O12-41: Refer to Master Response 5, *Land Use & Feedstocks*.

O12-42

The comment states that the Project does not address upstream impacts to agricultural or forestry resources.

Response O12-42: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-43

The comment states that the Draft EIR has a misplaced reliance on the state's Low Carbon Fuel Standard (LCFS).

Response O12-45: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-44

The comment states that the Draft EIR fails to describe feedstocks and their availability.

Response O12-44: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-45

The comment states that the Draft EIR fails to discuss upstream land use impacts from use of HEFA feedstock.

Response O12-45: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-46

The comment states that the Draft EIR fails to address the magnitude of feedstock demand increase.

Response O12-46: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-47

The comment states that the Draft EIR fails to address environmental impact from land use changes caused by feedstock demand increases.

Response O12-47: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-48

The comment states that the Draft EIR fails to mitigate for upstream land use changes from use of renewable feedstocks.

Response O12-48: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-49

The comment states that the LCFS Programmatic CEQA analysis does not excuse the County from analyzing upstream land use impacts.

Response O12-49: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-50

The comment states that the LCFS addresses only carbon emissions and does not address land use changes, which is left to project-specific Draft EIRs to analyze.

Response O12-50: Refer to Master Response 4, *Land Use & Feedstocks.*

O12-51

The comment states that the County cannot rely on the LCFS for analysis of land use changes.

Response O12-51: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-52

The comment states that the Draft EIR should have specified that the Project will rely largely on non-waste food system oils.

Response O12-52: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-53

The comment states that Marathon must identify the exact amount of each feedstock that the Project would use annually.

Response O12-53: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-54

The comment states that renewable feedstocks are linked to upstream land use conversion.

Response O12-54: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-55

The comment asserts additional indirect land use changes.

Response O12-55: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-56

The comment describes feedstock production.

Response O12-56: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-57

The comment asserts the Project would lead to domestic and global land use conversions.

Response O12-57: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-58

The comment asserts that the County should have analyzed the Project's indirect land use impacts.

Response O12-58: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-59

The comment states that the Project would impact soybean oil markets.

Response O12-59: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-60

The comment states that the County should have assessed a worst-case scenario of land use changes.

Response O12-60: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-61

The comment states that Project-related land use changes will have non-climate environmental impacts.

Response: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-62

The comment asserts that palm oil production will increase.

Response O12-62: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-63

The comment states that Project-related land use conversion will have significant climate impacts.

Response O12-63: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-64

The comment states that the Draft EIR has overstated the potential greenhouse gas benefits of the Project.

Response O12-64: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-65

The comment states that the County should have considered feedstock caps as a mitigation measure for land use impacts.

Response O12-66: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-66

The comment states that the Best Management Practices in Section 6.2 of the Draft EIR are not proposed as mitigation measures.

Response O12-66: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-67

The comment states that BMPs should have been included as a mitigation measure in the Draft EIR.

Response O12-67: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-68

The comment states that the County should set capped feedstock volumes.

Response O12-68: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-69

The comment states that the Project could worsen process hazards related to exothermic hydrogen reactions.

Response O12-69: Refer to Master Response 5, *Public Safety*.

O12-70

The comment states that the Project could worsen process hazards related to damage mechanisms such as corrosion, gumming, and fouling.

Response O12-70: Refer to Master Response 5, *Public Safety.*

O12-71

The comment states that the Refinery produced significant flaring from unplanned incidents between 2010 and 2020.

Response O12-71: Refer to Master Response 5, *Public Safety*.

O12-72

The comment states that catastrophic consequences of hydrogen-related hazards are foreseeable based on industry-wide reports and a 1997 event at the Tosco Avon hydrocracker facility (now known as the Marathon Martinez Refinery).

Response O12-72: Refer to Master Response 5, *Public Safety*.

O12-73

The comment states that operation mitigation measures can reduce but not eliminate process safety hazard impacts.

Response O12-73: Refer to Master Response 5, *Public Safety*.

O12-74

The comment states that flaring causes acute exposure hazards.

Response O12-74: Refer to Master Response 5, *Public Safety.*

O12-75

The comment states that the Draft EIR could have evaluated several additional mitigation measures: (a) requiring the Applicant to forgo or minimize use of certain renewable feedstocks that require relatively more hydrogen; (b) requiring the Applicant to forgo or minimize production of renewable jet fuel; (c) requiring the Applicant to limit hydrogen input per barrel; and (d)

requiring the Applicant to store hydrogen onsite for emergency backup use. However, the commenters do not necessarily recommend these measures.

Response O12-75: Comment noted. The potential mitigation measures identified in the comment would not be required for the Project effects. Refer to Master Response 5, *Public Safety*.

O12-76

The comment states that the baseline analysis for greenhouse gas emissions and climate impacts is incorrect.

Response O12-76: Refer to Master Response 1, *CEQA Baseline.*

O12-77

The comment states that the Draft EIR fails to account for potentially increased GHG emissions associated with the processing of varying biofuel feedstocks. It also ignores the potential downstream impact of a significant increase in biofuel production on state and local climate goals.

Response O12-77: Due to the complex nature of biofuel feedstock availability, the exact mix of feedstocks available and their sources cannot be accurately predicted or modeled. The impact of this uncertainty of availability and sources of feedstocks does not need to be addressed in the current CEQA analysis. "CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commentors." Id. (CEQA Guidelines § 15204(a)).

O12-78

The comment states Draft EIR did not address the fact that the process of refining biofuel feedstocks is significantly more carbon intense than crude oil refining.

Response O12-78: The impact of increased production at the hydrogen plant due to the new product line was included in the Air and GHG technical analysis. Increases in GHGs at the hydrogen production sites are more than offset by reductions in GHGs from on-site operations post-project.

O12-79

The comment states that the Project could increase carbon emission intensity of the refining process.

Response O12-79: See Master Response 4, *Land Use & Feedstocks*. See Master Response 5, *Public Safety*.

O12-80

The comment states that the Draft EIR must consider the air emissions impact of increased hydrogen use.

Response O12-80: The impact of increased production at the hydrogen plant was included in the Air and GHG technical analysis. Increases in GHGs at the hydrogen production sites are more than offset by reductions in GHGs from on-site operations post-project.

O12-81

The comment states that GHG emissions impacts vary with different potential feedstocks.

Response O12-81: Due to the complex nature of biofuel feedstock availability, the exact mix of feedstocks available and their sources cannot be accurately predicted or modeled. The impact of this uncertainty of availability and sources of feedstocks does not need to be addressed in the current CEQA analysis. "CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commentors." Id. (CEQA Guidelines § 15204(a)).

O12-82

The Draft EIR should have evaluated carbon intensity estimate for HEFA hydrogen production using data for the Marathon and Air Products hydrogen plants that would be used by the Project.

Response O12-82: The impact of increased production at the hydrogen plant was included in the Air and GHG technical analysis. See Appendix A, Table A-4.

O12-83

The proposed hydrogen production would emit methane.

Response O12-83: Comment noted. Methane is a feedstock to the hydrogen production process, and its release as a fugitive is tightly controlled as an efficiency measure. The rate of fugitive release of methane will not be higher due to the project's production of renewable fuel, and it is likely that the hydrogen producer's leak elimination protocols will continue to control these fugitives at the post-project production level.

O12-84

Making a different product slate can increase GHG emissions from the same feedstock.

Response O12-84: The impact of the uncertainty of availability and sources of feedstocks and market demand for products does not need to be addressed in the current CEQA analysis. "CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commentors." Id. (CEQA Guidelines § 15204(a)).

O12-85

The comment states that the Project would cause downstream impacts on state and federal climate goals.

Response O12-85: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-86

California's climate goals require a dramatic reduction in the use of all combustion fuels in the state's transportation sector. They indicate the need for biofuel use to remain limited.

Response O12-86: Comment noted.

O12-87

All three of Mahoney study's pathways cut liquid petroleum fuel use dramatically, with biofuels replacing only a portion of that petroleum.

Response O12-87: Comment noted.

O12-88

State-commissioned studies put limits on the use of biofuels by specifically excluding or limiting the production of HEFA ("lipid") fuels.

Response O12-88: Comment noted.

O12-89

The comment states that the Draft EIR did not consider overseas impacts of greenhouse gases.

Response O12-89: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-90

The DEIR fails to evaluate the emission-shifting impact of the project.

Response O12-90: Transition of the project site from crude oil refining to renewable fuel production will reduce the amount of fossil fuel produced, and therefore exported or consumed in-state. This demand may be met by renewable transportation fuel, meeting the stated goals of the project.

O12-91

The comment states that the Draft EIR does not consider exports in evaluating the Project's climate impact.

Response O12-91: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-92

The comment states that the Draft EIR does not discuss emission-shifting impacts.

Response O12-92: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-93

The comment states that that the Draft EIR is fatally flawed because of its baseline.

Response O12-93: Refer to Master Response 1, *CEQA Baseline*.

O12-94

The analysis fails to take into account the widely differing air emissions impact associated with both different feedstocks and different product slates.

Response O12-94: The impact of the uncertainty of availability and sources of feedstocks and market demand for products does not need to be addressed in the current CEQA analysis. "CEQA

does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commentors." Id. (CEQA Guidelines § 15204(a)).

O12-95

Processing a different type of oil – including crude feedstock oils – can increase processing emissions.

Response O12-95: The impact of the uncertainty of availability and sources of feedstocks does not need to be addressed in the current CEQA analysis. "CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commentors." Id. (CEQA Guidelines § 15204(a)).

O12-96

The comment states that the Draft EIR fails to assess the likelihood of increased air pollution associated with process upsets.

Response O12-96: Refer to Master Response 5, *Public Safety*.

O12-97

The comment states that the Draft EIR did not disclose the air quality impacts of flaring.

Response O12-97: Refer to Master Response 5, *Public Safety*.

O12-98

The comment states that the Draft EIR did not describe the impact of feedstock switching on flaring.

Response O12-98: Refer to Master Response 5, *Public Safety*.

O12-99

The comment states that the Draft EIR does not evaluate the likelihood of increased flaring.

Response O12-99: Refer to Master Response 5, *Public Safety*.

O12-100

The DEIR Fails to Address Acute Episodic Air Pollution Exposures (flaring).

Response O12-100: Flaring at refineries and renewable fuels facilities are regulated by the BAAQMD, including Regulation 12, Rule 11: Flare Monitoring at Refineries, and Regulation 12, Rule 12: Flares at Refineries. The Marathon facility's BAAQMD Major Facility Review Permit includes conditions for flaring which will continue to apply post-project. Refer to Master Response 5, Public Safety.

O12-101

The comment states that the Draft EIR did not consider the mitigation measures described in Comment O12-75.

Response O12-101: Refer to Response O12-75.

O12-102

The DEIR fails to adequately address potential odors from the Project.

Response O12-102: Marathon has addressed the BAAQMD's comments on odor from the project. See Response A4-3a.

O12-103

The comment states that the Draft EIR's project alternatives assessment is inadequate.

Response O12-103: Refer to Master Response 2, *CEQA Alternatives*.

O12-104

The comment states that the Draft EIR's "No Project" alternative is not legally sufficient.

Response O12-104: Refer to Master Response 2, *CEQA Alternatives*.

O12-105

The comment states that the "No Project" alternative must address the need to decommission the Refinery and address hazardous waste issues.

Response O12-105: Refer to Master Response 2, *CEQA Alternatives*.

O12-106

The comment states that the Draft EIR alternatives analysis separates alternatives that aren't mutually exclusive.

Response O12-106: Refer to Master Response 2, *CEQA Alternatives*.

O12-107

The comment states that the analysis of the green hydrogen alternative does not include information regarding its benefits.

Response O12-107: Refer to Master Response 2, *CEQA Alternatives*.

O12-108

The comment states that the Draft EIR's Project Objectives are overly narrow.

Response O12-108: Refer to Master Response 2, *CEQA Alternatives*.

O12-109

The comment states that the Draft EIR's description of Zero Emission Hydrogen skewed the environmental analysis.

Response O12-109: Refer to Master Response 2, *CEQA Alternatives*.

O12-110

The comment states that the Draft EIR fails to consider significant project impacts that Zero Emission Hydrogen could lessen or avoid.

Response O12-110: Refer to Master Response 2, *CEQA Alternatives*.

O12-111

The comment states that the Zero Emission Hydrogen analysis should have considered economic and social benefit.

Response O12-111: Refer to Master Response 2, *CEQA Alternatives*.

O12-112

The comment states that the Draft EIR's analysis of cumulative impacts was deficient.

Response O12-112: Refer to Master Response 3, *Cumulative Impacts*.

O12-113

The comment states that the Draft EIR failed to adequately consider the Phillips 66 Rodeo biofuel conversion in its cumulative impacts analysis.

Response O12-113: Refer to Master Response 3, *Cumulative Impacts*.

O12-114

The comment states that the Draft EIR should have identified a "universe of projects", including projects that are regional, statewide, national, and/or international.

Response O12-114: Refer to Master Response 3, Cumulative Impacts and Master Response 4, *Land Use & Feedstocks.*

O12-115

The comment states that the Draft EIR should have analyzed the impacts of upstream agricultural land use.

Response O12-115: Refer to Master Response 3, *Cumulative Impacts* and Master Response 4, *Land Use & Feedstocks*.

O12-116

The comment states that the Draft EIR should have analyzed the cumulative impacts of California biofuel production on the state's climate goals.

Response O12-116: Refer to Master Response 3, *Cumulative Impacts* and Master Response 4, *Land Use & Feedstocks*.

O12-117

The comment describes a scenario in which the Project's contribution to greenhouse gas emissions would contribute to exceeding a state climate pathway constraint.

Response O12-117: Refer to Master Response 3, *Cumulative Impacts* and Master Response 4, *Land Use & Feedstocks.*

O12-118

The comment states that the Draft EIR did not adequately disclose and analyze cumulative marine resource impacts.

Response O12-118: Refer to Master Response 3, *Cumulative Impacts*.

O12-119

This comment indicates that the DEIR failed to adequately address the interrelated issues of site decommissioning and contamination hazards. Furthermore, the comment indicates given the likely short and definably finite commercial lifetime of the Project, the DEIR should have evaluated the impact of full site decommissioning.

Response O12-119: Please refer to Response O12-11 and O12-12. The comment that the commercial lifetime of the Project is short-term, is incorrect. The Refinery has been in operation since the early 1900's, Marathon plans to operate the renewable diesel facility into the foreseeable future. For example, the chronic and carcinogenic health effects associated with project emissions were based on annual emissions over 25 years for offsite workers, 30 years for resident receptors and 70 years for lifetime exposures. The project impact analysis in the Draft EIR evaluated operating the renewables project out to 70 years as a minimum. Further, while Contra Costa County may be diesel free by 2033, the need for fuels for certain mobile sources (e.g., locomotive engines, marine vessels, construction equipment) is expected to extend into the foreseeable future. Therefore, there are no plans to decommission the Martinez Facility in the foreseeable future.

O12-120

This comment indicates that the Draft EIR provides general references to existing contamination in its discussion of existing conditions and decommissioning portions of the site; however, the Draft EIR provides insufficient detail concerning the extent of existing contamination to the soil and groundwater or concerning past cleanup operations currently being monitored.

Response O12-120: The Draft EIR will be updated to provide additional details on existing contaminated areas under SFRWQCB jurisdiction as well as a new section in "Regulatory Setting" detailing the hazardous waste remediation activities that are being conducted under the jurisdiction of the Department of Toxic Substances Control (DTSC). Revisions are shown in Chapter 4, *Revisions to the Draft EIR.*

Revisions

Page 3.9-5 in under "State" in Section 3.9.1.1, *Regulatory and Policy Context*, is revised to add:

> **Department of Toxic Substances Control**
>
> The California Department of Toxic Substances and Control (DTSC) is a sub-department under the CalEPA and manages the federal hazardous waste program within the state. The department regulates the lifecycle of hazardous waste and sets goals for reducing hazardous waste production. The program follows federal and state law to ensure hazardous waste managers correctly handle, store, transport, dispose, reduce, and clean waste, and are equipped in the event of an emergency.

In 1988, a Resource Conservation and Recovery Act (RCRA) Facility Assessment was performed which identified Waste Management Unit (WMU) 17 as a Solid Waste Management Unit. Closure of WMU 17 was approved by the Department of Health Services (DHS) and the EPA on December 6, 1988, and on July 30, 1998, a Hazardous Waste Post-Closure Facility Permit was issued for WMU 17 by DTSC. The DTSC's hazardous waste permitting involvement with the Project Site is limited to WMU 17.

The wastes discharged to WMU 17 included American Petroleum Institute (API) separator sludge, dissolved air floatation (DAF) float, slop oil emulsion solids, and crude and unleaded tank bottoms. Oil and solids were separated in the impoundments and oil was subsequently skimmed from the surface for recycling at the Refinery. Waste solids were periodically removed from the impoundments and either recycled at the Refinery Coking Unit or disposed offsite and typical waste residence time was 6 to 9 months.

During the term of the 1998 Permit, DTSC approved two permit modifications: 1) July 3, 2002: Class 1 Modification to reflect the transfer of ownership from Tosco Refining Company to the Ultramar Inc.; (2) April 1, 2003: Class 1 Modification to reflect the transfer of ownership from the Ultramar Inc. to Tesoro Refining and Marketing Company LLC. After the 1998 Permit expired, the DTSC issued a new Hazardous Waste Post-Closure Facility Permit on September 29, 2009 (Permit No.: 2021/22-HWM-05; EPA ID: CAD 000 072 751). In June 2019 Tesoro Martinez Refinery submitted a hazardous waste facility permit application to the DTSC and a revised permit application in March 2021. This permit became effective December 19, 2021 and will expire on December 18, 2031. Included in the permit is a Land Use Covenant (LUC) to restrict the land use of the Unit in order to protect present or future human health or safety or the environment. The LUC prohibits use of the property for a residence or other sensitive land use and DTSC has also concluded that compliance with the environmental restrictions of the LUC will not present an unacceptable risk to present and future human health or safety or the environment.

O12-121

This comment indicates that the DEIR should also have provided further detail regarding decommissioning plans with respect to the portions of the Refinery that will be followed by the Project, beyond the cursory description at DEIR 2-39. Additionally, the DEIR should have discussed what specifically will be done with the equipment, and how Marathon will address contamination of soil and groundwater at the location of the idled equipment.

Response O12-121: No widespread demolition activities are being proposed as part of the Project. However, as discussed in Section 2.6.2 the equipment that would not be reused as part of the Renewable Fuels project, logistics operations, and continuing terminal operation would be "decommissioned and disposed of according to local, state, and federal laws and regulations". Furthermore, "any demolished equipment would be either preferentially recycled or disposed of according to all applicable waste regulations and would occur in accordance with a demolition and decommissioning program submitted to the County prior to the first demolition permit of the Project Description. For the units that are being shutdown (e.g., Delayed Coker, Crude Units, Fluid Catalytic Cracking Unit, as well as others), decommissioning activities would generally

include emptying the equipment of any petroleum materials, removing vapors by venting and capturing gases, and cleaning out the equipment. The equipment within these shutdown units is expected to be left in place. For units that are being modified as part of the Project (e.g., No. 1, No. 2 and No. 3 HDS; Hydrocracker; and the No. 5 Gas Plant), equipment that is no longer being used will be decommissioned and left in place. The type of equipment that would be expected to be removed would be piping that is being upgraded. After decommissioning and cleaning out the pipe, the equipment could be left on-site or sent off-site for repurposing or recycling of metal content. The DEIR will be updated to reflect specific regulations and refinery protocols that will be followed during the decommissioning of the petroleum related equipment that will be taken offline. .

As detailed in Section 3.9.1 of the DEIR the nature and extent of soil and groundwater contamination at the Refinery has been evaluated and extensive soil and groundwater investigations have been performed at the Project Site with oversight by the S.F. Bay Regional Board, and DTSC. The contamination is also present in the subsurface in areas where equipment will be decommissioned or taken offline. Soil disturbance associated with construction activities is expected to be fairly limited and minimal at the Facility but will include construction of new foundations associated with the Pretreatment Unit, the Stage 1 Wastewater Unit, and the Thermal Oxidizer, all of which are new units (see Draft EIR, Figure 2-4). In addition, soil may be disturbed to install/upgrade existing piping within the Facility. Construction activities associated with modified units are expected to occur within the existing footprint of the unit and would not be expected to require soil excavation or removal as foundations already exist. Should contaminated soil be encountered during construction activities, it will be handled in compliance with appropriate federal and state rules and regulations, which will expedite clean-up and abatement activities at the site. Ongoing remedial programs have been implemented to address the identified impacts and these areas will continue to be remediated and managed under S.F. Bay Regional Board and DTSC oversight including in areas of equipment decommissioning. Disturbance of soils/groundwater in areas where equipment decommissioning will be performed will be required to follow specific criteria and conditions outlined in the various S.F. Bay Regional Board, and DTSC orders, closure plans, maintenance plans, permits etc. that include but are not limited to S.F. Bay Regional Board CAO No. 00-021 and DTSC Permit No. 2021/22-HWM-05.

Revisions

The following is added to Local Regulatory and Policy Context in Section 3.9.1.1:

> Bay Area Air Quality Management District
>
> BAAQMD's Regulation 8 – Organic Compounds, Rule 40 – Aeration of Contaminated Soil and Removal of Underground Storage Tanks, establishes requirements for soil handling, excavation planning and soil management, and fugitive-dust controls during disturbance of soil impacted with petroleum hydrocarbons. Required procedures under this rule include: (1) assuring sufficient moisture content of the soil to prevent dust during soil movement; (2) covering excavated soil with tarps/impermeable coverings to minimize the generation of wind-blown dust as well as minimize organic emissions; (3) conducting sampling and monitoring as required; and (4) employ appropriate mitigation measures.

Impact HAZ-1 on page 3.9-11 to 3.9-12 is revised as follows:

As discussed above, the proposed Project would convert the Refinery from fossil fuel refining to a renewable fuels facility, and would primarily involve the alteration and addition of refinery equipment to process non-petroleum feedstocks into renewable diesel fuel, renewable propane, renewable naphtha and potentially renewable aviation fuel. Changes would also be made to the Avon Marine Terminal to equip it to receive renewable feedstocks for hydroprocessing and additional petroleum-based materials for distribution. Most of these modifications would be associated with upgrading the metallurgy of the existing equipment so that it can process renewable feedstocks, although there would be construction of some new infrastructure to allow for the transition to renewable fuels. No widespread demolition activities are being proposed as part of the Project and refinery equipment not associated with the Renewable Fuels Project or product distribution activities would be shut down. For the units that are being shutdown, decommissioning activities would generally include emptying the equipment of any petroleum materials, removing any vapors by venting and capturing any gases, and cleaning out the equipment. The equipment within these shutdown units is expected to be left in place. For units that are being modified as part of the Project, equipment that is no longer being used will be decommissioned and left in place. After decommissioning and cleaning out the pipe, the equipment could be left on-site or sent off-site for repurposing or recycling of metal content. ~~Refinery equipment not associated with the Renewable Fuels Project or product distribution activities would be shut down.~~

Soil disturbance associated with Project construction activities is expected to be fairly limited and minimal. New foundations associated with the Pretreatment Unit, the Stage 1 Wastewater Unit, and the Thermal Oxidizer, are expected to be constructed (Figure 2-4) and in addition, soil may be disturbed to install/upgrade existing piping within the Facility. Construction activities associated with modified units are expected to occur within the existing footprint of the units and would not be expected to require soil excavation or removal as foundations already exist. Should contaminated soil be encountered during construction activities, it will be handled in compliance with appropriate federal and state rules and regulations and existing cleanup orders, which would expedite the clean-up and abatement activities at the Site.

Construction activities associated with the proposed Project would utilize hazardous and flammable substances such as fuels, lubricating oils, solvents, hydraulic fluid and compressed gases during infrastructure modification and site grading and construction. The potential exists for an accidental release of these hazardous materials during routine hazardous materials transport related to construction. Construction activities also have the potential to result in exposure to these hazardous materials by workers or by the public, if access to the construction site is not adequately controlled or if the materials are not properly handled and contained. Potential hazards to workers, the public and the environment from routine use, transport or disposal of hazardous materials handled for routine construction would be limited by existing pollution prevention, waste management, worker health and safety and transportation safety regulations such as OSHA and Cal/OSHA, CCR Title 8 and USDOT, RCRA and federal and state regulations that are currently in place for the Refinery, and would reduce the potential for releases of hazardous materials that would be routinely transported, used and disposed during the Project construction.

The amount of hazardous chemicals that would be present during construction is limited and would be in compliance with existing facility programs and government regulations. The potential for the release of hazardous materials during Project construction is low, and even if a release were to occur, it would not result in a significant hazard to the public, surrounding land uses, or environment, due to the small quantities of these materials associated with construction vehicles. Any excavated or disturbed contaminated soil would be handled in accordance with the BAAQMD's Regulation 8 – Organic Compounds, Rule 40, as applicable. Implementation of these measures are expected to reduce emissions on-site and to construction workers as well as minimize the migration of emissions off-site, reducing the impact to the public. Further, the removal of contaminated soil would have the long-term impact of permanently removing contamination, resulting in additional clean-up of the site. Therefore, potential impacts from the routine transport, use or disposal of hazardous materials during construction of the proposed Project would be less than significant, and no mitigation would be required.

O12-122

The comment states that the Draft EIR should have evaluated the impact of full site decommissioning.

Response O12-122: See Response O12-119. See Master Response 2, *CEQA Alternatives*.

O12-123

The comment states that analysis of decommissioning should take into account hazardous waste releases at the property site since the Refinery was built in 1913.

Response O12-123: See Response O12-119. See Master Response 2, *CEQA Alternatives*.

O12-124

This comment states that the Draft EIR inadequately addresses multiple aspects of potential Project impacts on marine resource due to increase in ship traffic and asserts that the Draft EIR baseline is incorrect.

Response O12-124: Refer to Master Response 1, *CEQA Baseline*. Refer to Response O12-126 through O12-140.

O12-125

This comment states that water quality impacts from any increase in ship traffic or throughput volumes must include shipping routes in the Bay, transfer of products, refining processes, distribution, and renewable fuel use in a lifecycle analysis that takes into account global effects such as climate change and ocean acidification and discloses local water quality impacts resulting from the proposed Project. The comment states that the analysis must disclose the extent to which "unknowns" exist, such as the lack of concrete information concerning effective marine spill cleanup methodologies for feedstocks, and the environmental impacts of such spills and evaluate the risks that result.

Response O12-125: Refer to Master Response 4, *Land Use & Feedstocks*. Refer to Responses O12-126 through O12-140.

O12-126

The comment requests that spill evaluation should be based on the "actual worst-case discharge scenario."

Response O12-126: As indicated in APPENDIX HAZ of the Draft EIR (*Hazards and Hazardous Materials Technical Analysis*, Section 1.3.3.1, p. 8), the worst-case discharge of 22,178 barrels for the MOT consists of the volume of the dock line to the first valve inside containment plus the amount of oil that pumped before the pumps are shut down. The dock line is equipped with pressure sensors to detect large releases that would cause a pressure drop. In accordance with regulations, the dock line is equipment with motor operated valves, which can be activated remotely and closed within 30 seconds.

An oil spill trajectory modeling for this volume was completed as part of the Final EIR for the Tesoro Amorco Marine Oil Terminal Lease Consideration (CSLC 2014). The Draft EIR (Appendix HAZ, Section 1.3.3.1, p. 8) concludes: "*Since the proposed Marathon Renewable Fuels Project makes no changes to the operation of the marine terminal, the mitigation measures imposed in the CSLC Final EIR are still applicable to the marine terminal and will continue to be imposed. The Renewable Fuels Project makes no changes to these findings.*"

The area at risk from a worst-case discharge was evaluated using the OILMAP trajectory and fates model. Conservative assumptions were used to develop trajectory plots depicting the projected areas of impact over a 72-hour period, using considerations for seasonal weather conditions. Each of the models simulated a crude oil spill, so an equivalent spill of gasoline from the Avon Marine Terminal would be expected to impact a smaller area than shown by modeling because gasoline is a non-persistent oil (i.e., Group 1 oil) and crude oil is a persistent oil (i.e., a Group 2 or 3 oil). As discussed in the response to Comment A6-31, renewable feedstocks and products would behave similarly to the modeled compounds. The modeled oil spill trajectories did not account for oil spill response measures, and therefore, are very conservative. The most important considerations for evaluating an oil spill are the potential spill extent and area impacted more than the volume of the spill, and the potential impacts from the worst-case discharge would be similar to the spill modeled in the EIR.

O12-127

The comment describes economic and environmental impacts of oil spills on California's commercial fisheries and marine environments.

As described in examples of spills provided in Comment O12-127, socioeconomic impacts of an oil spill could be substantial in the Bay Area and beyond. However, the scope of CEQA is limited to determining the potential impacts from a spill on the environment, including hydrology and water quality (discussed in Section 3.10), and terrestrial and marine biology (discussed in Section 3.4); determining the potential socioeconomic impacts of a spill are not required by CEQA.

O12-128

The comment requests that spill evaluations should include releases along transportation corridors.

Response O12-128: The Draft EIR includes assessment of transport to and from the MOT, within the San Francisco Bay Area. As discussed in the Draft EIR, the potential impacts of spills from vessels in transit have been addressed in previous EIRs for MOTs located within Suisun Bay, including the two subject MOTs at the Marathon Refinery (e.g., WesPac 2013; CSLC 2014; CSLC 2015) and further addressed in the response to Comment O12-126. A worst-case discharge of 20,000 barrels was used as representative of the compete contents of a single cargo tank of an oceangoing tanker, as well as the volume of the largest compartment in a barge. As noted in the response to Comment O12-126, the most important considerations for evaluating an oil spill are the potential spill extent and area impacted more than the volume of the spill.

Potential impacts to environmental, cultural, and economic resources at risk from the worst-case discharge along the San Joaquin River and in the west Delta would be similar to the impacts for similar resources described with the spill modeling in the previous EIRs. The environmental, cultural, and economic resources at risk were identified and described in the Area Contingency Plan (ACP) for the U.S. Coast Guard Sector San Francisco (USCG 2014); specifically in 9840 ACP 2 – San Francisco Bay and Delta (ACP2), which covered the area from the open ocean through San Francisco Bay to the Ports of Stockton and Sacramento. The Port of Stockton, where feedstock shipments may originate, and along the San Joaquin River, which may be used to transport the feedstocks, were described in the following Geographic Response Plan Areas (GRAs) in ACP2:

- GRA 7 – West Delta
- GRA 9 – South Delta
- GRA 10 – East Delta

The Delta has significant habitat values and the marsh islands have high ecological value. Shorelines along the transportation route for the feedstocks are briefly described, as follows:

- GRA 7 – San Joaquin River from Webb Tract to Suisun Bay, as well as side channels, canals, and tributaries. This portion of the transportation route was described as deep, open water with heavily rip-rapped shorelines and occasional berm and emergent patches particularly along islands in the Delta. Shores of the islands were wave-washed.
- GRA 9 – Side channels and tributaries of the San Joaquin River, including the Middle River and Old River, as well as canals and sloughs. Levees and shorelines in this area were described as rip-rapped with emergent vegetation pockets.
- GRA 10 – Port of Stockton and the San Joaquin River to Webb Tract. Port of Stockton was described as a deep-water port, heavily developed with commercial wharves and facilities. The banks of the shipping route in the San Joaquin River from the Port of Stockton to Webb Tract were typically described as either heavily

rip-rapped or have seawalls and piers; however, some mature trees line the riverbanks in places.

As noted in the response to Comment O12-126, the most important considerations for evaluating an oil spill are the potential spill extent and area impacted more than the volume of the spill. However, wind, waves, and currents in the Delta and along the San Joaquin River can be strong and locally variable and a spill could have delta-wide spreading of oil through various side channels. This means modeling the worst-case discharge in the Port of Stockton and/or along the San Joaquin River would require a number of assumptions regarding location, season, wind speed and directions, currents, etc., so it may not be useful for evaluating potential impacts. Therefore, in the event of an incident and/or spill of the feedstocks transported through this area, Marathon, and the Oil Spill Response Organizations (OSROs) under contract to Marathon would implement the spill response and habitat protection tactics described in ACP 2 and the GRAs for the Delta as rapidly as practicable.

O12-129

The comment requests that the impact of spills include the specific technology to be used for cleanup efforts, in particular, of bitumen in eelgrass and kelp.

Response O12-129: The Project does not propose transport of bitumen and impacts of this material are not relevant to the Draft EIR.

The Draft EIR examines the potential range of spill sizes, quantifies the potential frequency of spills, both in transit and at the marine terminal facilities, and documents the extent of areas that could be impacted by a spill. The Draft EIR concludes that the impacts of a spill would be significant and unavoidable, and this is provided in the Draft EIR as full disclosure to the public and the decision makers.

The following measures that would be implemented in the event of a release at the MOT:

- Implement measures to stop the release, e.g., activate the emergency shutdown system.
- Activate the spill response team consisting of spill response personnel from the Amorco Marine Terminal as well as the Martinez Refinery, and an Oil Spill Response Organization (OSRO, e.g., Marine Spill Response Corporation [MSRC], Bay Area Ship Services).
- Deploy containment boom on the down current side of the spill to minimize drifting of the material to where it could impact sensitive environmental resources and commerce.
- Material would be recovered with sorbent material and/or skimmers. Dispersants may also be used with approval from the U.S. Coast Guard and appropriate State of California and Regional agencies.

Oil spill response boats are located in Martinez and available to help deploy booms and include boats equipped with skimmers, booms, and oil storage. The MOTEMS have set minimum requirements for preventative maintenance that includes periodic inspection of all components

related to transfer operations. Marathon is required to comply with those requirements as well as with California State Lands Commission's operational requirements.

O12-130

The comment suggests that use of double hull tankers and vessel speed reduction would minimize spill risks.

Response O12-130: As of January 1, 2015, single-hull tankers were no longer be able to carry oil as cargo in the waters of the United States (NOAA Office of Response and Restoration 2014) and the MOT will follow the USCG regulations addressing double-hull requirements for tank vessels (33 CFR § 157.10(d)).

In addition, as noted in the response to Comment A6-31, the typical 4–5 mph cruising speed of a river barge is much lower than that of an oceangoing tanker, which typically have cruising speeds in the 12–18 mph range (Frittelli 2014). Qualitatively, the change from larger, faster, deep-draft tankers to smaller, slower, shallow-draft barges would be expected to reduce spill risks.

O12-131

The comment describes impacts of a recent spill and notes increasing marine terminal operations would increase the risk of future spills.

Response O12-131: Information on the 2016 spill and subsequent response issues has been added to the Draft EIR to ensure the full disclosure of potential impacts. The revisions are shown in Chapter 4, *Revisions to the Draft EIR*.

As discussed in the Draft EIR, page 3.9-15, "The change from fossil fuel to renewable feedstock would change the Hazard Category of some of the hazardous material. The Hazard Category of the materials that would be affected by the proposed Project is Hazard Category B (flammable liquids) and Hazard Category C (combustible liquids), as defined by the County Code. The change in hazard category from the conversion from fossil fuels to renewable fuels would keep the hazard category as Hazard Category B or reduce the hazard of the material to Hazard Category C, depending on the material."

Therefore, impacts associated with the project would actually be less than historical operations due to the lower propensity for a spill to create vapor clouds. In addition, the transitional phase would involve the movement of some petroleum materials, but these potential impacts in terms of areas potentially impacted and the extent of impacts and hazards would be similar to those that existed under the baseline operations. Vegetable oils lack chemical compounds that are acutely toxic to aquatic organisms; however, during biodegradation, they may produce rancid odors (NOAA Office of Response and Restoration 2020). Impacts related to odors are discussed under the air quality section, Section 3.3, and during normal operations, an Odor Management Plan (OMP) will be used to minimize the release of objectionable odors from the MOT (see Mitigation Measure AQ-2, Draft EIR pages 3.3-41 to 3.3-42).

Reference:

NOAA Office of Response and Restoration. 2020. Oil Fact Sheets for Spill Responders - Non-Petroleum Oil Spills, National Oceanic and Atmospheric Administration, Office of Response and Restoration. Oil Fact Sheets for Spill Responders | response.restoration.noaa.gov.

Revised Text

Section 3.9.4, page 3.9-15, after the second paragraph in subsection HAZ-1, add paragraph:

> In 2016, petroleum fumes prompted more than 1,400 odor complaints, more than 100 hospital visits, and a shelter-in-place order for the city of Rodeo (KQED, 2017). *Although the Coast Guard investigation indicated "no conclusive determination" for the source, the financial responsibility for the cleanup costs was divided between the Phillips 66 refinery and the moored vessel, the Yamuna Spirit. In addition*, a laboratory analysis indicated that the spilled material was chemically identical to the Yamuna Spirit's crude oil cargo (Maritime Executive, 2016). *The BAAQMD (2016) issued an NOV to Phillips 66 and the vessel operator. The operators disputed the findings.*

Section 3.9.5, page 3.9-20, is revised to add the following references:

> BAAQMD. 2016. Incident Report, https://www.baaqmd.gov/~/media/files/compliance-and-enforcement/incident-reports/2016/i092016_phillips66_incidentrpt-pdf.pdf?la=en&rev=fcde88bd49aa459aa16f3242859864fd
>
> KQED. 2017. Refinery, Tanker Firm Cited for Fumes That Sickened Scores in Vallejo, June 16, 2017, https://www.kqed.org/news/11514480/refinery-tanker-firm-cited-for-fumes-that-sickened-scores-in-vallejo
>
> Maritime Executive. 2016. Maritime Executive, Coast Guard Solves Mystery of the Vallejo Spill, PUBLISHED OCT 21, 2016, https://www.maritime-executive.com/article/coast-guard-solves-mystery-of-the-vallejo-spill

O12-132

The comment notes that spill events are high variance (unlikely to occur) and high impact. It further suggests that a baseline that assumes no risk based on lack of recent spills would be unrealistic.

Response O12-132: The Draft EIR recognizes that an assumption that there is no risk of spills, based on lack of recent spills, would not be a realistic representation of the risk profile. Instead, the spill modeling that has been previously conducted for MOTs located within Suisun Bay, including the two subject MOTs at the Marathon Refinery (e.g., WesPac 2013; CSLC 2014; CSLC 2015) begins with an assumption that a worst-case discharge has occurred. Because the spill models are approximations of a complex natural system, they necessarily must make assumptions about the system and the material being modeled. For example, the modeled oil spill trajectories considered in Appendix HAZ of the Draft EIR did not account for oil spill response measures, and therefore, are very conservative. As another example, the model used for the Golden Eagle Refinery Hazard Evaluation/Risk Analysis (Tesoro 2012) considered loss of released material due to weathering, evaporation, and mixing but negated the loss of material through shoreline

grounding characteristics and simulated pessimistic weather conditions in the model to provide a more conservative analysis of extent of oiling from the scenario. In each case, these assumptions have resulted in a conservative estimate of the extent of the impacts from the material.

The renewable feedstocks proposed for the project are expected to generate less fumes than the petroleum materials referenced in Comment O12-131 and are thus less likely to result in hospitalizations from fume-related impacts.

Marathon will comply with federal and state regulations to minimize the risk of a spill and to respond appropriately, should a spill occur. Note, the current federal and state regulations were developed in light of the Exxon Valdez incident and reflect a recognition that such a spill could occur.

O12-133

The comment concludes that the County must consider an independent study on feedstock cleanup in the county and beyond. The comment states that the BAAQMD should be considered a responsible agency for cleanup. The comment states that a full investigation of the Phillips 66 terminal, where the previously discussed spill occurred, should be conducted.

Response O12-133: Comment noted.

O12-134

The comment discusses the need for the Region 2 – San Francisco Regional Water Quality Control Board (SFRWQB) to evaluate the permit to increase MOT operations.

Response O12-134: The scope of CEQA is determining the potential impacts on the environment, including water quality, which is discussed in Section 3.10, *Hydrology and Water Resources* of the Draft EIR. Modification of the MOT's existing National Pollutant Discharge Elimination System (NPDES) discharge permit falls under the jurisdiction of the SFRWQB and will be addressed through its process. As noted in Comment O12-132, spill events are high variance; therefore, although it may be possible to predict the number of spills in a region at a similar scale, it is not reasonable to predict a specific number of spills at a single facility.

O12-135

The comment states that responsible planning cannot be conducted without knowing the specific chemical composition of all potential feedstocks and products.

Response O12-135: The proposed renewable feedstocks and products are natural products and subject to a degree of variability; however, the general characteristics of these materials are well-established and sufficient to evaluate the behavior of spills. Refer to Responses O12-126 through O12-134, above and Responses 012-136 through O12-140, below, regarding potential marine spills and response plans related to Project operation.

O12-136

The comment requests that an independent scientific study on the risks to state waters from spills of feedstocks be done and contained in the EIR.

Response O12-136: The Draft EIR examines the potential range of spill sizes, quantifies the potential frequency of spills, both in transit and at the marine terminal facilities, and documents the extent of areas that could be impacted by a spill in the Bay area. Areas impacted by a spill include direct impacts that are used in Section 3.4, *Biological Resources* to examine the potential impacts on biological resources (*see* Figures 3, 4, 5, and 6 in Appendix BIO, ERM 2021). The impacts of a spill are determined to be significant and unavoidable and are provided in the Draft EIR as full disclosure to the public and the decision makers.

Socioeconomic impacts of an oil spill would be substantial in the Bay Area and beyond. However, the scope of CEQA is determining the potential impacts on the environment, including hydrology, water quality (discussed in Section 3.10, *Hydrology and Water Resources*) and terrestrial and marine biological impacts (discussed in Section 3.4).

O12-137

The comment states that the EIR should review whether there are oil spill responsible agencies (OSROs) with the capability to handle the proposed feedstocks.

Response O12-137: Oil spill response requirements are overseen by USCG and the California Department of Fish and Wildlife – Office of Spill Prevention and Response (CDFW-OSPR) and include the use of OSROs (e.g., Marine Spill Response Corporation [MSRC]). Detailed response plans are required to be developed and implemented for both vessels and marine terminals. Marathon has prepared a Northern California Blanket Oil Spill Response Plan, last updated in April 2020 (Tesoro 2020), which provides spill prevention measures and response protocols in the event of an accidental release. Furthermore, CDFW-OSPR and the USCG have developed the ACP 2 and associated GRAs describing spill response protocols and site-specific response tactics for the environmental, cultural, and economic resources at risk from the worst-case discharge in the vicinity of the MOT and along the transit routes for feedstocks and products.

The proposed Project would continue the use of an existing marine terminal and would not change the extent of operations in terms of vessel sizes and potential spill sizes. The increased vessel visits associated with the proposed Project would increase the potential frequency of a spill, and thereby the significance, but the actual response requirements to an individual spill would be the same as for the historical operations.

Marathon contracts with MSRC to serve as the primary OSRO. MSRC maintains an extensive inventory of oil spill response equipment. The equipment at the nearest location (Benicia, CA) includes the following (https://www.msrc.org/equipment-capabilities/equipment/site/97):

- Mini Spoiler I Support Vessel (w/ Marco I Skimmer, 3,588 barrels per day [bbl/day] effective daily recovery capacity [EDRC])
- Mini Spoiler II Support Vessel (w/ Marco I Skimmer, 3,588 bbl/day EDRC)
- Munson 1 (21') Support Vessel (w/ 1,800 Feet 10" Curtain Internal Foam Boom)
- Munson 2 (21') Support Vessel (w/ 1,800 Feet 10" Curtain Internal Foam Boom)
- Two Shallow-Water Push Boats (28' Munson)

Reference:

Tesoro Refining & Marketing Company, LLC (Tesoro). 2020. Northern California Blanket Oil Spill Response Plan. April.

O12-138

This comment states that if there are no current plans for OSROs to respond to spills of feedstocks in California waters, the final EIR must evaluate the impacts of such a spill under inadequate cleanup scenarios. The comment asserts that the Draft EIR fails to adequately evaluate how spills of feedstocks will be remediated, if at all.

Response O12-138: Refer to Response O12-137. Procedures and tactics for cleanup of renewable feedstock spills would be the same or similar as for petroleum oils with similar characteristics. Clean up of renewable feedstock does not require different special chemicals than petroleum oil. The feedstock congeals at 70°f and does not stratify and can be cleaned up by mechanical needs only like skimming. Renewable diesel is equivalent to petroleum diesel regarding spill cleanup. The Northern California Blanket Oil Spill Response Plan (Tesoro 2020) does not include specific response procedures and/or tactics for responding to spill of non-petroleum oil. Under the requirements of the Oil Pollution Act, as implemented through Federal regulations described on Draft EIR pages 3.9-3 to 3,9-5, Marathon would update the Northern California Blanket Oil Spill Response Plan to include specific procedures and/or tactics for responding to a spill of renewable feedstocks and renewable fuels, to note that renewable diesel is equivalent to petroleum diesel regarding spill cleanup.

As noted on Draft EIR page 3.9-17:

> **"**Although proposed Project transportation activities would not be expected to result in increases in the magnitude of hazardous materials handled, Project activities would result in increased vessel calls, thereby increasing the potential for corresponding accidental releases of renewable feedstocks. Even with implementation of Mitigation Measure HAZ-1 the potential for an increased transportation risk would be **significant and unavoidable**."

O12-139

This comment states that the EIR must evaluate safety risks posed by reducing dredging of the Pinole Shoal Navigation Channel. The comment states that if Marathon is required to dredge the channel, the EIR must disclose and evaluate its impacts.

Response O12-139: The proposed Project does not include dredging of the Pinole Shoal Navigation Channel. If a depth survey showed a dredge of the Pinole Shoal Channel is needed but no dredge was performed by the USACE, ship traffic would cease until depth was restored.

O12-140

The comment states that the final EIR must evaluate ship maintenance impacts including maintenance at regional shipyards and anchorages.

Response O12-140: Marathon has no control over, ownership of, or authority to direct vessels that would dock at its MOTs; therefore, specific details of how vessels manage their maintenance

cannot be provided as part of the Project. Furthermore, a vessels maintenance schedule is a result of its overall use, which is directed by its owner and includes trips and uses unrelated to the proposed Project. It is speculative to say that regional maintenance yards and anchorage would experience increases in activity associated with the proposed Project. In addition, shipyards and anchorages operate under existing permits and requirements independent of the proposed Project, and any additional activities would be required to comply with those existing permits and operational limits.

O12-141

The comment states that increased light and glare would occur as a result of increased shipping and that an oil spill would significantly degrade aesthetic resources.

Response O12-141: As noted in the Draft EIR pages 2-14, 2-36, 3-14, there would be a reduction in ocean-going vessels and an increase in smaller size vessel visiting the terminals. Ocean-going vessels are much larger and have more lights that smaller size vessels. Therefore, the overall light and glare generated by marine vessels as a result of the proposed Project would be reduced below baseline. The impact would remain less than significant.

Impacts from oil spill are discussed in the Draft EIR in Section 3.4, *Biological Resources* under Impact BIO-8 (page 3.4-40 to 3.4-41); Section 3.9, *Hazards and Hazardous Materials* under Impact HAZ-1 (pages 3.9-15 to 3.9-17), and Section 3.10, *Hydrology and Water Quality* under Impact HWQ-1 (pages 3.10-16 to 3.10-18). Significance criteria for whether the Project would have a significant impact on Aesthetics are discussed on page 3.2-4 of Section 3.2, *Aesthetics*. These criteria are consistent with Appendix G, Environmental Checklist Form of the CEQA Guidelines.

O12-142

Air quality impacts from ship exhaust must be evaluated.

Response O12-142: The Air Quality and GHG Technical Analysis addresses air quality impacts of ship exhaust (See Section 3.3.3.1 Methodology for Impact Analysis: Mobile Sources and Appendix B Mobile Sources, Tables 8a, 9a-d, 10, 11 and 12). The impact of the uncertainty of the sources of feedstocks does not need to be addressed in the current CEQA analysis. “CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commentors.” Id. (CEQA Guidelines § 15204(a)).

O12-143

Marathon does not have a good record of avoiding air quality violations at its refinery.

Response O12-143: Comment noted.

O12-144

Provision of shore power should be considered.

Response O12-144: See Response A4-2b.

O12-145

Average activity levels must be calculated based on actual operations and cannot be tiered off of outdated EIRs.

Response O12-145: Comment noted. The actual activity levels during the baseline period for mobile sources at the marine terminals are the same as those used in the 2014 and 2015 EIRs.

O12-146

The comment states that Recreational impacts could occur as a result of oil spill.

Response O12-146: Impacts from an oil spill are discussed in the Draft EIR in Section 3.4, Biological Resources under Impact BIO-8 (page 3.4-40 to 3.4-41); Section 3.9, Hazards and Hazardous Materials under Impact HAZ-1 (pages 3.9-15 to 3.9-17), and Section 3.10, Hydrology and Water Quality under Impact HWQ-1 (pages 3.10-16 to 3.10-18).

Significance criteria for whether the Project would have a significant impact on Recreation are discussed on page 3.1-7 of Section 3.1, *Resources with No Impacts.* These criteria are consistent with Appendix G, *Environmental Checklist Form* of the CEQA Guidelines.

O12-147

The comment states that the final EIR must evaluate utility and service system impacts from increased ship traffic and spill risk in the San Francisco Bay and along all transportation corridors.

Response O12-147: Refer to Responses O12-128 and O12-140.

O12-148

The comment states:

(a) that additional mitigation be evaluated and applied for each species listed as special status marine and aquatic species in Section 3.4, Biological Resources,
(b) that wake generation, sediment re-suspension, noise pollution, ship strikes, and the introduction of non-indigenous aquatic species must be discussed in the final EIR,
(c) that mitigation should be included in the Draft EIR requiring Marathon to track vessel speeds and provide monetary fines or bonuses for compliance, and
(d) that Mitigation Measure BIO-7(b) is insufficient because it does not contemplate effective measures to ensure safe vessel speeds and to mitigate for speeding.

Response O12-148: Impacts to special status marine and aquatic species are discussed in Section 3.4, *Biological Resources*. Impacts from sediment re-suspension are discussed in Impact BIO-6; impacts from noise and ship strikes are discussed in Impact BIO-7; and impacts from non-indigenous aquatic species are discussed in Impact BIO-9.

Wake generation is related to a vessel's draft and speed. As described in Response A6-31, the shift in the proposed Project's vessel calls from ocean-going vessels to medium range vessels, articulated tow barges, and river barges that are all smaller and slower than ocean-going vessels

will be expected to result in a reduction of wake generated erosion as well as a reduction of vessels that have typical cruising speeds above 10 mph.

The proposed mitigation measure—to require Marathon to track vessel speeds and provide monetary fines or bonuses for compliance—is infeasible. As discussed in Response O12-140, Marathon has no control over, ownership of, or authority to direct vessels that would dock at its MOTs. Vessels are required to comply with all speed reduction measures that are promulgated by the USCG and other regulatory bodies. As stated in Mitigation Measures BIO-7(b), "decisions concerning safe navigation and maneuvering of participating vessels remain entirely with ship masters and crew."

O12-149

The comment states that the Draft EIR contains conflicting statements about acoustic noise impacts.

Response O12-149: As stated in the Draft EIR page 3.4-35, "Noise produced by vessels transiting the San Francisco Bay is mitigated by the soft-bottom substrate and sediment-rich waters, which attenuate sound." Therefore, the Draft EIR finds that behavioral disturbance and physical injury to fish and marine mammals from intermittent vessel noise is not expected to be significant.

O12-150

The comment states that the impacts to biological resources from spill of renewable feedstocks is inadequately evaluated; that there is no evidence that the facility's spill response is capable of or authorized to respond to spills of non-petroleum feedstocks; that feedstock differences should be addressed; and that Marathon could study cleanup methodologies and impacts from spills.

Response O12-150: Refer to Response O12-126, Response O12-128, Response O12-129, Response O12-131, Response O12-135, Response O12-137, Response O12-138.

O12-151

The comment states that the Draft EIR mitigation measure BIO-9a regarding non-indigenous aquatic species are inadequate and recommends that mitigation measures include incentives for ballast water remediation that ensures protection of sensitive areas and requiring documentation of ballast water exchanges from all vessels visiting the terminals.

Response O12-151: As discussed in Impact BIO-9 of the Draft EIR (page 3.4-42), Marathon has no control over, ownership of or authority to direct vessels that dock at its terminals; therefore, specific details of how vessels manage biofouling or ballast water are not part of the Project. Requirements of the terminal leases with the CSLC require Marathon to advise vessels that dock at its terminal of their responsibilities under the California Marine Invasive Species Act. Under the terms of the existing terminal leases with the CSLC, Marathon is required to participate and assist in funding ongoing and future actions related to nonindigenous aquatic species. Mitigation Measure BIO-9a requires Marathon to adjust its funding level to take into account the increased number of vessel calls to the terminals.

O12-152

This comment speculates that the Project's greenhouse gases will impact marine species by causing climate change, ocean acidification, and changes to the population distribution or migration of marine species that could make ship strikes more likely.

Response O12-152: See Master Response 4, *Land Use & Feedstocks* for a discussion of upstream and downstream impacts. Due to the speculative and non-specific nature of this comment, no additional discussion is warranted.

O12-153

This comment states that the Draft EIR analysis of noise impacts is insufficient because it neglects to address noise from ship traffic and provides no analysis or evaluation of noise impacts resulting from the increased number of vessels.

Response O12-153: The increased vessel traffic is discussed in the Noise Technical Analysis (Marathon 2021) that is both referenced in Section 3.12, *Noise* and included as Appendix NOI, *Noise Technical Analysis* of the Draft EIR. Increased vessel traffic was considered in the evaluation of Operational Impacts for the Project (Impact NOI-2) and included within the finding that "the Project would generally produce less noise than under current conditions, the Project would not increase ambient noise levels for sensitive and residential receptors in the vicinity of the Project area and permanent noise increases would be less than significant." Section 1.5.3.3 of Appendix NOI, *Noise Technical Analysis* describes that while the number of vessel trips may increase, the size of the vessels will be smaller and, therefore, will produce less noise. Combined with the greater distance of residential and sensitive receptors from the marine terminals than the other portions of the Project that will produce noise during operations, it was determined that the operation of the Project "would not be expected to result in any changes/increases in noise." No changes are proposed to the Final EIR to address this comment; however, the comment is acknowledged for the record and will be provided as part of the Final EIR to the decision-making bodies for their consideration in reviewing the Project.

O12-154

The comment states that the EIR's transportation and traffic analysis should discuss vessel traffic from the port of cargo and the Project.

Response O12-154: Refer to Response A6-31 for a discussion of vessel traffic. Refer to Response O12-140 for a discussion of regional anchorage. It is speculative to assume that vessel calls to the Project's terminals could result in accidents among other ships or waterborne vessels, and no further discussion is warranted.

O12-155

This comment requests that the Final EIR analyze impacts from increased marine terminal use and increased shipping traffic, as well as associated increased spill risk and impacts to fish and wildlife. Furthermore, the comment requests the following Tribes be consulted: the Me-Wuk

(Coast Miwok), the Karkin, the Me-Wuk (Bay Miwok), the Confederated Villages of Lisjan, Graton Rancheria, the Muwekma, the Ramaytush, and the Ohlone.

Response O12-155: Potential impacts to fish and wildlife are discussed in Section 3.4, *Biological Resources* of the Draft EIR. As discussed on page 3.5-6 of Section 3.5, *Cultural and Tribal Resources*, the Native American Heritage Commission (NAHC) was contacted to request a list of Native American individuals and/or organizations that might have knowledge of cultural resources in or near the Project Site. The following Tribes and their responses regarding the Project are provided below:

- Me-Wuk (Coast Miwok) – Chicken Ranch Rancheria of Me-Wuk Indians (Mr. Lloyd Mathiesen) was contacted on April 1, 2021. No response has been received to date.
- The Karkin – The Karkin were not included in the Native American Heritage Commission's contact list.
- The Me-Wuk (Bay Miwok) – The Ohlone Indian Tribe (Andrew Galvan) was contacted on April 1, 2021. No response has been received to date.
- The Confederated Villages of Lisjan (Ms. Corrina Gould) was contacted on April 1, 2021. Corrina Gould, Tribal Chair, replied on May 19, 2021 via email and requested additional information regarding the Site and if there had been a Sacred Lands File search conducted at the NAHC. Project description and the results of the search from the NAHC were submitted to Ms. Gould on May 20, 2021. No further response has been received.
- Graton Rancheria – Graton Rancheria were not included in the Native American Heritage Commission's contact list.
- The Muwekma – The Muwekma Ohlone Indian Tribe of the SF Bay Area (Ms. Monica Arellano) was contacted on April 1, 2021. No response has been received to date.
- The Ramaytush – The Ramaytush were not included in the Native American Heritage Commission's contact list.
- The Ohlone – The Ohlone Indian Tribe (Andrew Galvan) was contacted on April 1, 2021. No response has been received to date.

Following the publication of the Draft EIR, an additional response was received. The Draft EIR will be revised to include the additional Tribal input. Changes to the Draft EIR can be found in Chapter 4, *Revisions to the Draft EIR.*

Revisions

Under Native American Heritage Commission on page 3.5-6 of Section 3.5.1.3, *Cultural Resources in the Vicinity of the Project Site* is revised to add:

> Ms. Mariah Mayberry from the Wiltern Rancheria responded on November 11, 2020, to Mr. Joseph Lawlor (Project Planner) of the Contra Costa County Department of Conservation and Development in regard to AB 52 Tribal Consultation for the project. Ms. Mayberry stated that the Tribe would like to have a Tribal Monitor present during all ground disturbance. Furthermore, the Tribes preferred method of treatment for Cultural Resources is preservation in place.

In addition, the list of Tribes provided by the NAHC and contacted with regard to the proposed Project as well as the Tribal outreach letters will be included as an appendix.

O12-156

The comment states that the Project may have environmental justice impacts.

Response O12-156: The scope of CEQA is concerned with physical environmental impacts and not with impacts of past decisions that have led to current environmental justice concerns. However, elements of this Draft EIR address at least some elements of environmental justice concerns, including health risk due to pollution exposure from potential Project impacts to air quality or water quality.

O12-157

The comment states that a large oil spill would impact commercial fisheries.

Response O12-158: Potential impacts to commercial and sport fisheries that were analyzed in the Amorco and Avon EIRs (CSLC 2014, CSLC 2015) remain applicable to the proposed Project and are hereby incorporated by reference into the Draft EIR. The previous EIRs found that impacts on commercial and recreational sport fisheries as a result of major fuel, lubricant, and/or boat-related spills would be—as for water resources and biological resources discussed in the Draft EIR—significant and unavoidable.

Fish can be killed or injured from contact with oil spills. The susceptibility of fish to a spill depends on its growth stage, feeding behavior, and the type of oil. Juvenile fish and bay shrimp that use shallow or near-surface waters are susceptible to acute toxicity from lighter oils, while fish that swim lower in the water column, such as salmon and sturgeon, are less likely to come in direct contact with oil. Fish may come into direct contact with oil, thus contaminating their gills; they may absorb toxic components of oil through their skin; and they may suffer adverse effects from eating contaminated food. Substrate that herring use for spawning could become oiled by a large spill.

Significant adverse impacts on commercial and sports fisheries would result from oil spill accidents originating at the Avon Terminal or from tankers transiting to or from the Avon Terminal. Most recreational sport fishes, as well as commercial bay shrimp, would be susceptible to impact from a spill throughout the year.

Marathon would continue to comply with existing mitigation measures that are attached to the terminal leases that require Marathon to post spill notices to warn fishing interests and provide compensation for spill damage.

O12-158

The comment states that the terminal leases are Public Trust Resources that the CSLC is responsible for and that public trust impacts should be evaluated in the Final EIR.

Response O12-158: As part of the CEQA process, the County provided notification of the proposed Project to CSLC during the scoping process. The California State Lands Commission (CSLC), as trustee agency, was provided with a copy of the Draft EIR for review upon publication.

Comment A6-1 confirms that the CSLC reviewed the Draft EIR; Comment A6-1 and A6-2 describe its role as a responsible agency under CEQA. As a result of its review, the CSLC provided the County with comments on the Draft EIR (Comment Letter A6). The comment letter and comment responses are included in this Final EIR in Chapter 2, *Comments on the Draft EIR* and Chapter 3, *Responses to Comments*.

O12-159

The comment states that the Final EIR must consider cross-border impacts.

Response O12-159: Refer to Master Response 4, *Land Use & Feedstocks*.

O12-160

The comments states that anti-terrorism and security measures associated with increased shipping must be evaluated in the final EIR.

Response O12-160: The Marathon Refinery is a high-risk chemical facility. As discussed on page 3.9-4 of Section 3.4, *Hazards and Hazardous Materials*, Marathon is required to prepare a Security Vulnerability Assessment, which identify facility security vulnerabilities, and to develop and implement Site Security Plans. The statement that increased shipping brings increased risk is speculative.

O12-161

The comment requests that the County address and correct the errors and deficiencies in the Draft EIR described in the comment letter. The comment states that the EIR requires extensive additional information to satisfy CEQA and requests that the County recirculate a revised Draft EIR for public comment.

Response O12-161: The Responses to Comments herein evaluated and responded to the issues raised by the comments. Under CEQA Guidelines Section 15088,6, a Draft EIR requires recirculation if:

> "A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
>
> "(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
>
> "(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it."
>
> None of the responses in this document identified new information or changes in impacts, mitigation measures, or alternatives that would require recirculation under Section 15088.6.

3.3.13 Response to Comment Letter O13, Center for Biological Diversity, Sunflower Alliance, Rodeo Citizen's Association, Biofuelwatch

O13-1

This comment urges the County to reject the proposed Project and states that the County should require Marathon to fully decommission the facility.

Response O13-1: Comment noted. Refer to Master Response 2, *CEQA Alternatives* for a discussion of the decommissioning alternative.

O13-2

This comment states that the Project's baseline should be the Refinery's closed condition.

Response O13-1: Refer to Master Response 1, *CEQA Baseline*.

O13-3

This comment states that the County should reject the Project and begin decommissioning.

Response O13-3: Refer to Master Response 2, *CEQA Alternatives*.

O13-4

This comment asserts that biofuels are a false solution to the climate crisis.

Response O13-4: Comment noted. Refer to Master Response 4, *Land Use & Feedstocks*, for a discussion of the Project's contribution to the state's climate goals.

O13-5

This comment states that the project will emit more carbon per barrel refining renewable feedstocks than it does refining crude oil. The comment states that the project will have upstream land use changes. The comment states that the Project will impede California's goals for electrifying its transportation sector. The comment states that the Refinery is vulnerable to sea level rise.

Response O13-5: See Master Response 4, *Land Use & Feedstocks* and Master Response 5, *Public Safety*. The Draft EIR discusses the Project's vulnerability to sea level rise on page 3.10-8, 3.10-11, 3.10-15, and 3.10-20 of Section 3.10, *Hydrology and Water Resources*.

O13-6

This comment states that the environmental and health harms of the Project are significant. The comment states that the commenter joins separate comments submitted by the Natural Resource Defense Council (NRDC).

Response O13-6: See Responses to Comment Letter O12 submitted by the NRDC.

O13-7

This comment states (a) that the Draft EIR fails to adequately cover the Project's significant impacts on biological resources local to the Project site from air pollution, water pollution, light

pollution, noise, vessel associated sedimentation, ship strikes, and potential oil spills, and (b) that the County must consider indirect impacts that could affect species beyond Contra Costa County.

Response O13-7: Potential impacts to biological resources local to the Project area are discussed in Chapter 3.4, *Biological Resources*. The comment does not provide supporting information regarding the inadequacy of the analysis.

Refer to Master Response 3, *Cumulative Impacts* and Master Response 4, *Land Use & Feedstocks*.

O13-8

This comment states that the Draft EIR fails to analyze the Project's indirect land use impacts.

Response O13-8: See Master Response 4, *Land Use & Feedstocks.*

O13-9

This comment states that the Project's cumulative impacts on air quality, climate change, and other environmental factors would be significant.

Response O13-9: See Master Response 3, *Cumulative Impacts*.

O13-10

This comment states that the Draft EIR must disclose upstream land use impacts arising from the Phillips 66 Rodeo Refinery Renewables Conversion.

Response O13-10: See Master Response 3, *Cumulative Impacts*.

O13-11

This comment states that the Project is inconsistent with local laws.

Response O13-11: Comment noted.

O13-12

The comment states that the Draft EIR is inconsistent with the Contra Costa General Plan. The comment states that the Draft EIR attempts to minimize air pollution impacts through use of an incorrect baseline.

Response O13-12: Consistency with local land use plans, including the Contra Costa General Plan, is discussed in the Draft EIR on pages 3.11-13 and 3.11-14 of Section 3.11, *Land Use*. Refer to Master Response 1, *Project Baseline*. See also Response O13-14.

O13-13

This comment states that the Draft EIR will degrade environmental quality through the increase in vessel traffic, by increasing demand for renewable feedstocks, and by emitting harmful air emissions.

Response O13-13: Comment noted. The County Board of Supervisors will determine whether the benefits of the Project outweigh the impacts to the environment.

O13-14

The comment states that the Draft EIR fails to analyze emissions from particular feedstocks.

Response O13-14: Refer to Comment Letter A4. The Draft EIR analyzed projected Project emissions in a Health Risk Assessment (Appendix AQ_GHG, *Air Quality and Greenhouse Gas Technical Analysis*); an updated version revised based on comments received from the Bay Area Air Quality Management District is included as an appendix to this Final EIR. See also Response O13-13.

O13-15

This comment states that the Draft EIR utilizes an incorrect baseline and does not address upstream land use changes. The comment states that the Project is inconsistent with the San Francisco Bay Plan due to the potential for introduction of invasive plant and animal species to the Bay via increased vessel traffic.

Response O13-15: See Master Response 1, *CEQA Baseline* and Master Response 4, *Land Use & Feedstocks*. Consistency with the San Francisco Bay Plan is discussed in the Draft EIR on page 3.4-34 of Section 3.4, *Biological Resources* and page 3.11-13 to 3.11-14 of Section 3.11, *Land Use*. See also Comment Letter A5 submitted by the Bay Conservation and Development Commission, the state regulatory body tasked with implementing the San Francisco Bay Plan.

3.3.14 Response to Comment Letter O14, Diablo Valley College

O14-1

This comment provides support for the Project and thanks the Marathon Company for their support of Diablo Valley College's workforce development efforts.

Response O14-1: Comment noted.

3.3.15 Response to Comment Letter O15, East Bay Leadership Council

O15-1

This comment provides support for the Project and identifies various benefits from its implementation.

Response O15-1: Comment noted.

3.3.16 Response to Comment Letter O16, Marathon Martinez Community Advisory Panel

O16-1

This comment acknowledges that the Marathon Martinez Community Advisory Panel has been informed of the proposed Project and its potential impacts and mitigation measures.

Response O16-1: The comment does not state a specific concern or question regarding the sufficiency of the analysis or mitigation measures raised in the Draft EIR; therefore, no response

is required. The comment is acknowledged for the record and will be provided as part of the Final EIR to the decision-making bodies for their consideration in reviewing the Project.

3.3.17 Response to Comment Letter O17, The Climate Center

O17-1

This comment confirms that the comment letter regards the proposed Project.

Response O17-1: Comment noted.

O17-2

This comment confirms the commentor's participation in the Coalition technical letter. The comment states that the Draft EIR inadequately discloses and address project greenhouse gas and climate impacts and refers the County to the Coalition letter for further discussion.

Response O17-1: See Responses to Comment Letter O12.

O17-3

This comment discusses the Project baseline used in the Draft EIR.

Response O17-3: See Master Response 1, *CEQA Baseline*.

O17-4

This comment states that the Draft EIR incompletely assesses greenhouse gasses from the various renewable feedstocks and that the Project's use of renewable feedstocks impacts on greenhouse gases is not discussed in the Draft EIR.

Response O17-4: See Master Response 4, *Land Use & Feedstocks*.

O17-5

This comment states that the Draft EIR's alternatives analysis is insufficient and should have considered an appropriately scaled renewables-based electrolytic hydrogen production facility.

Response O17-5: See Master Response 2, *CEQA Alternatives*.

O17-6

This comment states that the Draft EIR's cumulative impacts analysis does not address the Phillips 66 Rodeo refinery project.

Response O17-6: See Master Response 3, *CEQA Cumulative Impacts.*

O17-7

This comment states that impacts related to greenhouse gas emissions are inadequately addressed in the Draft EIR. The comment requests the County to hold a public hearing to address commenter's concerns.

Response O17-7: Refer to Master Response 4, *Land Use & Feedstocks*. As part of the CEQA process, the public will continue to be involved at hearings associated with approval or disapproval of the Project. These hearings will be publicly announced.

3.3.18 Response to Comment Letter O18, Pacific Gas & Electric Company

O18-1

This letter provides information regarding the application process for receiving service from and working in the vicinity of PG&E gas and electric facilities and other development-related requirements.

The letter does not state a specific concern or question regarding the sufficiency of the analysis or mitigation measures raised in the Draft EIR; therefore, no response is required. The letter is acknowledged for the record and will be provided as part of the Final EIR to the decision-making bodies for their consideration in reviewing the Project.

3.3.19 Response to Comment Letter I1, Marilyn Bardet

I1-1

This comment describes a model to change the energy environment from fossil fuel production to alternative energy future.

Response I1-1: The comment does not state a specific concern or question regarding the sufficiency of the analysis or mitigation measures raised in the Draft EIR; therefore, no response is required. The comment is acknowledged for the record and will be provided as part of the Final EIR to the decision-making bodies for their consideration in reviewing the Project.

I1-2

This comment describes the commenter's background and introduces the ensuing comments.

Response I1-1: Comment noted.

I1-3

This comment states that Marathon asserts that the proposed Project represents an economic imperative for the company and that the conversion presumes future demand for low carbon intensity liquid transportation fuels.

Response I1-3: The proposed Project objectives are discussed in the DEIR on page 2-2 in Section 2.2, *Project Objectives*, of Chapter 2, *Project Description*. The comment does not state a specific concern or question regarding the sufficiency of the analysis or mitigation measures raised in the Draft EIR; therefore, no response is required. The comment is acknowledged for the record and will be provided as part of the Final EIR to the decision-making bodies for their consideration in reviewing the Project.

I1-4

This comment incorrectly asserts that CEQA Guidelines require that the Draft EIR identify the estimated lifetime of a project (construction and operation), that the Project implies that no future crude oil production would occur at the Refinery and asks what the timeframe is for biofuels production at the Refinery.

Response I1-4: Refer to Response O12-22.

I1-5

This comment asks for additional information regarding Marathon's estimated projections of the lifetime for the proposed Project.

Response I1-5: Refer to Response O12-22.

I1-6

This comment requests additional information regarding rendered fat and waste cooking oils and states that estimates of future emissions related to the various feedstocks should be accounted for.

Response I1-6: The use of rendered fats and waste cooking oil feedstocks would occur by the end of 2023, when the new pretreatment unit in which they will be pretreated would be operational. Estimated emissions related to renewable feedstocks are described on page 3.3-43 of the Draft EIR.

I1-7

This comment discusses the potential for the proposed Project to induce upstream land use changes as a result of the change to renewable feedstocks.

Response I1-7: Refer to Master Response 4: Land Use & Feedstocks.

I1-8

This comment asks what legally prevents the future purchase of plant oils grown on rainforest lands.

Response I1-8: Refer to Master Response 4: Land Use & Feedstocks.

I1-9

This comment requests additional information on the amount of available renewable feedstocks.

Response I1-9: Based on the U.S. Department of Agriculture's (USDA) long-term agricultural projections,[46] Marathon estimates that the tonnage of total 2022 U.S. corn production is 381 million metric tons, and that the tonnage of corn available to produce the estimated corn oil used for the production of biofuels is 44 million metric tons, or about 11% of the total U.S. production. Marathon estimates the tonnage of total 2022 U.S. soybean production to be 121 million metric

[46] https://www.usda.gov/oce/commodity-markets/baseline

tons. The tonnage of soybeans available to produce the estimated soybean oil used for the production of biofuels is 26 million metric tons, or about 21% of the total U.S. production.

I1-10

This comment requests additional information regarding the amount of agricultural acreage need to grow soybeans and corn for one-, five-, and ten-years of renewable feedstocks for the proposed Project.

Response I1-10: Based on the USDA long-term agricultural projections,[47] the U.S. planted approximately 83.4 million acres of soybean and soybean products and 90.7 million acres of corn in the 2020/2021 growing season. The majority of each crop was harvested. The USDA projects that the acreage of soybeans planted will grow to 90 million acres by 2022 and remain constant until 2030; they project that the acreage of corn planted will reduce slightly to 89 million acres by 2026 and remain constant until 2030.

I1-11

This comment requests information regarding the facilities that press corn and/or soybeans into liquids for transport and asserts that the Draft EIR must provide vehicle mile traveled (VMT) estimates for all segments of transport supporting future biofuel production at the Refinery.

Response I1-11: The proposed Project's potential impacts to VMT is discussed in DEIR Chapter 3.14, *Traffic and Transportation*. An explanation of the regulatory requirements for the VMT analysis is provided in Section 3.14.1.1, *Regulatory Context* on pages 3.14-2 and 3.14-3. Analysis of the proposed Project's impacts to VMT is discussed under Impact TRAN-2 on page 3.14-10. The proposed Project's VMT analysis and significance determination was found by Caltrans to be consistent with the Office of Planning and Research's Technical Advisory (see Comment A3-3).

I1-12

This comment asks if the greenhouse gas emissions from processes to liquify soybeans and corn are accounted in the overall GHG emissions of the proposed Project. It asserts again that the Draft EIR must give VMT for all segments of transport supporting the proposed Project.

Response I1-12: The proposed Project would receive renewable feedstocks for refining, i.e., soybeans or corn that have already been liquified at another facility. Greenhouse gases associated with the production of renewable feedstocks fall outside the scope of this project, therefore they were not considered in the Draft EIR. See Comment I1-11 for information regarding the Draft EIR's VMT analysis.

I1-13

This question requests additional information regarding the locations and numbers of slaughterhouses involved in the supply of rendered fats to the proposed Project. It asserts again that the Draft EIR must give VMT for all segments of transport supporting the proposed Project.

[47] *ibid*

Response I1-13: The locations and numbers of slaughterhouses that would be involved to supply "rendered fats" to Marathon's Martinez refinery is confidential business information and not subject to disclosure. See Comment I1-11 for information regarding the Draft EIR's VMT analysis.

I1-14

This comment requests additional information regarding the percentages of feedstocks derived from waste oils.

Response I1-14: All current potential feedstocks that would be received by the proposed Project are considered oils in surplus or waste oils.

I1-15

This comment discusses the baseline for the project that was used as the basis of analysis in the DEIR.

Response I1-15: Refer to Master Response 1: CEQA Baseline.

I1-16

This comment requests additional information regarding other U.S. refinery biofuel conversion projects and operations and account for their emissions.

Response I1-16: Marathon has converted its Dickinson refinery in North Dakota to biodiesel and naphtha production. The emissions from this facility are estimated in the same manner as the project.

I1-17

This comment requests estimates of future emissions of H2S and PM2.5, compared to shutdown conditions at Marathon, and compared to other biofuel conversion projects.

Response I1-17: Estimates of future emissions for H2S and PM2.5 are presented in the Martinez Renewable Fuels Project Air Quality and Greenhouse Gas Technical Analysis. Emissions of these pollutants during shutdown are not relevant to evaluation of the project since this is not a project alternative, or relevant baseline. For a facility with similar throughput and process, emissions should be similar.

I1-18

This comment notes the potential for off-sited dispersion of pernicious odors.

Response I1-18: Comment noted.

I1-19

This comment notes that odor during transport, processing and storage of feedstock is not addressed.

Response to I1-19: Pursuant to Impact AQ-5, revised: Potential new sources of odor are the storage of renewable feedstock, including tallow. In order to determine the level of potential odor and whether controls would be needed, Marathon visited three facilities where fat, oils, and grease

were stored. Noticeable odors were not observed at these facilities and odor control technologies used at these sites were incorporated into the design for this Project. Odor management controls including, but not limited to, carbon adsorption, incineration, biofilter use, and chemical scrubbing, all in conjunction with a vapor recovery system and nitrogen blanketing of storage tanks are being evaluated to determine the most effective and practicable method to reduce odors from the storage tanks and loading and unloading activities. These options are the most utilized odor control methods for biofuel production. The chosen method will be reviewed with the BAAQMD and County prior to implementation.

I1-20

This comment asks if the odor control plan will be developed after the project has adopted a Final EIR.

Response to I1-20: That is correct. There are no new volatile compounds present in refining plant derived oils or rendered animal fats. The chemical makeup of the feedstocks is nonhazardous, so most toxics are eliminated. There would be a reduction in hydrogen sulfide and there will no longer be benzene or sulfur dioxide. Fence line monitoring will still occur at the site for benzene, hydrogen sulfide, and sulfur dioxide.

I1-21

This comment asks if the public will be informed of all mitigation and monitoring plans for odor suppression, as well as protocols for citizen reporting of odor complaints prior to adoption of the Final EIR?

Response to I1-21: This is not planned. The public will be informed of the above plans and protocols before operation of the project.

This comment asks if a public hearing will be held prior to the release of the Response to Comments that will provide information regarding odor and emissions management and monitoring?

Response I1-22: As part of its CEQA process, the County will conduct a public hearing to consider certification of the proposed Project's EIR, adoption of findings, and approval of a Mitigation Monitoring and Reporting Program.

I1-23

This comment asks if Marathon will comply with BAAQMD Regulations 12–15 for hydrogen sulfide emission detection.

Response I1-23: The proposed Project will comply with BAAQMD Reg 12–15. Detection systems must be in place prior to renewable feedstock refining.

I1-24

This comment asks how data gathered from the fence line monitoring systems will be verified as accurate?

Response Il-24: The site will continue to follow the BAAQMD Reg 12-15 for fence line monitoring and reporting. In compliance with the Rules, the monitors are regularly tested against

a known amount of a standard reference compound to verify that they can accurately detect compounds at the required detection limits.

I1-25

This comment requests information on fenceline monitoring for emissions particular to renewable feedstock refining, and if there are fenceline monitors that can detect and differentiate gas signatures associated with biofuel production.

Response I1-25: The regulated pollutants of concern at a feedstock refining facility may be measured through fenceline monitoring as evaluated and approved by BAAQMD, pursuant to Reg 12-15.

I1-26

This comment requests that the County provide examples of successful odor management methods at existing biofuels production facilities and at slaughterhouses where animal fat is rendered.

Response Il-26: The project will develop an odor control plan during the construction phase of the project. Examples of successful odor control applications for both biofuels production and slaughterhouses will be identified at that time. Odor management controls including, but not limited to, carbon adsorption, incineration, biofilter use, and chemical scrubbing, all in conjunction with a vapor recovery system and nitrogen blanketing of storage tanks are being evaluated to determine the most effective and practicable method to reduce odors from the storage tanks and loading and unloading activities. These options are the most utilized odor control methods for biofuel production. The chosen method will be reviewed with the BAAQMD and County prior to implementation. Examples of successful odor control applications for biofuels production and slaughterhouses will be identified at that time.

I1-27

This comment asks if renewable feedstocks will be stored in storage tanks with floating lids, and if so, how often they will be inspected.

Response I1-27: Some of renewable feedstocks will be stored in floating roof tanks. The tanks will be inspected pursuant to the American Petroleum Institute (API) API 653 standard for Tank Inspection, Repair, Alteration, and Reconstruction. API 653 is a standard developed and published by the API that covers the inspection, repair, alteration, and reconstruction of steel aboveground storage tanks used in the petroleum and chemical industries.

I1-28

This comment asks who owns and operates the proposed Project's storage tanks, and how close the storage tanks are to residential neighborhoods and schools?

Response I1-28: The proposed Project storage tanks are owned and operated by the Applicant. Distances between the proposed Project and schools and residences are discussed on page 3.3-7 of Draft EIR Section 3.3, *Air Quality* and Table E-1 in Appendix C of the *Air Quality and GHG [Greenhouse Gas] Technical Analysis*. Pursuant to the Draft EIR, the nearest school to the property lines of the proposed Project is the Floyd I. Marchus School which is 0.53 miles southwest.

I1-29

This comment requests additional information regarding flaring and accidental releases from biofuel production.

Response I1-29: Refer to Master Response 5: Public Safety.

I1-30

This comment asks whether pre-treatment of renewable feedstocks has particular or unusual safety risks.

Response I1-30: Refer to Master Response 5: Public Safety.

I1-31

This comment asks if hydrogen production will be increased for refining biofuels.

Response I1-31: The proposed Project will not produce hydrogen in excess of the amount that is allowed under existing permits.

I1-32

This comment asks what public safety risks are associated with hydrogen projection and use during the refining process.

Response I1-32: Refer to Master Response 5: Public Safety.

I1-33

This comment asks what methods are used to clean up feedstocks that spill on land.

Response Il-33: Operational protocols to prevent spills of hazardous waste to land are discussed on page 3.9-4 and 3.9-5 of the Draft EIR in Section 3.9, *Hazards and Hazardous Materials*. of the Draft EIR.

I1-34

This comment asks what methods are used to clean up feedstocks that spill into marsh or open waters.

Response I1-34: Operational protocols to prevent spills of hazardous waste spills to marsh and open water and clean up response plans are described in Section 3.10, *Hydrology and Water Quality*, on pages 3.10-17 and 3.10-18 and in Section 3.4, *Biological Resources*, on page 3.4-30 of the Draft EIR.

I1-35

This comment quotes the Draft EIR regarding the Refinery operations.

Response Il-35: No response required.

I1-36

This comment requests that information be provided regarding the assertion that distribution of petroleum products would continue at the Refinery. It also speculates about petroleum production

and storage at the Refinery and asserts that the Draft EIR must account for air quality emissions associated with the speculated arrangements.

Response I1-36: Refer to Master Response 1, *CEQA Baseline* for discussion regarding Refinery petroleum distribution. Due to the speculative nature of comments regarding use of excess storage capacity at the Refinery, no additional discussion is warranted.

I1-37

This comment requests additional information regarding petroleum-based operations at the Avon and Amorco terminals.

Response I1-37: Refer to Master Response 1, *CEQA Baseline.*

I1-38

This comment requests that the number of off-site renewable feedstock storage tanks that would be utilized be provided along with the storage tank ownership.

Response I1-38: As discussed in the Draft EIR, Marathon has investigated the use of third-party terminals in the San Francisco Bay Area or the San Joaquin Valley (see DEIR page 2-17) but has not made any decision on which existing third-party terminals.

Until a determination has been made on the actual third-party terminal or terminals that will be used, details on upgrades that may be needed at these terminals are unknown and considered speculative under CEQA Guidelines Section 15145. However, to provide a reasonable estimate of overall project impacts, the Draft EIR assumed that one new renewable feedstock storage tank will be required at a third-party terminal (see Draft EIR Appendix AQ, *Air Quality and Greenhouse Gas Technical Analysis*, Tables A.2-2), as well as a heater, valves, flanges, pressure safety valves, and pumps. Any project implemented at a third-party terminal will be subject to compliance with CEQA based on the terminal's application process, independent of the Marathon project.

I1-39

This comment asks if train cars carrying renewable feedstocks will be parked on side tracks, and if so for how long.

Response I1-39: Movement and storage of railcars off-site would be at the discretion of the rail companies, and would follow the Federal Rail regulations for storage and transport of non-hazardous materials set forth by the U.S. Department of Transportation.

I1-40

This comment requests information regarding the methods by which renewable feedstocks and renewable fuels are transferred by barges, trucks, and train cars with regard to fugitive release of odors and other emissions.

Response I1-40: Renewable feedstock is non-toxic and does not produce fugitive emissions. Renewable diesel is a heavy fuel that does not produce fugitive emissions nor contain H2S, benzene, or any other toxic materials that can become airborne.

I1-41

This comment asks whether off-site air monitoring will be installed to monitor fugitive releases that occur beyond the fence line.

Response I1-41: The Marathon Refinery operates a fence line monitoring system as required by BAAQMD Regulation (see Response I1-24). The fence line air monitoring sites are secure on Marathon property. Locating monitoring sites elsewhere would require obtaining cooperation, permission, and access from public entities or private property owners, long-term leases, reliable electric power, and, in particular, site security arrangements that may be difficult or impossible to achieve in a practicable manner. Refer to Response I1-40 regarding fugitive emissions.

I1-42

This comment contains closing language for the letter.

I1-42: Comment noted.

3.3.20 Response to Comment Letter I2, Bhima Sheridan

I2-1

This comment states that the project will impact neighboring residents and the community at large. The comment finds it unclear that the Project would reduce greenhouse gas emissions due to upstream and downstream impacts. The commentor is concerned that not enough public outreach has been conducted and requests that the County schedule a public hearing.

Response I2-1: See Master Response 5, *Land Use & Feedstocks*. The public has been invited to participate throughout the CEQA process. On February 17, 2021, the County published a Notice of Project for the Martinez Renewables Project to solicit comments from agencies, organizations, and individuals with an interest in the Project and scheduled a scoping meeting for March 15, 2021 to discuss the project and solicit oral comments on the Project. On October 14, 2021, the County issued a Notice of Availability for the Draft EIR. The County accepted comments on the adequacy of the Draft EIR during a 60-day comment period, which ended at 5 p.m. on December 17, 2021. As part of the CEQA process, the public will continue to be involved at hearings associated with approval or disapproval of the Project. These hearings will be publicly announced.

I2-2

This comment states that the Project's baseline should be the Refinery's closed condition.

Response I2-1: Refer to Master Response 1, *CEQA Baseline*.

I2-3

This comment states that the Draft EIR did not address land use impacts from use of renewable feedstocks.

Response I2-3: Refer to Master Response 4, *Land Use & Feedstocks*.

I2-4

This comment states that the Draft EIR does not address risks to public safety from biofuel refining, particularly flaring.

Response I2-4: Refer to Master Response 5, *Public Safety*.

I2-5

This comment states that the Draft EIR's discussion of project alternatives doesn't make sense.

Response I2-5: See Master Response 2, *CEQA Project Alternatives*.

I2-6

This comment states that the Draft EIR fails to analyze cumulative impacts from the Phillips 66 Rodeo refinery project.

Response I2-6: See Master Response 3, *CEQA Cumulative Impacts.*

I2-7

The comment requests that the County schedule a public hearing.

Response I2-7: See Response I2-1.

3.3.21 Response to Comment Letter I3, Dr. Stephen S. Rosenblum, Ph.D.

I3-1

This comment states that the project will impact the community into the future, urges that the CEQA review be thorough and that the public be involved to the maximum extent.

Response I3-1: The County has determined that the Project's EIR is thorough. As part of the CEQA process, the public will continue to be involved at hearings associated with approval or disapproval of the Project. These hearings will be publicly announced.

I3-2

This comment states that the Project's baseline should be the Refinery's closed condition.

Response I3-1: Refer to Master Response 1, *CEQA Baseline*.

I3-3

This comment states that the Draft EIR did not address impacts from use of renewable feedstocks.

Response I3-3: Refer to Master Response 4, *Land Use & Feedstocks*.

I3-4

This comment states that the Draft EIR does not address risks to public safety from biofuel refining.

Response I3-4: Refer to Master Response 5, *Public Safety*.

I3-5

This comment states that the Draft EIR's discussion of project alternatives doesn't make sense.

Response I3-5: See Master Response 2, *CEQA Project Alternatives*.

I3-6

This comment states that the EIR needs to address upstream and downstream carbon emissions as part of the greenhouse gas analysis.

Response I3-6: Refer to Master Response 4, *Land Use & Feedstocks*.

I3-7

This comment states that trucks that use biodiesel emit the same amount of carbon dioxide per mile as a truck fueled with fossil diesel and would therefore not be zero emission vehicles.

Response I3-7: Zero emission vehicles would be electric.

I3-8

This comment states that the Draft EIR fails to analyze cumulative impacts from the Phillips 66 Rodeo refinery project.

Response I3-8: See Master Response 3, *CEQA Cumulative Impacts.*

I3-9

This comment requests that the project not move forward until its impacts are fully analyzed and addressed. The comment requests that the County schedule a public hearing.

Response I3-9: See Response I3-1.

3.3.22 Response to Comment Letter I4, Kathy Kerridge

I4-1

This comment states that the project will impact the community. The commentor requests that the public be involved to the maximum extent possible.

Response I4-1: See Response I2-1.

I4-2

This comment states that the Project's baseline should be the Refinery's closed condition.

Response I4-2: Refer to Master Response 1, *CEQA Baseline.*

I4-3

This comment states that the Draft EIR did not address land use impacts from use of renewable feedstocks.

Response I4-3: Refer to Master Response 4, *Land Use & Feedstocks*.

I4-4

This comment states that the Draft EIR does not address risks to public safety from biofuel refining, particularly flaring.

Response I4-4: Refer to Master Response 5, *Public Safety*.

I4-5

This comment states that the Draft EIR's discussion of project alternatives doesn't make sense.

Response I4-5: See Master Response 2, *CEQA Project Alternatives*.

I4-6

This comment states that the Draft EIR fails to analyze cumulative impacts from the Phillips 66 Rodeo refinery project.

Response I4-6: See Master Response 3, *CEQA Cumulative Impacts.*

I4-7

The comment requests that the County schedule a public hearing.

Response I4-7: See Response I2-1.

3.3.23 Response to Comment Letter I5, Kathy Petricca

I5-1

This comment states that the project will impact the community. The commentor requests that the public be involved to the maximum extent possible.

Response I5-1: See Response I2-1.

I5-2

This comment states that the Draft EIR's discussion of project alternatives doesn't make sense.

Response I5-2: See Master Response 2, *CEQA Project Alternatives*.

I5-3

This comment states that the Draft EIR did not address land use impacts from use of renewable feedstocks.

Response I5-3: Refer to Master Response 4, *Land Use & Feedstocks.*

I5-4

This comment states that the Draft EIR does not address risks to public safety from biofuel refining, particularly flaring.

Response I5-4: Refer to Master Response 5, *Public Safety*.

I5-5

The comment requests that the County schedule a public hearing.

Response I5-5: See Response I2-1.

3.3.24 Response to Comment Letter I6, Nadine Peyrucain

I6-1

This comment states that the project will impact the community. The commentor requests that the public be involved to the maximum extent possible.

Response I6-1: See Response I2-1.

I6-2

This comment states that the Project's baseline should be the Refinery's closed condition.

Response I6-1: Refer to Master Response 1, *CEQA Baseline.*

I6-3

This comment states that the Draft EIR did not address land use impacts from use of renewable feedstocks.

Response I6-3: Refer to Master Response 4, *Land Use & Feedstocks*.

I6-4

This comment states that the Draft EIR does not address risks to public safety from biofuel refining, particularly flaring.

Response I6-4: Refer to Master Response 5, *Public Safety*.

I6-5

This comment states that the Draft EIR's discussion of project alternatives doesn't make sense.

Response I6-5: See Master Response 2, *CEQA Project Alternatives*.

I6-6

This comment states that the Draft EIR fails to analyze cumulative impacts from the Phillips 66 Rodeo refinery project.

Response I6-6: See Master Response 3, *CEQA Cumulative Impacts.*

I6-7

The comment states a concern that odors from the refining process would be similar to that of a rendering plant and would impact property values and impact the community.

Response I6-7: Odor management is discussed in the Draft EIR in Section 3.3, *Air Quality* (pages 3.3-13 – 3.3-14; 3.3-22 to 3.3-23; and 3.3-41 to 3.3-42. See also Comment Letter A4, particularly Responses A4-26 to A4-33.

I6-8

The comment requests that the County schedule a public hearing.

Response I6-8: See Response I2-1.

3.3.25 Response to Comment Letter I7, Elizabeth Jacqueline Garcia

I7-1

This comment states that the project will impact the community. The commentor requests that the County schedule a public meeting. The comment requests that the County consider the impacts discussed in the article entitled "BURNED, Deception, Deforestation and America's Biodiesel Policy" written by Rose Garr and Sheila Karpf of Mighty Earth and actionaid.

Response I7-1: See Response I2-1. The article provided by the commenter discusses land use impacts from use of renewable feedstocks. See Master Response 4, *Land Use & Feedstocks* for a discussion of this topic.

I7-2

This comment states that the Project's baseline should be the Refinery's closed condition.

Response I7-2: Refer to Master Response 1, *CEQA Baseline*.

I7-3

This comment states that the Draft EIR did not address land use impacts from use of renewable feedstocks.

Response I7-3: Refer to Master Response 4, *Land Use & Feedstocks*.

I7-4

This comment states that the Draft EIR does not address risks to public safety from biofuel refining, particularly flaring.

Response I7-4: Refer to Master Response 5, *Public Safety*. Refer to Comment Letter A4. The Draft EIR analyzed projected Project emissions in a Health Risk Assessment (Appendix AQ_GHG, *Air Quality and Greenhouse Gas Technical Analysis*); an updated version revised based on comments received from the Bay Area Air Quality Management District is included as an appendix to this Final EIR.

I7-5

This comment states that the Draft EIR's discussion of project alternatives doesn't make sense.

Response I7-5: See Master Response 2, *CEQA Project Alternatives*.

I7-6

This comment states that the Draft EIR fails to analyze cumulative impacts from the Phillips 66 Rodeo refinery project.

Response I7-6: See Master Response 3, *CEQA Cumulative Impacts.*

I7-7

The comment requests that the County schedule a public hearing.

Response I7-7: See Response I2-1.

3.3.26 Response to Comment Letter I8, Maureen Brennan

I8-1

This comment states that the Project's baseline should be the Refinery's closed condition.

Response I8-1: Refer to Master Response 1, *CEQA Baseline.*

I8-2

This comment states that the Draft EIR does not address risks to public safety from biofuel refining, particularly flaring.

Response I8-2: Refer to Master Response 5, *Public Safety.*

I8-3

This comment states that the Draft EIR's should discuss a smaller project or the use of green hydrogen as project alternatives.

Response I8-3: See Master Response 2, *CEQA Project Alternatives*.

I8-4

This comment asks that the project not move forward until the impacts are fully analyzed.

Response I8-4: The County has determined that the Project's EIR is thorough. As part of the CEQA process, the public will continue to be involved at hearings associated with approval or disapproval of the Project. These hearings will be publicly announced.

3.4 FORM LETTERS

These form letters contain the following comments:

(a) A request that the CEQA review be thorough and accurate, and that the public be involved for the Project, which has potential to affect the community at large. It also introduces the ensuing comments.
(b) The assertion that the baseline physical conditions for impact analysis should be the Refinery's shut-down condition.

Response FL1-2: Please see Master Response 1.

FL1-3

(c) This comment expresses concern that the Project will negatively impact land use patterns and requests that the EIR address potential indirect land use changes as a result of the use of biofuel feedstocks.
(d) A statement that the Draft EIR does not adequately address the proposed Project's public safety impacts, including the potential for increased flaring and resulting impacts to the health of the local community including sensitive receptors such as nursing facility residents.

(e) A statement that additional project alternatives should be considered as part of the Project's analysis, including 1) reducing the scale of the Project, 2) use of green hydrogen, or 3) decommissioning.

(f) A statement that the Draft EIR cumulative impact analysis did not address cumulative impacts from nearby projects, including the Phillips 66 Rodeo Refinery Project.

(g) A request that the County provide a public hearing to discuss the proposed Project's environmental review

Response Form Letter (a): The public has been invited to participate throughout the CEQA process. On February 17, 2021, the County published a Notice of Project for the Martinez Renewables Project to solicit comments from agencies, organizations, and individuals with an interest in the Project and scheduled a scoping meeting for March 15, 2021 to discuss the project and solicit oral comments on the Project. On October 14, 2021, the County issued a Notice of Availability for the Draft EIR. The County accepted comments on the adequacy of the Draft EIR during a 60-day comment period, which ended at 5 p.m. on December 17, 2021. As part of the CEQA process, the public will continue to be involved at hearings associated with approval or disapproval of the Project. These hearings will be publicly announced.

Response Form Letter (b): See Master Response 1, *CEQA Baseline*.

Response Form Letter (c): See Master Response 4, *Land Use & Feedstocks*.

Response Form Letter (d): See Master Response 5, *Public Safety*.

Response Form Letter (e): See Master Response 2, *CEQA Alternatives*.

Response Form Letter (f): See Master Response 3, *CEQA Cumulative Analysis*.

Response Form Letter (g): See Response Form Letter (a).

CHAPTER 4 REVISIONS TO THE DRAFT EIR

This chapter of the Final EIR includes revisions to the Draft EIR that have been made to revise, clarify, or correct the environmental analysis for the Project. These revisions have been made as a result of public and agency comments received in response to the Draft EIR and/or additional information that has become available since publication of the Draft EIR. The revisions described in this chapter do not result in the proposed Project creating any new or significant environmental impacts.

The revisions are presented in the order that they appear in the Draft EIR, with the relevant page number(s) identified. Deletions are shown with ~~strikethrough~~ and additions are shown with double underline. Existing text to remain unchanged is included as plain text, without strikethrough or double underlines, to provide context for the revisions, clarifications, and corrections.

Chapter 1 Introduction

Reference to San Francisco Bay Conservation and Development Commission (BCDC) on page 1-4 of the Draft EIR is moved from the list of Local agencies to the list of State agencies.

Chapter 2 Project Description

The second sentence of the fifth paragraph on page 2-36 is revised as follows:

> Of these estimated 400 marine vessels per year, or approximately seven per week on average, the Avon MOT would receive about four ~~ships~~ vessels each week and the Amorco MOT would have an estimated three ~~ships~~ vessels per week.

Section 3.3 Air Quality

Mitigation Measures AQ-1a on page 3.3-32 and ES-4 and ES-5 is revised as follows:

> **Mitigation Measure AQ-1a:** Implement BAAQMD Basic Construction Measures and Additional Best Practices.
>
> The permittee shall implement the following Basic Construction Measures ~~measures~~ during construction of the Project:
>
> - All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas and unpaved access roads) shall be watered two times per day.
> - All haul trucks transporting soil, sand or other loose material off-site shall be covered.
> - All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
> - All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.

- All roadways, driveways and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

The permittee shall implement the following Additional Best Practices measures during construction of the Project:

- All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
- Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- All trucks and equipment, including tires, shall be washed off prior to leaving the site.
- Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
- Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- Only Tier 4 engines shall be used when practicable for construction equipment and zero-emission equipment as available.

The first paragraph of Mitigation Measure AQ-1b on page 3.3-33 and ES-5 is revised as follows:

> The following air emissions reduction BMPs shall be implemented to the maximum extent practicable by the applicant and construction contractors. The measures shall be ~~included as recommended practices~~ incorporated into all construction contracts related to the Project.

Table 3.3-14 on page 3.3-34 of Section 3.3, *Air Quality* is replaced with the following table:

Table 3.3-14-REVISED: Summary Total Project Daily Emission Changes (lbs./day)

Project Source		NOx	SO2	CO	POC	PM_{10}	$PM_{2.5}$
Stationary	Pre-project	4335.46	2297.39	6639.82	10193.31	1526.64	1487.24
	Post-project	2551.94	906.99	3285.55	3248.45	314.17	314.17
	Change	-1783.52	-1390.40	-3354.26	-6944.86	-1212.46	-1173.07
Mobile	Pre-project	2054.03	2217.20	305.35	135.94	201.00	81.14
	Post-project	712.61	19.88	256.92	51.66	40.07	23.68
	Change	-1341.42	-2197.32	-48.43	-84.28	-160.93	-57.47
Off-site Stationary	Pre-project	1248.80	461.40	2410.12	9.20	131.06	131.06
	Post-project	1301.74	478.30	2420.70	13.48	132.87	132.87
	Change	52.94	16.90	10.57	4.28	1.81	1.81
Total Project	Pre-project	7638.28	4975.99	9355.29	10338.45	1858.69	1699.44
	Post-project	4566.28	1405.17	5963.17	3313.59	487.11	470.72
	Change	-3072.00	-3570.82	-3392.12	-7024.85	-1371.58	-1228.73

Table 3.3-15 on page 3.3-35 of Section 3.3, *Air Quality* is replaced with the following table:

Table 3.3-15-REVISED: Summary Total Project Annual Emission Changes (tons/year)

Project Source		NOx	SO2	CO	POC	PM_{10}	$PM_{2.5}$
Stationary	Pre-project	401.99	290.48	649.06	186.29	245.81	238.62
	Post-project	97.57	36.51	56.40	108.96	27.60	27.60
	Change	-304.42	-253.97	-592.66	-77.33	-218.21	-211.02
Mobile	Pre-project	374.70	404.63	54.77	24.78	36.12	14.72
	Post-project	129.99	3.63	46.87	9.42	7.31	4.32
	Change	-244.71	-401.00	-7.91	-15.36	-28.81	-10.40
Off-site Stationary	Pre-project	46.08	18.25	13.26	8.31	14.36	14.36
	Post-project	55.75	21.34	15.19	9.09	14.69	14.69
	Change	9.66	3.08	1.93	0.78	0.33	0.33
Total Project	Pre-project	822.78	713.37	717.10	219.38	296.29	267.70
	Post-project	283.31	61.48	118.46	127.48	49.60	46.61
	Change	-539.47	-651.89	-598.64	-91.90	-246.69	-221.09

The following table is inserted following 3.3-15 on page 3.3-35 of Section 3.3, *Air Quality*:

Table 3.3-15B: Summary Stationary Source Annual Emissions, New vs. Existing Sources (tons/year)

Project Source	Source Type	NOx	SO2	CO	POC	PM_{10}	$PM_{2.5}$
Stationary	New	1.82	1.71	0.25	5.19	0.06	0.06
	Existing	96.22	35.30	56.24	106.96	29.60	29.60

Stationary Source Total	**98.04**	**37.01**	**56.49**	**112.14**	**29.66**	**29.66**

The third paragraph of Impact AQ-5 on page 3.3-42 is revised as follows:

> Potential new sources of odor are the storage of renewable feedstock, including tallow. In order to determine the level of potential odor and whether controls would be needed, Marathon visited three facilities where fat, oils, and grease were stored. Noticeable odors were not observed at these facilities and odor control technologies used at these sites were incorporated into the design for this Project. Odor management controls including, but not limited to, carbon sorption, incineration, biofilter use, and chemical scrubbing, all in conjunction with a vapor recovery system and nitrogen blanketing of storage tanks are being evaluated to determine the most effective and practicable method to reduce odors from the storage tanks and loading and unloading activities. These options are the most utilized odor control methods for biofuel production. The chosen method will be reviewed with the BAAQMD and County prior to implementation. ~~Odor management controls including carbon canisters, nitrogen blanketing of storage tanks and a vapor recovery system would be used to reduce odors from the storage tanks and loading and unloading activities.~~

Mitigation Measure AQ-2 on page 3.3-41 and ES-6 to ES-7 is revised as follows:

> **Mitigation Measure AQ-2:** During the construction phase of the Project, the operational Odor Management Plan (OMP) shall be developed and implemented upon commissioning of the renewable fuels processes, intended to become an integrated part of daily operations at the Facility and other sites, so as to prevent any objectionable offsite odors and effect diligent identification and remediation of any potential objectionable odors generated by the facility and associated sites. The plan shall outline equipment that is in place and procedures that facility personnel shall use to address odor issues, facility wide. The OMP shall include continuous evaluation of the overall system performance, identification of trends to provide an opportunity for improvements to the plan, and updating the odor management and control strategies, as necessary. This plan shall be retained at the facility for County or other government agency inspection upon request. The following practices shall be included in the OMP to reduce the potential of objectionable odors from the storage of renewable feedstocks, operation of the wastewater treatment plant, and any other odor generating activity:
>
> - Develop operating procedures to inspect and evaluate the effectiveness of odor control equipment and operation of the wastewater treatment plant.
> - Inspections to be conducted on a semi-annual basis.
> - If there are fewer than an average of five confirmed complaints per year during the first 3 years of operation, then the inspection frequency can be reduced to an annual basis.
> - If there are more than five confirmed complaints in any single year, then the application shall develop additional mitigation strategies in consultation with the BAAQMD.

- In the event that odor complaints are reported, the permittee shall immediately take action to prevent repeat complaints. The permittee shall also develop and implement remedial odor mitigation strategies in consultation with the BAAQMD and County.
- Prepare an annual evaluation report of the overall system performance, identifying any trends to provide an opportunity for improvements to the plan, and updates to the odor management and control strategies, as necessary. The report shall be provided to the BAAQMD and County for review and approval.

~~During the construction phase of the Project, an operational Odor Management Plan (OMP) shall be developed and implemented upon commissioning of the renewable fuels processes, intended to become an integrated part of daily operations at the Facility and other sites, so as to prevent any objectionable offsite odors and effect diligent identification and remediation of any potential objectionable odors generated by the facility and associated sites. The plan shall outline equipment that is in place and procedures that facility personnel shall use to address odor issues, facility wide. The OMP shall include continuous evaluation of the overall system performance, identifying any trends to provide an opportunity for improvements to the plan, and updating the odor management and control strategies, as necessary. This plan shall be retained at the facility for County or other government agency inspection upon request.~~

~~The following practices shall be included in the OMP to reduce the potential of objectionable odors from the storage of renewable feedstocks, operation of the wastewater treatment plant, and any other odor generating activity:~~

~~Develop operating procedures to inspect and evaluate the effectiveness of odor control equipment and operation of the wastewater treatment plant. Inspections conducted on a semi-annual basis.~~

~~If there are fewer than an average of five confirmed complaints per year during the first 3 years of operation, then the inspection frequency can be reduced to an annual basis.~~

~~If there are more than five complaints in any single year, then the application shall develop additional mitigation strategies in consultation with the BAAQMD.~~

~~The Odor Management Plan shall be submitted to the Department of Conservation and Development for review and approval prior to commissioning of the renewable fuels process.~~

Section 3.4 Biological Resources

The regulatory context describing the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act on page 3.4-4 of Section 3.4, Biological Resources, is revised as follows:

Lempert-Keene-Seastrand Oil Spill Prevention and Response Act

The Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990 covers all aspects of marine oil spill prevention and response in California. Administration of the act

is under the authority of a chief deputy director of the CDFW, who is also then responsible for carrying out the CDFW's water pollution enforcement duties. Through the act, California State Lands Commission (CSLC) responsibilities were expanded through the creation of the Marine Environmental Protection Division (MEPD, formerly the Marine Facilities Division) ~~to oversee the safety of marine terminals and the transfer of crude oil from ships to shore based facilities~~. The MEPD adopts and enforces engineering and operations regulations at all California Marine Oil Terminals in order to prevent oil spills and to protect public health, safety, and the environment in accordance with the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act. The act also authorizes trustee agencies to seek monetary compensation for injured natural resources.

The regulatory context describing the Marine Invasive Species Act on page 3.4-5 in Section 3.4.1.1, *Regulatory and Policy Context* of Section 3.4, *Biological Resources* is revised as follows:

Marine Invasive Species Act

The Marine Invasive Species Act (MISA) of 2003, made permanent by the Coastal Ecosystems Protection Act of 2006, requires ballast water and biofouling management for all vessels that intend to discharge ballast water in California waters. Regulations depend on the vessel's size and origin of voyage. Under MISA, CSLC administers the Marine Invasive Species Program (MISP), a multiagency program tasked with preventing the introduction of non-indigenous aquatic species from ballast water and biofouling. All vessels covered under the law are required to complete and submit a ballast water report form to the CSLC upon departure from each port of call in California and must comply with good housekeeping practices.

MISP was reauthorized and expanded in 2003 with the passage of the Marine Invasive Species Act (MISA; AB 433, Chapter 491, Statutes of 2003) which, among other provisions, directed the Commission to adopt ballast water management regulations for vessels moving coastally between ports on the west coast of the U.S. Since 2003, the MISA has been amended numerous times, most notably to establish California's ballast water discharge performance standards (SB 497, Chapter 292, Statutes of 2006) and to authorize the Commission to adopt and implement biofouling management regulations (AB 740, Chapter 370, Statutes of 2007).

The Commission adopts and amends regulations to implement the MISA (Public Resources Code section 71201.7). The ballast water management regulations for coastal vessels were adopted in 2006 (California Code of Regulations, title 2, section 2280 et seq.); ballast water discharge performance standards were codified in 2007 (California Code of Regulations, title 2, section 2291 et seq.); and the biofouling management regulations (see section 7.1) were adopted and implemented in 2017 (California Code of Regulations, title 2, section 2298.1 et seq.). These regulations were strengthened through the adoption of enforcement regulations in 2017 (California Code Regulations, title 2, section 2299.01 et seq.).

In 2019, the Commission sponsored AB 912 (Chapter 433, Statutes of 2019) which authorizes the Commission to:

- Adopt and enforce the federal ballast water discharge performance standards set forth in section 151.2030(a) of Title 33 of the Code of Federal Regulations
- Delay implementation of the interim and final California ballast water discharge performance standards to 2030 and 2040, respectively, due to a lack of available ballast water treatment technologies to enable vessels to meet the California standards

In 2021, the Commission amended existing regulations (California Code of Regulations, title 2, section 2291 et seq.) to implement the requirements of AB912.

Reference to the San Francisco Bay Plan 2020 in Section 3.4.1, *Environmental Setting* is moved under the "State" from the "Regional and Local" context.

Mitigation Measure BIO-1a on page 3.4-29 and on page ES-7 and ES-8 is revised as follows:

Mitigation Measure BIO-1a: General Work Site Best Management Practices. The following measures shall be included on all plans and employed by Marathon and its contractors to avoid and minimize impacts to water quality and other beneficial characteristics of wetlands at the Project Site:

All renovation personnel shall receive environmental awareness training provided by a County-approved qualified biologist. The training shall provide information about special-status species potentially occurring in the Project area, measures being implemented to avoid impacts to the species, and procedures to follow should a listed species be encountered during routine activities. Training shall be conducted to assure understanding by both Spanish and English speakers. Training materials and the qualified biologist's resume shall be submitted to County staff for approval 2 weeks prior to program initiation.

No debris, soil, silt, sand, cement, concrete or washings thereof, or other construction-related materials or wastes, oil, or petroleum products, or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into marshes or open water/ditches adjacent to the work areas.

The third and fourth sentences of the second paragraph under Impact BIO-6 on page 3.4-34 is revised as follows:

~~Vessel calls at Avon MOT would increase from 120 per year to 364 per year. Vessel calls at Amorco MOT would decrease from 90 per year to 40 per year.~~ Vessel calls at the Marathon Refinery MOTs would increase from approximately 210 per year to 400 per year.

Paragraphs one through four of Impact BIO-8 on page 3.4-40 to 41 are revised as follows:

Discussions of impacts from major fuel, lubricant and/or boat related spills can be found in Section 4.2.4.1, Impact BIO-8, of the Final Environmental Impact Report for the Tesoro

Avon Marine Oil Terminal Lease Consideration (CSLC 2015; Avon FEIR) and in Section 4.2.3.3, Impact BIO-6, of the Final Environmental Impact Report for the Tesoro Amorco Marine Oil Terminal Lease Consideration (CSLC 2014; Amorco FEIR). Impacts from ~~vegetable oil, animal fats or biofuel~~ spills of renewable feedstocks or renewable fuels into the San Francisco Bay Estuary and surrounding natural lands would be significant and unavoidable.

Impacts from spills would depend on the material and quantity spilled. The above-referenced EIRs address spills from light oils such as fuel oil, medium oils such as crude oil and heavy oils such as heavy crude and some fuel oils. ~~Biofuels~~ Renewable fuels such ~~as ethanol or~~ biodiesel, which are derived from vegetable oils or animal fats, behave differently from conventional petroleum-based fuels in the environment. A discussion of hazards associated with the change of feedstocks is provided in Section 3.9 Hazards and Hazardous Materials.

~~Biofuel spills~~ Spills of renewable feedstocks or renewable fuels may occur from leaks in equipment, pipes, storage tanks and during transfer of biofuel. ~~Biofuelsv~~Renewable feedstocks, unlike conventional petroleum-based oils, readily biodegrade under both aerobic and anaerobic conditions (IRTC 2011). The release of a readily degradable ~~biofuel~~ renewable feedstock to soil or water results in the rapid consumption of oxygen. This can be detrimental in surface waters where low oxygen levels can adversely affect biological communities.

~~Biofuel~~ Renewable feedstocks—vegetable oils and animal fats—would be transported via barge to the Refinery terminals. Vegetable oils and animal fats share common physical properties with petroleum oils and produce similar environmental effects when spilled (EPA 2020). Like crude oil, vegetable oils and animal fats may sink and form tar balls or coat the benthic floor. These oils tend not to evaporate, but instead leave a thick, viscous residue on the surface of receiving waters. Vegetable oils and animal fats can:

- Coat animals and plants with oil and suffocate them;
- Be toxic and form toxic products;
- Destroy and degrade habitat by fouling shorelines, the water column, and the benthic substrate;
- Produce rancid odors; and
- Linger in the environment for many years.

Section 3.5 Cultural Resources

Under Native American Heritage Commission on page 3.5-6 of Section 3.5.1.3, *Cultural Resources in the Vicinity of the Project Site* is revised to add:

Ms. Mariah Mayberry from the Wiltern Rancheria responded on November 11, 2020, to Mr. Joseph Lawlor (Project Planner) of the Contra Costa County Department of

Conservation and Development in regard to AB 52 Tribal Consultation for the project. Ms. Mayberry stated that the Tribe would like to have a Tribal Monitor present during all ground disturbance. Furthermore, the Tribes preferred method of treatment for Cultural Resources is preservation in place.

Mitigation Measure CR-1 on page 3.5-17, 3.5-18, ES-15, and ES-16 of the Draft EIR is revised as follows:

Mitigation Measure CR-1: Discovery of Unknown Cultural or Archaeological Resources. The following Mitigation Measures shall be implemented during project related ground disturbance, and shall be included on all construction plans:

All construction personnel, including operators of equipment involved in grading, or trenching activities will be advised of the need to immediately stop work if they observe any indications of the presence of an unanticipated cultural resource discovery (e.g., wood, stone, foundations, and other structural remains; debris-filled wells or privies; deposits of wood, glass, ceramics). If deposits of prehistoric or historical archaeological materials are encountered during ground disturbance activities, all work within 50 feet of the discovery shall be redirected and a qualified archaeologist, certified by the Society for California Archaeology (SCA) and/or the Society of Professional Archaeology (SOPA), shall be contacted to evaluate the finds and, if necessary, develop appropriate treatment measures in consultation with the County and other appropriate agencies. In addition, all archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the state and under the jurisdiction of the CSLC (Pub. Resources Code, § 6313). Consequently, the CSLC staff requests that the County consult with CSLC Staff Attorney Jamie Garrett (Jamie.garrett@slc.ca.gov) should any cultural and/or Tribal Cultural resources on state lands be discovered during construction of the proposed project. If the cultural resource is also a tribal cultural resource (TCR) the representative (or consulting) tribe(s) will also require notification and opportunity to consult on the findings.

If the deposits are not eligible, avoidance is not necessary. If eligible, deposits will need to be avoided by impacts or such impacts must be mitigated. Upon completion of the archaeological assessment, a report should be prepared documenting the methods, results, and recommendations. The report should be submitted to the Northwest Information Center and appropriate Contra Costa County agencies. In addition, the final disposition of archaeological, historical, and paleontological resources recovered on State land under the jurisdiction of the California State Lands Commission must be approved by the CSLC.

Should human remains be uncovered during grading, trenching, or other on-site excavation(s), earthwork within 30 yards of these materials shall be stopped until the County coroner has had an opportunity to evaluate the significance of the human remains and determine the proper treatment and disposition of the remains. Pursuant to California Health and Safety Code Section 7050.5, if the coroner determines the remains may those of a Native American, the coroner is responsible for contacting the Native American Heritage Commission (NAHC) by telephone within 24 hours. Pursuant to California Public

Resources Code Section 5097.98, the NAHC will then determine a Most Likely Descendant (MLD) tribe and contact them. The MLD tribe has 48 hours from the time they are given access to the site to make recommendations to the land owner for treatment and disposition of the ancestor's remains. The land owner shall follow the requirements of Public Resources Code Section 5097.98 for the remains.

In the event the Project design changes, and ground disturbance is anticipated beyond the Area of Potential Effect, as it is currently defined by the Cultural Resources Inventory Reports, further surveys shall be conducted in those new areas to assess the presence of cultural resources. Any newly discovered or previously recorded sites within the additional survey areas shall be recorded (or updated) on appropriate Department of Parks and Recreation (DPR) 523-series forms. If avoidance of these cultural resources is not feasible then an evaluation and/or data recovery program shall be drafted and implemented.

Section 3.8 Greenhouse Gas Emissions

Best Management Practice GHG-1 on page 3.8-21 and 3.8-22 is revised as follows:

Best Management Practice GHG-1: Operational Measures to Reduce GHG Emissions. The following GHG reduction BMPs shall be implemented to the maximum extent practicable during all on-going business operations. The measures shall be ~~included as recommended practices~~ incorporated into all construction contracts and operations related to the Project.

All heavy-duty trucks entering or operated on the project site shall be model year 2014 or later, to the maximum extent practicable, and transition to zero-emission vehicles shall be expedited, with the fleet fully zero emission beginning in 2030 or when such vehicles are commercially available, whichever date is later.

- All ocean-going vessels calling at the Refinery shall use engines meeting the International Maritime Organization's Tier 4 ~~3~~ engine standard or higher to the maximum extent practicable.
- All ocean-going vessels calling at the Refinery shall comply with CARB's At- Berth Regulation, including meeting the onboard auxiliary diesel engine operational time limits and onboard auxiliary-diesel-engine power generation reductions to the maximum extent practicable. All ocean-going vessels shall comply with the voluntary vessel speed reduction zones established by National Oceanic and Atmospheric Administration.
- All engines in articulated tug-barge combinations and tugboats assisting oceangoing vessels shall meet U.S. Environmental Protection Agency (EPA) Tier ~~3 and~~ 4 engines standards, and be equipped with diesel particulate filters to the maximum extent practicable.
- All locomotives shall meet U.S. EPA Tier 4 engine standards to the maximum extent practicable.
- Utilize a "clean fleet" (e.g., zero-emission light-and medium-duty delivery trucks, vans, automobiles, railcar engines, and vessels) as part of business operations to the maximum extent practicable.

- Ensure all service equipment (e.g., yard hostlers, yard equipment, forklifts, and pallet jacks) used within the project site are zero-emission to the maximum extent practicable.
- Use the cleanest technologies available and provide the necessary infrastructure to support zero-emission vehicles and equipment that will be operating on-site to the maximum extent practicable.
- Idling is strictly prohibited on the subject property and adjacent streets in the Martinez area. All truck drivers associated with the business shall be informed of this prohibition.
- Periodically sweep the property to remove road dust, tire wear, brake dust and other contaminants in parking lots.
- Diesel back-up generators shall not be used on the property unless absolutely necessary. If absolutely necessary, generators shall have Best Available Control Technology (BACT) that meets CARB's Tier 4 emission standards or meets the most stringent in-use standard, whichever has the least emissions to the maximum extent practicable.
- Shore power shall be provided to all vessel fleets and all fleets shall be shore power compatible to the maximum extent practicable.

Section 3.9 Hazards and Hazardous Materials

The description of the CSLC in Section 3.9.1.1, *Regulatory and Policy Context* of Chapter 3.9, *Hazard and Hazardous Materials* on page 3.9-5 of the DRAFT EIR is revised to include the following:

> The CSLC also developed MOT Engineering and Maintenance Standards (MOTEMS) to establish standards for the design, construction and maintenance of marine oil terminal berthing and cargo loading/unloading facilities. MOTEMS is intended to minimize the possibility of accidents at MOTs during extreme weather events, seismic activity and routine operations that could lead to releases of petroleum substances to the environment. Existing facilities are required to retrofit or rebuild as necessary to meet MOTEMS. Existing facilities are required to retrofit or rebuild as necessary to meet MOTEMS~~, which the Refinery operators have already done pursuant~~. Pursuant to recently-renewed leases with CSLC, ~~and the terminal~~ the two MOTs will continue to be subject to compliance with MOTEMS requirements~~.~~, and if deficiencies are identified by CSLC MEPD during routine MOTEMS audits and inspections, the Amorco and Avon MOTs will take appropriate corrective actions to correct these deficiencies.
>
> Renewable feedstocks handled at the MOT are not regulated under the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (LKS Act) (e.g., soybean oil and tallow) and therefore not subject to OSPR or CSLC oversight nor under MOTEMS (MOTEMS, Article 5, Article 5.3 and Article 5.5, depending on the materials handled).
>
> Regulated products (i.e., “Oil” and “Renewable Fuels” defined in Public Resources Code Section 8750) would continue to be transferred at the MOT, which would require MOTEMS-compliant Terminal Operating Limits for those products within the jurisdiction of the CSLC.

Page 3.9-5 in under "State" in Section 3.9.1.1, *Regulatory and Policy Context*, is revised to add:

Department of Toxic Substances Control

The California Department of Toxic Substances and Control (DTSC) is a sub-department under the CalEPA and manages the federal hazardous waste program within the state. The department regulates the lifecycle of hazardous waste and sets goals for reducing hazardous waste production. The program follows federal and state law to ensure hazardous waste managers correctly handle, store, transport, dispose, reduce, and clean waste, and are equipped in the event of an emergency.

In 1988, a Resource Conservation and Recovery Act (RCRA) Facility Assessment was performed which identified Waste Management Unit (WMU) 17 as a Solid Waste Management Unit. Closure of WMU 17 was approved by the Department of Health Services (DHS) and the EPA on December 6, 1988, and on July 30, 1998, a Hazardous Waste Post-Closure Facility Permit was issued for WMU 17 by DTSC. The DTSC's hazardous waste permitting involvement with the Project Site is limited to WMU 17.

The wastes discharged to WMU 17 included American Petroleum Institute (API) separator sludge, dissolved air floatation (DAF) float, slop oil emulsion solids, and crude and unleaded tank bottoms. Oil and solids were separated in the impoundments and oil was subsequently skimmed from the surface for recycling at the Refinery. Waste solids were periodically removed from the impoundments and either recycled at the Refinery Coking Unit or disposed offsite and typical waste residence time was 6 to 9 months.

During the term of the 1998 Permit, DTSC approved two permit modifications: 1) July 3, 2002: Class 1 Modification to reflect the transfer of ownership from Tosco Refining Company to the Ultramar Inc.; (2) April 1, 2003: Class 1 Modification to reflect the transfer of ownership from the Ultramar Inc. to Tesoro Refining and Marketing Company LLC. After the 1998 Permit expired, the DTSC issued a new Hazardous Waste Post-Closure Facility Permit on September 29, 2009 (Permit No.: 2021/22-HWM-05; EPA ID: CAD 000 072 751). In June 2019 Tesoro Martinez Refinery submitted a hazardous waste facility permit application to the DTSC and a revised permit application in March 2021. This permit became effective December 19, 2021 and will expire on December 18, 2031. Included in the permit is a Land Use Covenant (LUC) to restrict the land use of the Unit in order to protect present or future human health or safety or the environment. The LUC prohibits use of the property for a residence or other sensitive land use and DTSC has also concluded that compliance with the environmental restrictions of the LUC will not present an unacceptable risk to present and future human health or safety or the environment.

Bay Area Air Quality Management District

BAAQMD's Regulation 8 – Organic Compounds, Rule 40 – Aeration of Contaminated Soil and Removal of Underground Storage Tanks, establishes requirements for soil handling, excavation planning and soil management, and fugitive-dust controls during disturbance of soil impacted with petroleum hydrocarbons. Required procedures under this rule include: (1) assuring sufficient moisture content of the soil to prevent dust during soil

movement; (2) covering excavated soil with tarps/impermeable coverings to minimize the generation of wind-blown dust as well as minimize organic emissions; (3) conducting sampling and monitoring as required; and (4) employ appropriate mitigation measures.

The regulatory context describing the California Accident Release Prevention Program in Section 3.9.1.1 *Regulatory and Policy Context* in Section 9.3, *Hazards and Hazardous Materials* on page 3.9-7 of the Draft EIR is revised as follows:

California Accident Release Prevention Program

The California Accident Release Prevention (CalARP) Program (19 CCR Division 2, Chapter 4.5) requires the preparation of RMPs. RMPs are documents prepared by the owner or operator of a stationary source and contain detailed information including: (1) regulated substances held on site at the stationary source; (2) off-site consequences of an accidental release of a regulated substance; (3) the accident history at the stationary source; (4) the emergency response program for the stationary source; (5) coordination with local emergency responders; (6) hazard review or process hazard analysis; (7) operating procedures at the stationary source; (8) training of the stationary source's personnel; (9) maintenance and mechanical integrity of the stationary source's physical plant and (10) incident investigation.

In addition, at MOT facilities, seismic assessment of existing nonstructural components, nonbuilding structures and building structures and their supports and attachments must be performed in accordance with MOTEMS sections 3104F.5.2 and 3109F.4 under the CalARP guidelines.

Section 3.9.4, page 3.9-15, after the second paragraph in subsection Impact HAZ-1, add paragraph:

In 2016, petroleum fumes prompted more than 1,400 odor complaints, more than 100 hospital visits, and a shelter-in-place order for the city of Rodeo (KQED, 2017). *Although the Coast Guard investigation indicated "no conclusive determination" for the source, the financial responsibility for the cleanup costs was divided between the Phillips 66 refinery and the moored vessel, the Yamuna Spirit. In addition*, a laboratory analysis indicated that the spilled material was chemically identical to the Yamuna Spirit's crude oil cargo (Maritime Executive, 2016). *The BAAQMD (2016) issued an NOV to Phillips 66 and the vessel operator. The operators disputed the findings.*

Mitigation Measure HAZ-1 on page 3.9-17, ES-17, and ES-18 of the Draft EIR is revised as follows:

Mitigation Measure HAZ-1: The permittee shall comply with mitigation measures as outlined in the Operational Safety/Risk of Accident sections of the EIRs for both Amorco and Avon MOTs and as incorporated by reference into the leases as regulatory (lease) conditions. These measures include CLSC ~~established MOTEMS that have set minimum~~ requirements for preventative maintenance, including periodic inspection of all components related to transfer operations pipelines~~.~~. The permittee shall comply with those requirements, as well as with the CSLC's operational requirements, including Article 5.5

Marine Terminal Oil Pipelines 17 (California Code of Regulations, Title 2, Sections 2560-2571). The ~~implementation of the measures~~ requirements, which are discussed in detail in the Avon and Amorco EIRs, are as follows:

- Installation of Remote Release Systems
- Maintaining of Tension Monitoring Systems
- Maintaining of Allision Avoidance Systems
- Development of a Fire Protection Assessment
- Participation in USCG Ports and Waterways Safety Assessment Workshops
- Response to any Vessel Spills near the Project

Prior to Project operations, the permittee shall complete routine inspection, testing and maintenance of all equipment and systems conducted in accordance with manufacturers' recommendations and industry guidance, as well as consideration of for general industry guidance on effective maintenance of critical equipment at the MOT.

Upon request, Marathon shall provide evidence to relevant regulatory agencies that these facilities, operational response plans, and other applicable measures have been inspected and approved by CSLC and/or OSPR and determined to be in compliance.

If terminal operations do not allow for regular compliance and inspection of LKS and MOTEMS requirements by the CSLC and OSPR, Marathon shall employ a CSLC-approved qualified third-party to provide oversight as needed to ensure the same level of compliance as for a petroleum-handling MOT facility, and to ensure maximum protection of the environment from potential spills and resulting impacts.

Although proposed Project transportation activities would not be expected to result in increases in the magnitude of hazardous materials handled, Project activities would result in increased vessel calls, thereby increasing the potential for corresponding accidental releases of renewable feedstocks. Even with implementation of Mitigation Measure HAZ-1, the potential for an increased transportation risk would be **significant and unavoidable.**Impact HAZ-1 on page 3.9-11 to 3.9-12 is revised as follows:

As discussed above, the proposed Project would convert the Refinery from fossil fuel refining to a renewable fuels facility, and would primarily involve the alteration and addition of refinery equipment to process non-petroleum feedstocks into renewable diesel fuel, renewable propane, renewable naphtha and potentially renewable aviation fuel. Changes would also be made to the Avon Marine Terminal to equip it to receive renewable feedstocks for hydroprocessing and additional petroleum-based materials for distribution. Most of these modifications would be associated with upgrading the metallurgy of the existing equipment so that it can process renewable feedstocks, although there would be construction of some new infrastructure to allow for the transition to renewable fuels. No widespread demolition activities are being proposed as

part of the Project and refinery equipment not associated with the Renewable Fuels Project or product distribution activities would be shut down. For the units that are being shutdown, decommissioning activities would generally include emptying the equipment of any petroleum materials, removing any vapors by venting and capturing any gases, and cleaning out the equipment. The equipment within these shutdown units is expected to be left in place. For units that are being modified as part of the Project, equipment that is no longer being used will be decommissioned and left in place. After decommissioning and cleaning out the pipe, the equipment could be left on-site or sent off-site for repurposing or recycling of metal content. ~~Refinery equipment not associated with the Renewable Fuels Project or product distribution activities would be shut down.~~

Soil disturbance associated with Project construction activities is expected to be fairly limited and minimal. New foundations associated with the Pretreatment Unit, the Stage 1 Wastewater Unit, and the Thermal Oxidizer, are expected to be constructed (Figure 2-4) and in addition, soil may be disturbed to install/upgrade existing piping within the Facility. Construction activities associated with modified units are expected to occur within the existing footprint of the units and would not be expected to require soil excavation or removal as foundations already exist. Should contaminated soil be encountered during construction activities, it will be handled in compliance with appropriate federal and state rules and regulations and existing cleanup orders, which would expedite the clean-up and abatement activities at the Site.

Construction activities associated with the proposed Project would utilize hazardous and flammable substances such as fuels, lubricating oils, solvents, hydraulic fluid and compressed gases during infrastructure modification and site grading and construction. The potential exists for an accidental release of these hazardous materials during routine hazardous materials transport related to construction. Construction activities also have the potential to result in exposure to these hazardous materials by workers or by the public, if access to the construction site is not adequately controlled or if the materials are not properly handled and contained. Potential hazards to workers, the public and the environment from routine use, transport or disposal of hazardous materials handled for routine construction would be limited by existing pollution prevention, waste management, worker health and safety and transportation safety regulations such as OSHA and Cal/OSHA, CCR Title 8 and USDOT, RCRA and federal and state regulations that are currently in place for the Refinery, and would reduce the potential for releases of hazardous materials that would be routinely transported, used and disposed during the Project construction.

The amount of hazardous chemicals that would be present during construction is limited and would be in compliance with existing facility programs and government regulations. The potential for the release of hazardous materials during Project construction is low, and even if a release were to occur, it would not result in a significant hazard to the public, surrounding land uses, or environment, due to the small quantities of these materials associated with construction vehicles. Any excavated or disturbed contaminated soil would be handled in accordance with the BAAQMD's Regulation 8 – Organic Compounds, Rule 40, as applicable. Implementation of these measures are expected to reduce emissions on-site and to construction workers as well as minimize the migration

of emissions off-site, reducing the impact to the public. Further, the removal of contaminated soil would have the long-term impact of permanently removing contamination, resulting in additional clean-up of the site. Therefore, potential impacts from the routine transport, use or disposal of hazardous materials during construction of the proposed Project would be less than significant, and no mitigation would be required.

Section 3.9.5, page 3.9-20, is revised to add the following references:

BAAQMD. 2016. Incident Report, https://www.baaqmd.gov/~/media/files/compliance-and-enforcement/incident-reports/2016/i092016_phillips66_incidentrpt-pdf.pdf?la=en&rev=fcde88bd49aa459aa16f3242859864fd

KQED. 2017. Refinery, Tanker Firm Cited for Fumes That Sickened Scores in Vallejo, June 16, 2017, https://www.kqed.org/news/11514480/refinery-tanker-firm-cited-for-fumes-that-sickened-scores-in-vallejo

Maritime Executive. 2016. Maritime Executive, Coast Guard Solves Mystery of the Vallejo Spill, PUBLISHED OCT 21, 2016, https://www.maritime-executive.com/article/coast-guard-solves-mystery-of-the-vallejo-spill

Section 3.10 Hydrology and Water Resources

Reference to BCDC and the Bay Plan in Section 3.10.1, *Environmental Setting* is moved under the "State" from the "Local" context.

The following paragraph is inserted following paragraph 4 on page 3.10-14:

Terminals at the Project Site are subject to U.S. EPA regulations that require the preparation of a Spill Prevention, Control, and Countermeasures Plan (SPCC Plan), and regulations from the U.S. EPA and California Department of Fish and Wildlife (CDFW) Office of Spill Prevention and Response (OSPR) for the development and maintenance of oil spill response and contingency plans. Marathon has contingency planning and response measures for oil releases in place, including an existing facility SPCC Plan (Tesoro 2016, revised 2018), Northern California Blanket Oil Spill Response Plan (Tesoro 2017, updated 2020), and SWPPP (2013). Construction activities for the proposed Project would comply with the existing SPCC and other response plans.

The final paragraph on page 3.10-17 is revised as follows:

Terminals at the Project Site are also subject to U.S. EPA regulations that require the preparation of a Spill Prevention, Control, and Countermeasures Plan (SPCC Plan), and regulations from the U.S. EPA and California Department of Fish and Wildlife (CDFW) Office of Spill Prevention and Response (OSPR) for the development and maintenance of oil spill response and contingency plans. Marathon has contingency planning and response measures for oil releases in place, including an existing facility SPCC Plan (Tesoro 2016, revised 2018), Northern California Blanket Oil Spill Response Plan (Tesoro 2017, updated

2020), and SWPPP (2013). Additionally, the California State Lands Commission (CSLC) has developed the Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS), which are standards that apply to all existing and new marine oil terminals in California and establish minimum engineering, inspection, and maintenance criteria to prevent oil spills and protect public health, safety, and the environment. ~~These standards include conditions for operation which are specified in leases that Tesoro maintains with the CSLC.~~ These lease conditions include the following five requirements (e.g., as mitigation measures [MMs]) designed to minimize the potential for a release during loading/unloading operations at the MOTs:

- MM OS-1a: Remote Release Systems
- MM OS-1b: Tension Monitoring Systems
- MM OS-1c: Allision Avoidance Systems
- MM OS-4a: USCG Ports and Waterways Safety Assessment
- MM OS-4b: Spill Response to Vessel Spills

Section 3.15 Utilities and Service Systems

The word "Draft" is removed from the Contra Costa Water District's 2020 Urban Water Management Plan in the following places:

Page 3.15-1, second paragraph, first sentence:

> Water use and supply information for the proposed Project is drawn from the Contra Costa Water District (CCWD) 2020 ~~Draft~~ Urban Water Management Plan (UWMP), which quantifies CCWD's past, current, and future projected water use through 2045, and projects distribution water losses, low income households, and water use over the next 5 years.

Page 3.15-4, second section title under 3.15.1.3, *Local Regulations*:

> ***Contra Costa County ~~Draft~~ Urban Water Management Plan (2020)***

Page 3.15-9, Table 3.15-1, Current and Projected Water Demand (AFY):

> Source: CCWD 2020 ~~Draft~~ UWMP Table 1-3, Current and Projected Water Demand (AFY)

Page 3.15-13: Table 3.15-3: CCWD Wholesale Water Supply (Actual):

> Source: CCWD ~~Draft~~ 2020 UWMP Table 6-8W: Water Supplies – Actual

Page 3.15-32: References:

Contra Costa Water District (CCWD). 2021. ~~Draft~~ Urban Water Management Plan. April 2021. Online: ~~https://www.ccwater.com/DocumentCenter/View/9851/2020-~~

~~Urban-Water-Management-Plan-Draft-PDF~~.
https://www.ccwater.com/DocumentCenter/View/9851/2020-Urban-Water-Management-Plan-PDF?bidId= Accessed online ~~July 7, 2021~~ February 21, 2022.

Page 3.15-3, Table 3.15-3: CCWD Wholesale Water Supply Actual is revised as follows:

Table 3.15-3: CCWD Wholesale Water Supply (Actual)

Water Supply	Additional Detail on Water Supply	2020	
		Actual Volume (AFY)	Water Quality
Purchased or Imported Water	Central Valley Project	88,820	Other Non-Potable Water
Surface water (not desalinated)	Mallard Slough	0	Other Non-Potable Water
Supply from Storage	Los Vaqueros Reservoir	4,590	Other Non-Potable Water
Transfers	ECCID Supply	6,000	Other Non-Potable Water
Surface water (not desalinated)	Industrial River Diversions	5,400	Other Non-Potable Water
Surface water (not desalinated)	Antioch River Diversions	770	Other Non-Potable Water
Groundwater (not desalinated)	Estimated Groundwater	2,190	Other Non-Potable Water
Recycled Water	Industrial, irrigation, and commercial, wetland uses	~~9,160~~ 9,200	Recycled Water
	Total	**~~116,930~~ 116,970**	

NOTES:

(a) Industrial river diversions are estimated based on average use.

(b) Groundwater represents production from municipal customer owned wells and an estimate of private wells within CCWD's service area.

(c) Recycled water supplies include DEC/LMEC industrial, CCCSD Zone 1, and Cities of Antioch and Pittsburg irrigation, and wetland/wildlife habitat uses. It does not include approximately 1,000 AFY of CCCSD plant use.

(d) Passive and active conservation savings are not included in this table.

Source: CCWD ~~Draft~~ 2020 UWMP Table 6-8W: Water Supplies — Actual

Page 3.15-14, *Los Vaqueros Water Rights*, second paragraph, second sentence is revised as follows:

In 2012, CCWD completed Phase I of the Los Vaqueros improvements project. Phase II of the project is expected to be completed in ~~2021~~ 2029.

Page 3.15-16, Table 3.15-5: CCWD Wholesale Water Supply (Actual) is deleted and replaced with Table 6-9W from the Contra Costa Water District 2020 UWMP:

~~**Table 3.15-5: CCWD Wholesale Water Supply (Actual)**~~

~~Water Supply~~	~~Additional Detail on Water Supply~~	~~2020~~	
		~~Actual Volume (AFY)~~	~~Water Quality~~
~~Purchased or Imported Water~~	~~Central Valley Project~~	~~88,820~~	~~Other Non-Potable Water~~
~~Surface water (not desalinated)~~	~~Mallard Slough~~	~~0~~	~~Other Non-Potable Water~~
~~Supply from Storage~~	~~Los Vaqueros Reservoir~~	~~4,590~~	~~Other Non-Potable Water~~
~~Transfers~~	~~ECCID Supply~~	~~6,000~~	~~Other Non-Potable Water~~
~~Surface water (not desalinated)~~	~~Industrial River Diversions~~	~~5,400~~	~~Other Non-Potable Water~~
~~Surface water (not desalinated)~~	~~Antioch River Diversions~~	~~770~~	~~Other Non-Potable Water~~
~~Groundwater (not desalinated)~~	~~Estimated Groundwater~~	~~2,190~~	~~Other Non-Potable Water~~
~~Recycled Water~~	~~Industrial, irrigation, and commercial, wetland uses~~	~~9,160~~	~~Recycled Water~~
	~~**Total**~~	~~**116,930**~~	

~~**NOTES:**~~

~~(a) Industrial river diversions are estimated based on average use.~~

~~(b) Groundwater represents production from municipal customer owned wells and an estimate of private wells within CCWD's service area.~~

~~(c) Recycled water supplies include DEC/LMEC industrial, CCCSD Zone 1, and Cities of Antioch and Pittsburg irrigation, and wetland/wildlife habitat uses. It does not include approximately 1,000 AFY of CCCSD plant use.~~

~~(d) Passive and active conservation savings are not included in this table.~~

~~Source: CCWD Draft 2020 UWMP Table 6-8W: Water Supplies — Actual~~

Table 3.15-5: CCWD Water Supplies—Projected

Water Supply	Additional Detail onWater Supply	Projected Water Supply (Reasonably Available Volume)				
		2025	2030	2035	2040	2045 (opt)
Purchased or Imported Water	CVP	168,400	181,900	185,300	185,300	185,300
Surface water (not desalinated)	Mallard Slough	1,200	1,200	1,200	1,200	1,200
Surface water (not desalinated)	Antioch River Diversions	9,500	9,500	9,500	9,500	9,500
Surface water (not desalinated)	Industrial River Diversions	2,800	2,800	2,800	2,800	2,800
Groundwater (not desalinated)	Estimated Groundwater	6,800	7,000	7,300	7,600	7,900
Supply from Storage	Los Vaqueros Reservoir	10,000	10,000	10,000	10,000	10,000
Transfers	ECCID Supply	6,300	6,800	7,300	7,700	8,100

Recycled Water	Industrial, irrigation, and commercial uses	11,600	16,300	17,300	18,200	18,300
TOTAL		**216,600**	**235,500**	**240,700**	**242,200**	**243,100**

NOTES: (a) The CVP conditions used for supply planning are defined as follows: Normal is Adjusted Historical Use. Single Year Drought supply is 75% of Historical Use. Multiple-dry year period year 1, year 2, and year 3 is 85%, 70%, and 60%, of Historical Use, respectively.
(b) Mallard Slough and Antioch River diversions is based on average annual diversion over ten-year period (2010-2020).
(c) Groundwater represents production from municipal customer owned wells and an estimate of private wells within CCWD's service area.
(d) Water supply reliability benefit associated with the existing 160,000-AF Los Vaqueros Reservoir is based on modeling performed for the Environmental Impact Statement/Environmental Impact Report for the first phase of the Los Vaqueros Reservoir Expansion Project.
(e)Recycled water does not include CCCSD plant use.
(f) Demand projections shown in Section 4 have been adjusted to reflect anticipated reductions due to passive and active conservation savings. Thus, conservation savings are not included as a supply.
Source: CCWD 2020 UWMP Table 6-9W: Water Supplies—Projected

Page 3.15-29, *2021 Water Conservation/Dry Year Information*, third paragraph, second sentence is revised as follows:

> The Water District's water conservation programs involve participation by residential, commercial, and industrial customers, and have saved approximately 6,200 AFY in annual water usage. Cumulative savings exceed ~~73,000~~ 86,000 AF since the program's inception in 1991.

CUMULATIVE IMPACTS

The text describing the Chevron Avon Connectivity Project on page 4-3 in Chapter 4, *Cumulative Impacts*, under Section 4.2, *Related Projects Considered in the Cumulative Impact Analysis*, is revised as follows:

> **Avon Connectivity Project (Contra Costa County Project No. CDLP18-02027).** ~~Chevron Pipe Line Company (CPL), a wholly-owned subsidiary of Chevron Corporation, proposes the Avon Connectivity Project (Project), the purpose of which is to connect two existing pipelines, the Bay Area Products Line (BAPL) and the TransMontaigne Partners (TMP) pipeline 191 to the existing Chevron Avon Terminal. The project would enable Chevron to directly transport refined liquid product to Kinder Morgan's Concord Terminal from the project site - the Chevron Avon Terminal. The Avon Terminal address is: 611 Solano Way, Martinez. The proposed project is primarily located within the existing Chevron Avon Terminal on private property owned by the Chevron Pipe Line Company. The approximately 16-acre Avon Terminal property is entirely surrounded by the Marathon Martinez Refinery, in an industrial area east of Highway 680 and north of California State Route 4. Construction of the project is currently anticipated to begin in 2022 and is estimated to last approximately 12 months.~~ Chevron Products Company proposes to add a

second connection from the existing Bay Area Products Line to flow refined liquid product to the Chevron Avon Terminal at 611 Solano Way, Martinez, CA 94553. This second connection associated with the Avon Connectivity Project would, if completed, enable Chevron to directly transport refined liquid products from the Avon Terminal to the Kinder Morgan Concord Terminal located in unincorporated Contra Costa County near the City of Concord and would also allow Chevron to directly transport such products from the Avon Terminal to TransMontaigne Partners' Martinez Oil Terminal located in the City of Martinez.

The following text and table are added to Section 4.4, *Cumulative Impacts* p. 4-7, after the third full paragraph:

Table 4-1, Geographic Context of Cumulative Impacts, outlines the geographic area relevant for the cumulative analysis of each resource topic.

Table 4-1 Geographic Context of Cumulative Impacts

Resource Topic	Geographic Area
Aesthetics	Local – area surrounding Project sites that encompass public viewpoints
Air Quality	Regional - for pollutant emissions that have regional effects, combined air basins within the following air districts were used: BAAQMD; SJVAPCD Local/Immediate Vicinity – a refined area was used to evaluate areas with highly localized air emissions, such as NOx and PM
Biological Resources	Regional – San Francisco Bay and Delta Local/Immediate Vicinity – a refined area was used to evaluate potential impacts from construction activities
Cultural Resources	Local/Immediate Vicinity – area of potential effect (APE) : i.e. the geographic area within which the Project may alter the character or use of historic properties.
Energy Conservation	Regional – energy grids serving Project Sites
Geology and Soils	Local/Immediate Vicinity
Greenhouse Gas Emissions	State-wide and Global
Hazards and Hazardous Materials	Regional and Local

Resource Topic	Geographic Area
Hydrology and Water Quality	Regional and Local
Land Use and Planning	County
Noise and Vibration	Local/Immediate Vicinity
Tribal Cultural Resources	Local/Immediate Vicinity
Wildfire	Local/Immediate Vicinity
Solid Waste	Local – Service Areas

CHAPTER 5 REFERENCES

The following references are for citations that were included in Chapter 3, *Responses to Comments* of the Final EIR. Additional references that were added to the Final EIR as a result of the revisions to the Draft EIR are included in Chapter 4, *Changes to the Draft EIR*.

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California State Lands Commission

APPENDIX 1

Revised Air Quality and Greenhouse Gas Emission Tables

Daily Baseline Emissions (lb/day)

Source	NOx	SO2	CO	POC	PM10	PM2.5
On-Site Stationary Sources	4335.87	2282.74	6639.82	10317.47	1526.64	1487.25
Employee Vehicles	1.85	0.13	17.80	0.57	13.55	2.16
Trucks	79.60	0.34	29.01	2.49	16.86	3.18
Rail	10.55	0.01	3.35	0.33	0.23	0.22
Vessels	1956.98	2216.71	249.62	132.30	171.03	75.65
Off-Site Stationary Sources	0.00	0.00	0.00	0.00	0.00	0.00
Total:	**6384.84**	**4499.93**	**6939.59**	**10453.17**	**1728.32**	**1568.45**

Daily Post-Project Emissions (lb/day)

Source	NOx	SO2	CO	POC	PM10	PM2.5
On-Site Stationary Sources	2552.35	892.34	3285.55	3372.61	314.18	314.18
Employee Vehicles	0.39	0.03	3.76	0.12	2.87	0.46
Trucks	89.05	0.40	27.12	2.46	16.93	3.32
Rail	8.52	0.01	2.71	0.27	0.19	0.17
Vessels	614.42	19.44	224.29	48.83	20.88	19.84
Off-Site Stationary Sources	52.94	16.90	10.57	4.28	1.81	1.81
Total:	**3317.68**	**929.11**	**3554.01**	**3428.57**	**356.85**	**339.79**

Project Impact: (lb/day)

Source	NOx	SO2	CO	POC	PM10	PM2.5
On-Site Stationary Sources	-1783.52	-1390.40	-3354.26	-6944.86	-1212.46	-1173.07
Employee Vehicles	-1.46	-0.10	-14.03	-0.45	-10.69	-1.70
Trucks	9.45	0.06	-1.89	-0.04	0.07	0.14
Rail	-2.03	0.00	-0.64	-0.06	-0.05	-0.04
Vessels	-1342.55	-2197.27	-25.33	-83.48	-150.15	-55.80
Off-Site Stationary Sources	52.94	16.90	10.57	4.28	1.81	1.81
Project Impact:	**-3067.16**	**-3570.81**	**-3385.58**	**-7024.60**	**-1371.47**	**-1228.66**

Annual Baseline Emissions (TPY)

Source	NOx	SO2	CO	POC	PM10	PM2.5
On-Site Stationary Sources	402.46	290.98	649.15	189.47	247.87	240.68
Employee Vehicles	0.24	0.02	2.31	0.07	1.76	0.28
Trucks	14.53	0.06	5.29	0.46	3.08	0.58
Rail	1.93	0.00	0.61	0.06	0.04	0.04
Vessels	357.15	404.55	45.56	24.15	31.21	13.81
Off-Site Stationary Sources	0.00	0.00	0.00	0.00	0.00	0.00
Total:	**776.30**	**695.61**	**702.93**	**214.20**	**283.97**	**255.39**

Annual Post-Project Emissions (TPY)

Source	NOx	SO2	CO	POC	PM10	PM2.5
On-Site Stationary Sources	98.04	37.01	56.49	112.14	29.66	29.66
Employee Vehicles	0.05	0.00	0.49	0.02	0.37	0.06
Trucks	16.25	0.07	4.95	0.45	3.09	0.61
Rail	1.55	0.00	0.49	0.05	0.03	0.03
Vessels	112.13	3.55	40.93	8.91	3.81	3.62
Off-Site Stationary Sources	9.66	3.08	1.93	0.78	0.33	0.33
Total:	**237.69**	**43.72**	**105.29**	**122.35**	**37.30**	**34.31**

Project Impact (TPY):

Source	NOx	SO2	CO	POC	PM10	PM2.5
Stationary Sources	-304.42	-253.97	-592.66	-77.33	-218.21	-211.02
Employee Vehicles	-0.19	-0.01	-1.82	-0.06	-1.39	-0.22
Trucks	1.73	0.01	-0.35	-0.01	0.01	0.03
Rail	-0.37	0.00	-0.12	-0.01	-0.01	-0.01
Vessels	-245.02	-401.00	-4.62	-15.23	-27.40	-10.18
Off-Site Stationary Sources	9.66	3.08	1.93	0.78	0.33	0.33
Project Impact:	**-538.61**	**-651.89**	**-597.64**	**-91.86**	**-246.67**	**-221.08**

Annual Post-Project Emissions
New Versus Existing Emission Sources

On-Site Stationary Sources (TPY)

Source	NOx	SO2	CO	POC	PM10	PM2.5
New	1.82	1.71	0.25	5.19	0.06	0.06
Existing (Modified, Altered, Unchanged)	96.22	35.30	56.24	106.96	29.60	29.60
Stationary Source Total	**98.04**	**37.01**	**56.49**	**112.14**	**29.66**	**29.66**

Mobile Sources (TPY)

Source	NOx	SO2	CO	POC	PM10	PM2.5
New						
Existing (Modified, Altered, Unchanged)	129.99	3.63	46.87	9.42	7.31	4.32
Mobile Total	**129.99**	**3.63**	**46.87**	**9.42**	**7.31**	**4.32**

Off-Site Stationary Sources (TPY)

Source	NOx	SO2	CO	POC	PM10	PM2.5
New	9.66	3.08	1.93	0.78	0.33	0.33
Existing (Modified, Altered, Unchanged)						
Off-Site Total	**9.66**	**3.08**	**1.93**	**0.78**	**0.33**	**0.33**

Post-Project Total (TPY)

Source	NOx	SO2	CO	POC	PM10	PM2.5
New	11.48	4.79	2.18	5.97	0.39	0.39
Existing (Modified, Altered, Unchanged)	226.21	38.93	103.11	116.38	36.90	33.92
Total:	**237.69**	**43.72**	**105.29**	**122.35**	**37.30**	**34.31**

NOx Emissions Associated with Marine Vessels

Impact of Proposed Harbor Craft Regulation Revisions

Marine Vessel Emissions Summary - Original CEQA Assumptions

		Emissions (Pounds)					
		NOx	**SO2**	**POC**	**CO**	**PM10**	**PM2.5**
Annual Total (BAAQMD)	BAAQMD	71,485	329	6,774	45,761	2,399	2,392
Annual Total (SJVAPCD)	SJVAPCD	52,546	75	5,516	34,726	1,896	1,896
Annual Total	**lb/year**	**124,031**	**404**	**12,291**	**80,487**	**4,294**	**4,287**

Marine Vessel Emissions Summary - Revised for Proposed CARB Harbor Craft Rule Revisions - Convert Tug Main Engines to Tier 4

		Emissions (Pounds)					
		NOx	**SO2**	**POC**	**CO**	**PM10**	**PM2.5**
Annual Total (BAAQMD)	BAAQMD	48,646.49	328.92	3,633.63	43,892.46	1,190.76	1,183.73
Annual Total (SJVAPCD)	SJVAPCD	31,387.12	75.45	2,601.07	33,065.61	781.65	781.65
Annual Total	**lb/year**	**80,033.60**	**404.37**	**6,234.71**	**76,958.07**	**1,972.41**	**1,965.38**

		Emissions (Pounds)					
		NOx	**SO2**	**POC**	**CO**	**PM10**	**PM2.5**
BAAQMD Reduction		-22,838.69	0.00	-3,140.83	-1,868.44	-1,208.00	-1,208.00
SJVAPCD Reduction		-21,158.47	0.00	-2,915.29	-1,660.86	-1,113.95	-1,113.95
Overall Project Reduction	**lb/year**	**-43,997.16**	**0.00**	**-6,056.12**	**-3,529.29**	**-2,321.95**	**-2,321.95**
	TPY	-22.00	0.00	-3.03	-1.76	-1.16	-1.16

Notes:

(1) Emission Estimation Methodology for Commericial Harbor Craft Operating in California, Appendix B. (CARB 2007)

(2) Existing Tug Boat Main Engine Assumed Tier 3, proposed revision to Tier 4. Tier 4 as described in APPENDIX A COMMERCIAL HARBOR CRAFT EMISSION FACTOR TABLE.

(3) Existing Auxiliary Engines Assumed Tier 3. These engines are < 600 kW, and would not be required to be retrofit to Tier 4; minimum requirement is Tier 3.

APPENDIX 2

Mitigation, Monitoring, and Reporting Plan

Martinez Refinery Renewable Fuels Project
Mitigation Monitoring and Reporting Program

As the lead agency under the California Environmental Quality Act (CEQA), the Contra Costa County (County) is required to adopt a program for reporting or monitoring regarding the implementation of mitigation measures for the Martinez Refinery Renewable Fuels Project (Project), if it is approved, to ensure that the adopted mitigation measures are implemented as defined in this Environmental Impact Report (EIR). This lead agency responsibility originates in Public Resources Code section 21081.6, subdivision (a) (Findings), and the State Guidelines for Implementing CEQA sections 15091, subdivision (d) (Findings) and 15097 (Mitigation Monitoring or Reporting).

1. MONITORING AUTHORITY

The purpose of a Mitigation Monitoring and Reporting Program (MMRP) is to ensure that measures adopted to mitigate or avoid significant impacts are implemented. An MMRP can be a working guide to facilitate not only the implementation of mitigation measures by the Project Applicant, but also the monitoring, compliance, and reporting activities of the County and any monitors it may designate.

The County may delegate duties and responsibilities for monitoring to other environmental monitors or consultants as deemed necessary, and some monitoring responsibilities may be assumed by responsible agencies, such as the Bay Area Air Quality Management District. The County or its designee(s), however, would ensure that each person delegated any duties or responsibilities is qualified to monitor compliance.

Any mitigation measure study or plan that requires the approval of the County must allow adequate review time. Other agencies and jurisdictions may require additional review time. It is the responsibility of the Applicant to ensure that appropriate agency reviews and approvals are obtained.

The County or its designee would also ensure that any deviation from the procedures identified under the monitoring program is approved by the County. Any deviation and its correction shall be reported immediately to the County or its designee by the Applicant.

2. ENFORCEMENT RESPONSIBILITY

The County, as the lead agency, is responsible for enforcing the procedures adopted for monitoring.

3. MITIGATION COMPLIANCE RESPONSIBILITY

Marathon Petroleum Corporation (Marathon or Applicant) is responsible for successfully implementing all the mitigation measures in the MMRP, and shall ensure that these requirements are met by all of its contractors and field personnel. Standards for successful mitigation are implicit in mitigation measures that include such requirements as obtaining permits or avoiding a specific impact entirely. Other mitigation measures include detailed success criteria. Additional mitigation success thresholds may be established by applicable agencies with jurisdiction through the permit process and through the review and approval of plans required for implementation of mitigation measures.

4. MITIGATION MONITORING AND REPORTING TABLE

The MMRP describes implementation and monitoring responsibilities, timing, implementation and reporting schedules, and implementation mechanisms or tools for each mitigation measure identified in the EIR, as described below. The table lists the following information, by column:

- Mitigation Measure: Provides the full text of the measure from the Final EIR.
- Monitoring/Reporting Action: Identifies the action to be taken by the Applicant.
- Mitigation Timing: Implementation of mitigation measures may occur before, during, or after construction or during operation, etc.
- Responsible Entity: Identifies the entities that will be responsible for directly implementing the mitigation measures, reporting, and monitoring.
- Compliance Verification: Identifies how compliance will be verified.

Table 1. Martinez Renewable Fuels Program Mitigation Monitoring and Reporting Program

MITIGATION MEASURE	TIMING	MONITORING/ REPORTING ACTION	RESPONSIBLE ENTITY	COMPLIANCE VERIFICATION
3.3 AIR QUALITY				
Mitigation Measure AQ-1a: Implement BAAQMD Basic Construction Measures and Additional Best Practices. The permittee shall implement the following Basic Construction Measures ~~measures~~ during construction of the Project: • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand or other loose material off-site shall be covered. • All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 miles per hour. • All roadways, driveways and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations. The permittee shall implement the following Additional Best Practices measures during construction of the Project: • All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe. • All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph. • Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity. • Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established. • The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time. • All trucks and equipment, including tires, shall be washed off prior to leaving the site.	Construction	Implement Basic Construction Measures	DCD	Verify implementation and compliance with Basic Construction Measures.

MITIGATION MEASURE	TIMING	MONITORING/ REPORTING ACTION	RESPONSIBLE ENTITY	COMPLIANCE VERIFICATION
• Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel. • Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent. • Only Tier 4 engines shall be used when practicable for construction equipment and zero-emission equipment as available.				
Minimization and Measure AQ-1b Implement best management practices for construction activities. The following air emissions reduction BMPs shall be implemented to the maximum extent practicable by the applicant and construction contractors. The following measures shall be ~~included as recommended practices~~ incorporated into all construction contracts related to the Project: • Provide the necessary infrastructure to support the zero and near-zero emission technology vehicles and equipment that will be operating on-site. Necessary infrastructure may include the physical (e.g., needed footprint), energy, and fueling infrastructure for construction equipment, on-site vehicles, and medium-heavy and heavy-heavy duty trucks. • Portable equipment used during construction should be powered by electricity from the grid or onsite renewable sources, instead of diesel-powered generators. • All off-road diesel-powered equipment used during construction shall be equipped with Tier 4 or cleaner engines, except for specialized construction equipment in which Tier 4 engines are not available. In place of Tier 4 engines, off-road equipment can incorporate retrofits such that emission reductions achieved equal or exceed that of a Tier 4 engine. • All off-road equipment with a power rating below 19 kilowatts (e.g., plate compactors, pressure washers), used during project construction shall be battery powered. • All heavy-duty trucks entering the construction site, during the grading and building construction phases shall be model year 2014 or later, to the maximum extent practicable. All heavy-duty haul trucks shall also meet CARB's lowest optional low-NOx standard starting in the year 2022, to the maximum extent practicable.	Construction	Implement BMPs	DCD	Verify implementation and compliance with BMPS
Mitigation Measure AQ-2: During the construction phase of the Project, the operational Odor Management Plan (OMP) shall be developed and implemented upon commissioning of the renewable fuels processes, intended to become an integrated part of daily operations at the Facility and other sites, so as to prevent any objectionable offsite odors and effect diligent identification and remediation of any potential objectionable odors generated by the facility and associated sites. The plan shall outline equipment that is in place and procedures that facility personnel shall use to address odor issues, facility wide. The OMP shall include continuous evaluation of the overall system performance, identification of trends to provide an opportunity for improvements to the plan, and updating the odor management and control strategies, as necessary. This plan shall be retained at the facility for County or other government agency inspection upon request. The following practices shall be included in the OMP to reduce the potential of objectionable odors from the	During construction Upon commissioning of the renewable fuels process	Prepare Odor Management Plan Implement Odor Management Plan	DCD; BAAQMD DCD; BAAQMD	Review and approve plan Verify plan implementation

MITIGATION MEASURE	TIMING	MONITORING/ REPORTING ACTION	RESPONSIBLE ENTITY	COMPLIANCE VERIFICATION
storage of renewable feedstocks, operation of the wastewater treatment plant, and any other odor generating activity: • Develop operating procedures to inspect and evaluate the effectiveness of odor control equipment and operation of the wastewater treatment plant. • Inspections to be conducted on a semi-annual basis. • If there are fewer than an average of five confirmed complaints per year during the first 3 years of operation, then the inspection frequency can be reduced to an annual basis. • If there are more than five confirmed complaints in any single year, then the application shall develop additional mitigation strategies in consultation with the BAAQMD. • In the event that odor complaints are reported, the permittee shall immediately take action to prevent repeat complaints. The permittee shall also develop and implement remedial odor mitigation strategies in consultation with the BAAQMD and County. • Prepare an annual evaluation report of the overall system performance, identifying any trends to provide an opportunity for improvements to the plan, and updates to the odor management and control strategies, as necessary. The report shall be provided to the BAAQMD and County for review and approval. ~~During construction phase of the Project, the operational Odor Management Plan (OMP) shall be developed and implemented upon commissioning of the renewable fuels processes, intended to become an integrated part of daily operations at the Facility and other sites, so as to prevent any objectionable offsite odors and effect diligent identification and remediation of any potential objectionable odors generated by the facility and associated sites. The plan shall outline equipment that is in place and procedures that facility personnel shall use to address odor issues, facility wide. The OMP shall include continuous evaluation of the overall system performance, identifying any trends to provide an opportunity for improvements to the plan, and updating the odor management and control strategies, as necessary. This plan shall be retained at the facility for County or other government agency inspection upon request.~~ ~~The following practices shall be included in the OMP to reduce the potential of objectionable odors from the storage of renewable feedstocks, operation of the wastewater treatment plant, and any other odor generating activity:~~ ~~• Develop operating procedures to inspect and evaluate the effectiveness of odor control equipment and operation of the wastewater treatment plant.~~ ~~• Inspections conducted on a semi-annual basis.~~ ~~• If there are fewer than an average of five confirmed complaints per year during the first 3 years of operation, then the inspection frequency can be reduced to an annual basis.~~ ~~• If there are more than five complaints in any single year, then the application shall develop additional mitigation strategies in consultation with the BAAQMD.~~ ~~The Odor Management Plan shall be submitted to the Department of Conservation and Development for review and approval prior to commissioning of the renewable fuels process.~~	Ongoing during operations	Inspect equipment and prepare annual report	DCD; BAAQMD	Review and approve annual report

MITIGATION MEASURE	TIMING	MONITORING/ REPORTING ACTION	RESPONSIBLE ENTITY	COMPLIANCE VERIFICATION
3.4 BIOLOGICAL RESOURCES				
Mitigation Measure BIO-1a: General Work Site Best Management Practices. The following measures shall be included on all plans and employed by Marathon and its contractors to avoid and minimize impacts to water quality and other beneficial characteristics of wetlands at the Project Site: • All renovation personnel shall receive environmental awareness training provided by a County-approved qualified biologist. The training shall provide information about special-status species potentially occurring in the Project area, measures being implemented to avoid impacts to the species, and procedures to follow should a listed species be encountered during routine activities. Training shall be conducted to assure understanding by both Spanish and English speakers. Training materials and the qualified biologist's resume shall be submitted to County staff for approval 2 weeks prior to program initiation.	Prior to construction	Environmental awareness training	DCD	Review and approve training materials
• No debris, soil, silt, sand, cement, concrete or washings thereof, or other construction-related materials or wastes, oil or petroleum products, or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into marshes or open water/ditches adjacent to the work areas. • All personnel and their equipment shall be required to stay within the designated construction area to perform job-related tasks and shall not be allowed to enter wetlands, drainages and habitat of listed species. • Pets shall not be allowed in or near the construction area. • Firearms shall not be allowed in or near the construction area, except for armed Marathon security officers who may periodically patrol work sites. No intentional killing or injury of wildlife shall be permitted. • The construction site shall be maintained in a clean condition. All trash (e.g., food scraps, cans, bottles, containers, wrappers, cigarette butts and other discarded items) shall be placed in closed containers and properly disposed off-Site. • After construction is completed, final cleanup shall include removal of all stakes, temporary fencing, flagging and other refuse generated by construction. Vegetation shall not be removed or disturbed in the cleanup process.	During construction	Implement General Work Site Best Management Practices	DCD	Verify implementation and compliance
Mitigation Measure BIO-1b: Spill and Accidental Discharge Prevention. The following measures shall be included on all plans and employed by Marathon and its contractors. Marathon and its contractors shall be responsible for structure operations in a manner that minimizes the risk of spills or the accidental discharge of fuels or hazardous materials. Marathon and its contractors shall, at a minimum, ensure that: • All employees handling fuels and other hazardous materials are properly trained. • All equipment is in good operating order and inspected regularly. • Hazardous materials, including chemicals, fuels and lubricating oils, shall not be stored within 200 feet of a wetland or water body. This applies to storage of these materials and does not apply to normal operation or use of equipment in these areas. • If refueling is needed on-Site, it will occur at least 100 feet from a surface water feature, and in a designated refueling area with secondary containment/plastic sheeting and a spill containment kit.	Design Construction	Include measures on plans Implement Spill and Accidental Discharge Prevention Measures	DCD DCD	Verify measure included on plans Verify implementation of measures

MITIGATION MEASURE	TIMING	MONITORING/ REPORTING ACTION	RESPONSIBLE ENTITY	COMPLIANCE VERIFICATION
Mitigation Measure BIO-1c: Emergency Spill and Containment Plan. The following measures shall be included on all plans and employed by Marathon and its contractors. In the event of an accidental spill, the Facility Oil Spill Contingency Plan shall be implemented. Site-specific provisions shall be listed on the Safe Work Permit and included within the job plan maintained on-Site. At a minimum, Marathon and its contractors shall: • Ensure that each construction crew (including clean-up crews) has sufficient supplies of absorbent and barrier materials on-Site to allow the rapid containment and recovery of spilled materials, and that each construction crew knows the procedure for reporting spills.	Design	Include measures on plans; Emergency Spill and Containment Plan	DCD	Verify measure included on plans; Review and approve Safe Work Permit; Review and approve Emergency Spill and Containment Plan
• Ensure that each construction crew has sufficient tools and material on Site to stop leaks. • Know the contact names and telephone numbers for all Marathon Martinez Refinery contacts and local, state and federal agencies (including, if necessary, the U.S. Coast Guard and the National Response Center) that might need to be notified in the event of a spill. • Follow the requirements of those agencies in cleaning up the spill, excavating and disposing soils or other materials contaminated by a spill, and collecting and disposing waste generated during spill cleanup.	Construction	Implement plan	DCD	Verify plan implementation and compliance
Mitigation Measure BIO-1d: Stormwater Pollution Prevention Plan (SWPPP). The Project shall adhere to and implement the requirements of the respective existing SWPPP for the Marathon Martinez Refinery, Avon Marine Terminal and Amorco Marine Terminal during Project construction. Applicable measures in each SWPPP shall be incorporated into the construction plans by a qualified specialist and implemented prior to construction	Design Design Construction	SWPPP Include applicable measures on construction plans Implement measures	SFRWQB DCD DCD; SFRWQB	Review and approve SWPPP Verify measures included on construction plans Verify implementation and compliance
Mitigation Measure BIO-1e: In-water Work Restrictions. The following work restrictions shall be included on all plans that include in-water work, and employed by Marathon and its contractors: • To the extent feasible, in-water work shall be performed between 30 minutes after sunrise and 30 minutes before sunset. • In-water work activity shall only occur during the work window specified by the NMFS and CDFW for avoidance of potential impacts to fish species in this region of the San Francisco Bay Estuary, August 1 to November 30. If in-water work outside this time period is required, the work window may be adjusted through coordination with the CDFW, NMFS and USFWS.	Construction In-Water Work	Implement work restrictions	DCD DCD; CDFW; NMFS; USFWS	Verify compliance Coordinate work window adjustments
Mitigation Measure BIO-1f: Nearshore Habitat Disturbance Minimization. The following measures shall be employed by Marathon and its contractors. The measures shall be included as recommended practices incorporated into all construction contracts related to the Project. The number of round trips made by barges during construction shall be limited to the extent feasible. Barge and support vessels shall transit through the shallows at a no-wake-producing speed to minimize disturbance to bottom sediments. Anchoring shall be minimized to the extent possible.	Construction	Minimize nearshore habitat disturbance	DCD	Review construction contracts Verify implementation and compliance

MITIGATION MEASURE	TIMING	MONITORING/ REPORTING ACTION	RESPONSIBLE ENTITY	COMPLIANCE VERIFICATION
Mitigation Measure BIO-1g: Demarcation of Limits of Work. Marathon and its contractors shall clearly demarcate the limits of work in the field. All Project-related activity shall be confined to the designated work areas; no entry into adjacent areas shall be allowed by Project personnel. Upon Project completion, material used to mark the work boundary shall be removed.	Construction	Designate work areas	DCD	Verify implementation of measure
Mitigation Measure BIO-1h: Weed Spread Prevention. Marathon and its contractors shall implement measures to ensure that boots, clothing, vehicles and equipment are free of soils and plant parts prior to entering work areas.	Construction	Prevent weeds	DCD	Verify implementation of measure
Mitigation Measure BIO-1i: Preconstruction Focused Soft-Bird's Beak Surveys. Focused surveys for soft-bird's beak shall be conducted by a qualified biologist each year during the appropriate blooming period (June 1 through September 30) prior to construction to confirm its absence. Locations of rare plants in proposed construction areas will be recorded using a GPS unit and flagged for avoidance. A qualified biologist shall monitor construction activities occurring in the vicinity of the flagged plants to ensure that no direct or indirect impacts occur.	June 1 through September 30 prior to construction	Focused surveys and report	DCD	Review and approve report
Mitigation Measure BIO-1j: Preconstruction Nesting Bird Surveys. No more than 5 days prior to construction during the nesting bird season (February 1 through September 15), a qualified biologist shall conduct a survey for nesting birds. If work within an area lapses for more than 14 days during the nesting season, the survey shall be repeated. The survey shall encompass all work areas and those areas within a buffer of 250 feet for passerines, 500 feet for small raptors, and 1,000 feet for large raptors. Where accessible, the location of active nests will be recorded using a handheld global-positioning system unit. Should an active nest be discovered, a biological monitor will be required on-Site during construction activities that could cause disturbance of the nest. The biologist may allow work to continue if they determine that the work activity is not likely to cause nest disturbance. The biological monitor shall have the authority to stop work should a nesting bird display signs of agitation. The qualified biologist conducting the nesting surveys should prepare a report that provides details about the nesting outcome and the removal of buffers. This report should be submitted to the County's Department of Conservation and Development for review and approval prior to the time that buffers are removed.	Prior to construction Construction	Preconstruction survey and report(s)	DCD	Review and approve report(s)
Mitigation Measure BIO-1k: California Ridgway's Rail and California Black Rail Surveys. Prior to construction occurring during the rail nesting season (February 1 through August 31) within 700 feet of suitable rail habitat, surveys shall be conducted for California Ridgway's rail and California black rail in accordance with the USFWS Survey protocol for California Ridgway's rail. Surveys should be initiated between January 15 and February 1. For each survey station, four surveys are to be conducted. Surveys should be spaced at least two weeks apart and should cover the time period from the date of the first survey through the end of March or mid-April. If California Ridgway's or California black rails are detected during the survey, no work within 700 feet of the rail calling centers (identified via compass bearing and distance estimate during surveys) shall occur between February 1 and August 31, unless otherwise approved by USFWS and CDFW.	Prior to construction	Focused surveys and report	DCD	Review and approve report
Mitigation Measure BIO-2: Implement Mitigation Measure BIO-1a, Mitigation Measure BIO-1b, Mitigation Measure BIO-1c, Mitigation Measure BIO-1g and Mitigation Measure BIO-1h.	See Mitigation Measure BIO-1a, Mitigation Measure BIO-1b, Mitigation Measure BIO-1c, Mitigation Measure BIO-1g and Mitigation Measure BIO-1h.			
Mitigation Measure BIO-3: Implement Mitigation Measure BIO-1a, Mitigation Measure BIO-1b, Mitigation Measure BIO-1c, Mitigation Measure BIO-1e, Mitigation Measure BIO-1g, Mitigation Measure BIO-1h, Mitigation Measure BIO-1j and Mitigation Measure BIO-1k	See Mitigation Measure BIO-1a, Mitigation Measure BIO-1b, Mitigation Measure BIO-1c, Mitigation Measure BIO-1g and Mitigation Measure BIO-1h.			

MITIGATION MEASURE	TIMING	MONITORING/ REPORTING ACTION	RESPONSIBLE ENTITY	COMPLIANCE VERIFICATION
Mitigation Measure BIO-7a: Vessel Strike Minimization. The following mitigation measure shall be implemented during all on-going business operations and shall be included as part of contractual agreement language to ensure that contract vessels are informed of all on-going operational responsibilities. Marathon shall update pre-arrival document materials and instructions sent to tank vessels agents/operators scheduled to arrive at the Marine Terminal with the following information and requests: • Available outreach materials regarding the Blue Whales and Blue Skies incentive program. • Whale strike outreach materials and collision reporting from NOAA. • Request extra vigilance by ship crews upon entering the traffic separation scheme shipping lanes approaching San Francisco Bay and departing San Francisco Bay to aid in detection and avoidance of ship strike collisions with whales. • Inform all vessel traffic of vessels 300 gross registered tons or larger to reduce speeds to 10-knots when transiting within the designated Vessel Speed Reduction zones. • Request compliance to the maximum extent feasible (based on vessel safety) with the 10-knot speed reduction zone. Understand and agree that decisions concerning safe navigation and maneuvering of participating vessels remain entirely with ship masters and crew. • Encourage participation in the Blue Whales and Blue Skies incentive program.	Construction, ongoing during operations	Include measure in contracts Provide information and requests	DCD	Confirm measure included in contracts Review information and request materials
Mitigation Measure BIO-7b: Sturgeon Action Funding. Marathon Refining and Marketing Company, LLC (Marathon) shall conduct and support the following activities to further the understanding of vessel strike vulnerability of sturgeon in San Francisco, San Pablo, and Suisun Bays and the Carquinez Strait. The support shall be based on criteria that establish Marathon's commensurate share taking into account the increase in vessel calls to the Avon and Amorco Marine Oil Terminals. Support shall include coordination with CDFW and Research Sturgeon to ensure appropriate messaging on information flyers suitable for display at bait and tackle shops, boat rentals, fuel docks, fishing piers, ferry stations, dockside businesses, etc. to briefly introduce interesting facts about the sturgeon and research being conducted to learn more about its requirements and how the public's observations can inform strategies being developed to improve fisheries habitat within the estuary.	Operation	Sturgeon Action Funding	DCD; CDFW	Confirm funding provided
Mitigation Measure BIO-9a: Marathon Refining and Marketing Company, LLC (Marathon) shall continue to participate and assist in funding ongoing and future actions related to nonindigenous aquatic species (NAS) as described in Mitigation Measure BIO-9B of the Tesoro Avon Marine Oil Terminal Lease Consideration Project Final Environmental Impact Report (FEIR) and Mitigation Measure BIO-7b of the Amorco Marine Terminal FEIR. The level of funding shall be revisited through a cooperative effort between California State Lands Commission staff, the DWR, CDFW, and Marathon, and shall be based on criteria that establish Marathon's commensurate share NAS actions costs taking into account the increase in vessel calls to the Avon and Amorco Marine Oil Terminals.	Operation	NAS funding	DCD; CSLC	Confirm funding provided
3.5 CULTURAL AND TRIBAL RESOURCES				
Mitigation Measure CR-1: Discovery of Unknown Cultural or Archaeological Resources. The following Mitigation Measures shall be implemented during project related ground disturbance, and shall be included on all construction plans: All construction personnel, including operators of equipment involved in grading, or trenching activities will be advised of the need to immediately stop work if they observe any indications of the presence of an	Prior to any ground disturbance and throughout construction	Upon find of prehistoric or historic-period archaeological resources	DCD; Tribal representative, if required	Confirm suspension of work upon find and resource determination; Approve avoidance

MITIGATION MEASURE	TIMING	MONITORING/ REPORTING ACTION	RESPONSIBLE ENTITY	COMPLIANCE VERIFICATION
unanticipated cultural resource discovery (e.g. wood, stone, foundations, and other structural remains; debris-filled wells or privies; deposits of wood, glass, ceramics). If deposits of prehistoric or historical archaeological materials are encountered during ground disturbance activities, all work within 50 feet of the discovery shall be redirected and a qualified archaeologist, certified by the Society for California Archaeology (SCA) and/or the Society of Professional Archaeology (SOPA), shall be contacted to evaluate the finds and, if necessary, develop appropriate treatment measures in consultation with the County and other appropriate agencies. If the cultural resource is also a tribal cultural resource (TCR) the representative (or consulting) tribe(s) will also require notification and opportunity to consult on the findings. If the deposits are not eligible, avoidance is not necessary. If eligible, deposits will need to be avoided by impacts or such impacts must be mitigated. Upon completion of the archaeological assessment, a report should be prepared documenting the methods, results, and recommendations. The report should be submitted to the Northwest Information Center and appropriate Contra Costa County agencies. Should human remains be uncovered during grading, trenching, or other on-site excavation(s), earthwork within 30 yards of these materials shall be stopped until the County coroner has had an opportunity to evaluate the significance of the human remains and determine the proper treatment and disposition of the remains. Pursuant to California Health and Safety Code Section 7050.5, if the coroner determines the remains may those of a Native American, the coroner is responsible for contacting the Native American Heritage Commission (NAHC) by telephone within 24 hours. Pursuant to California Public Resources Code Section 5097.98, the NAHC will then determine a Most Likely Descendant (MLD) tribe and contact them. The MLD tribe has 48 hours from the time they are given access to the site to make recommendations to the land owner for treatment and disposition of the ancestor's remains. The land owner shall follow the requirements of Public Resources Code Section 5097.98 for the remains. In the event the Project design changes, and ground disturbance is anticipated beyond the Area of Potential Effect, as it is currently defined by the Cultural Resources Inventory Reports, further surveys shall be conducted in those new areas to assess the presence of cultural resources. Any newly discovered or previously recorded sites within the additional survey areas shall be recorded (or updated) on appropriate Department of Parks and Recreation (DPR) 523-series forms. If avoidance of these cultural resources is not feasible then an evaluation and/or data recovery program shall be drafted and implemented.				or other applicable measures.
3.7 GEOLOGY AND SOILS				
Mitigation Measure GEO-2: Submittal of Final Geotechnical Evaluation Report. Prior to issuance of a grading or building permit for the equipment changes associated with the Project, the Applicant shall submit a final geotechnical evaluation report prepared by a licensed engineer, for approval by the Department of Conservation and Development, Peer Review Geologist, along with payment for the peer review fee. The report shall specify final recommendations for seismically and structurally sound installation of new structures, equipment and foundations in accordance with the California Building Code standards in effect at the time the permit application is submitted. Construction drawings submitted with the building permit application shall include appropriate detail to demonstrate compliance of the Project with the standards of the applicable California Building Code.	Prior to issuance of grading or building permit	Prepare and submit to the County a Final Geotechnical Evaluation Report	DCD; County Peer Reviewing Engineering Geologist or Geotechnical Engineer	Review of Final Geotechnical Evaluation Report
Mitigation Measure GEO-6: Implement Mitigation Measure GEO-2.	See Mitigation Measure GEO-2.			
Mitigation Measure GEO-7: Implement Mitigation Measure GEO-2.	See Mitigation Measure GEO-2.			

MITIGATION MEASURE	TIMING	MONITORING/ REPORTING ACTION	RESPONSIBLE ENTITY	COMPLIANCE VERIFICATION
3.9 HAZARDS AND HAZARDOUS MATERIALS				
Mitigation Measure HAZ-1: The permittee shall comply with mitigation measures as outlined in the Operational Safety/Risk of Accident sections of the EIRs for both Amorco and Avon MOTs and as incorporated by reference into the leases as regulatory (lease) conditions. These measures include CLSC-established ~~MOTEMS that have set minimum~~ requirements for preventative maintenance, including periodic inspection of all components related to transfer operations pipelines. The permittee shall comply with those requirements, as well as with the CSLC's operational requirements, including Article 5.5 Marine Terminal Oil Pipelines 17 (California Code of Regulations, Title 2, Sections 2560-2571). The ~~implementation of the measures~~ requirements, which are discussed in detail in the Avon and Amorco EIRs, are as follows: • Installation of Remote Release Systems • Maintaining of Tension Monitoring Systems • Maintaining of Allision Avoidance Systems • Development of a Fire Protection Assessment • Participation in USCG Ports and Waterways Safety Assessment Workshops • Response to any Vessel Spills near the Project Prior to Project operations, the permittee shall complete routine inspection, testing and maintenance of all equipment and systems conducted in accordance with manufacturers' recommendations and industry guidance, as well as consideration of for general industry guidance on effective maintenance of critical equipment at the MOT. Upon request, Marathon shall provide evidence to relevant regulatory agencies that these facilities, operational response plans, and other applicable measures have been inspected and approved by CSLC and/or OSPR and determined to be in compliance. If terminal operations do not allow for regular compliance and inspection of LKS and MOTEMS requirements by the CSLC and OSPR, Marathon shall employ a CSLC-approved qualified third-party to provide oversight as needed to ensure the same level of compliance as for a petroleum-handling MOT facility, and to ensure maximum protection of the environment from potential spills and resulting impacts.	Prior to operations Ongoing during operations and upon request Ongoing during operations	Complete routine inspection, testing, and maintenance Provide evidence of compliance CSLC-approved third-party oversight	DCD DCD; OSPR; CSLC DCD; CSLC-approved third-party	Verify routine inspection, testing, and maintenance Verify evidence of compliance Verify compliance
Notes: Contra Costa County Department of Conservation & Development (DCD); Bay Area Air Quality Management District (BAAQMD); San Francisco Regional Water Quality Control Board (SFRWQB); California Department of Fish and Wildlife (CDFW); National Marine Fisheries Service (NMFS); U.S. Fish & Wildlife Service (USFWS); California State Lands Commission (CSLC); CDFW Office of Spill Response (OSPR)				