IV. Environmental Impact Analysis
E. Greenhouse Gas Emissions

1. Introduction

This section of the Draft EIR provides a discussion of global climate change, existing regulations pertaining to global climate change, an evaluation of the Project's consistency with plans adopted for the reduction or mitigation of greenhouse gas (GHG) emissions, an inventory of the GHG emissions that would result from the Project, and an analysis of the potential impact of these GHGs. Calculation worksheets, assumptions, and model outputs used in the analysis are contained in Appendix B to this Draft EIR.

2. Environmental Setting

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and severe weather events. Global warming, a related concept, is the observed increase in average temperature of Earth's surface and atmosphere. One identified cause of global warming is an increase of GHGs in the atmosphere. GHGs are those compounds in Earth's atmosphere that play a critical role in determining Earth's surface temperature.

Earth's natural warming process is known as the "greenhouse effect." It is called the greenhouse effect because Earth and the atmosphere surrounding it are similar to a greenhouse with glass panes in that the glass allows solar radiation (sunlight) into Earth's atmosphere but prevents radiative heat from escaping, thus warming Earth's atmosphere. Some levels of GHGs keep the average surface temperature of Earth close to a hospitable 60 degrees Fahrenheit. However, it is believed that excessive concentrations of anthropogenic GHGs in the atmosphere can result in increased global mean temperatures, with associated adverse climatic and ecological consequences.[1]

Scientists studying the particularly rapid rise in global temperatures have determined that human activity has resulted in increased emissions of GHGs, primarily from the burning of fossil fuels (from motor vehicle travel, electricity generation, consumption of

[1] *USEPA, 1/19/17 Snapshot, Climate Change: Basic Information, https://19january2017snapshot.epa.gov/climatechange/climate-change-basic-information_.html, accessed March 11, 2020.*

natural gas, industrial activity, manufacturing, etc.), deforestation, agricultural activity, and the decomposition of solid waste. Scientists refer to the global warming context of the past century as the "enhanced greenhouse effect" to distinguish it from the natural greenhouse effect.[2]

Global GHG emissions due to human activities have grown since pre-industrial times. As reported by the United States Environmental Protection Agency (USEPA), global carbon emissions from fossil fuels increased by over 16 times between 1900 and 2008 and by about 1.5 times between 1990 and 2008. In addition, in the Global Carbon Budget 2014 report, published in September 2014, atmospheric carbon dioxide (CO_2) concentrations in 2013 were found to be 43 percent above the concentration at the start of the Industrial Revolution, and the present concentration is the highest during at least the last 800,000 years.[3] Global increases in CO_2 concentrations are due primarily to fossil fuel use, with land use change providing another significant but smaller contribution. With regard to emissions of non-CO_2 GHGs, these have also increased significantly since 1900.[4] In particular, studies have concluded that it is very likely that the observed increase in methane (CH_4) concentration is predominantly due to agriculture and fossil fuel use.[5]

In August 2007, international climate talks held under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC) led to the official recognition by the participating nations that global emissions of GHG must be reduced. According to the "Ad Hoc Working Group on Further Commitments of Annex I Parties under the Kyoto Protocol," avoiding the most catastrophic events forecast by the United Nations Intergovernmental Panel on Climate Change (IPCC) would entail emissions reductions by industrialized countries in the range of 25 to 40 percent below 1990 levels. Because of the Kyoto Protocol's Clean Development Mechanism, which gives industrialized countries credit for financing emission-reducing projects in developing countries, such an emissions goal in industrialized countries could ultimately spur efforts to cut emissions in developing countries as well.[6]

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[2] *Pew Center on Global Climate Change, Climate Change 101: Understanding and Responding to Global Climate Change.*

[3] *C. Le Quéré, et al., Global Carbon Budget 2014, (Earth System Science Data, 2015, doi:10.5194/essd–7–47–2015).*

[4] *USEPA, Global Greenhouse Gas Emissions Data, www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data, accessed March 11, 2020.*

[5] *USEPA, Atmospheric Concentrations of Greenhouse Gas, updated June 2015.*

[6] *United Nations Framework Convention on Climate Change, Press Release—Vienna UN Conference Shows Consensus on Key Building Blocks for Effective International Response to Climate Change, August 31, 2007.*

With regard to the adverse effects of global warming, as reported by the Southern California Association of Governments (SCAG), "Global warming poses a serious threat to the economic well-being, public health and natural environment in southern California and beyond. The potential adverse impacts of global warming include, among others, a reduction in the quantity and quality of water supply, a rise in sea level, damage to marine and other ecosystems, and an increase in the incidences of infectious diseases. Over the past few decades, energy intensity of the national and state economy has been declining due to the shift to a more service-oriented economy. California ranked fifth lowest among the states in CO_2 emissions from fossil fuel consumption per unit of Gross State Product. However, in terms of total CO_2 emissions, California is second only to Texas in the nation and is the 12th largest source of climate change emissions in the world, exceeding most nations. The SCAG region, with close to half of the state's population and economic activities, is also a major contributor to the global warming problem."[7]

a. GHG Background

GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).[8] Carbon dioxide is the most abundant GHG. Other GHGs are less abundant, but have higher global warming potential than CO_2. Thus, emissions of other GHGs are frequently expressed in the equivalent mass of CO_2, denoted as CO_2e. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions. A general description of the GHGs is provided in Table IV.E-1 on page IV.E-4.

Global Warming Potentials (GWPs) are one type of simplified index based upon radiative properties used to estimate the potential future impacts of emissions of different gases upon the climate system. GWP is based on a number of factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of CO_2, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO_2. The larger the GWP, the more that a given gas warms the Earth compared to CO_2 over that time period. A summary of the atmospheric lifetime[9] and GWP of selected gases is presented in Table IV.E-2 on page IV.E-5. As indicated below, GWPs range from 1 to 22,800.

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[7] *SCAG, The State of the Region—Measuring Regional Progress, December 2006, p. 121.*

[8] *As defined by California Assembly Bill (AB) 32 and Senate Bill (SB) 104.*

[9] *Atmospheric lifetime is defined as the time required to turn over the global Atmospheric burden. Source: Intergovernmental Panel on Climate Change, IPCC Third Assessment Report: Climate Change 2001 (TAR), Chapter 4: Atmospheric Chemistry and Greenhouse Gases, 2001, p. 247.*

Table IV.E-1
Description of Identified GHGs[a]

Greenhouse Gas	General Description
Carbon Dioxide (CO_2)	An odorless, colorless GHG, which has both natural and anthropocentric sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (human caused) sources of CO_2 are burning coal, oil, natural gas, and wood.
Methane (CH_4)	A flammable gas and the main component of natural gas. When one molecule of CH_4 is burned in the presence of oxygen, one molecule of CO_2 and two molecules of water are released. A natural source of CH_4 is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain CH_4, which is extracted for fuel. Other sources are landfills, fermentation of manure, and cattle.
Nitrous Oxide (N_2O)	A colorless GHG. High concentrations can cause dizziness, euphoria, and sometimes slight hallucinations. N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used in rocket engines, race cars, and as an aerosol spray propellant.
Hydrofluorocarbons (HFCs)	Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are non-toxic, non-flammable, insoluble, and chemically unreactive in the troposphere (the level of air at Earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. Because they destroy stratospheric ozone, the production of CFCs was stopped as required by the Montreal Protocol in 1987. HFCs are synthetic man-made chemicals that are used as a substitute for CFCs as refrigerants. HFCs deplete stratospheric ozone, but to a much lesser extent than CFCs.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane and hexafluoroethane. The two main sources of PFCs are primary aluminum production and semi-conductor manufacturing.
Sulfur Hexafluoride (SF_6)	An inorganic, odorless, colorless, non-toxic, and non-flammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semi-conductor manufacturing, and as a tracer gas for leak detection.
Nitrogen Trifluoride (NF_3)	An inorganic, non-toxic, odorless, non-flammable gas. NF_3 is used in the manufacture of semi-conductors, as an oxidizer of high energy fuels, for the preparation of tetrafluorohydrazine, as an etchant gas in the electronic industry, and as a fluorine source in high power chemical lasers.

[a] *GHGs identified in this table are ones identified in the Kyoto Protocol and other synthetic gases recently added to the IPCC's Fifth Assessment Report.*

Source: Association of Environmental Professionals, Alternative Approaches to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, Final, June 29, 2007; United States Environmental Protection Agency, Acute Exposure Guideline Levels (AEGLs) for Nitrogen Trifluoride; January 2009.

Table IV.E-2
Atmospheric Lifetimes and Global Warming Potentials

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO_2)	50–200	1
Methane (CH_4)	12 (+/-3)	25
Nitrous Oxide (N_2O)	.114	298
HFC-23: Fluoroform (CHF_3)	270	14,800
HFC-134a: 1,1,1,2-Tetrafluoroethane (CH_2FCF_3)	14	1,430
HFC-152a: 1,1-Difluoroethane ($C_2H_4F_2$)	1.4	124
PFC-14: Tetrafluoromethane (CF_4)	50,000	7,390
PFC-116: Hexafluoroethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800
Nitrogen Trifluoride (NF_3)	740	17,200

Source: IPCC, Climate Change 2007: Working Group I: The Physical Science Basis, Direct Global Warming Potentials.

b. Projected Impacts of Global Warming in California

In 2009, California adopted a statewide Climate Adaptation Strategy (CAS) that summarizes climate change impacts and recommends adaptation strategies across seven sectors: Public health, Biodiversity and Habitat, Oceans and Coastal Resources, Water, Agriculture, Forestry, and Transportation and Energy. The California Natural Resources Agency will be updating the CAS and be responsible for preparing reports to the Governor on the status of CAS. The Natural Resources Agency produced climate change assessments which detail impacts of global warming in California.[10] These include:

- Sea level rise, coastal flooding and erosion of California's coastlines would increase, as well as sea water intrusion;
- The Sierra snowpack would decline between 70 and 90 percent, threatening California's water supply;
- Higher risk of forest fires resulting from increasing temperatures and making forests and brush drier. Climate change will affect tree survival and growth.

[10] *State of California Department of Justice, Climate Change Impacts in California, https://oag.ca.gov/environment/impact, accessed March 11, 2020.*

- Attainment of air quality standards would be impeded by increasing emissions, accelerating chemical processes, and raising inversion temperatures during stagnation episodes resulting in public health impacts;

- Habitat destruction and loss of ecosystems due to climate changing affecting plant and wildlife habitats.

- Global warming can cause drought, warmer temperatures and salt water contamination resulting in impacts to California's agricultural industry.

With regard to public health, as reported by the Center for Health and the Global Environment at the Harvard Medical School, the following are examples of how climate change can affect cardio-respiratory disease: (1) pollen is increased by higher levels of atmospheric CO_2; (2) heat waves can result in temperature inversions, leading to trapped masses or unhealthy air contaminants by smog, particulates, and other pollutants; and (3) the incidence of forest fires is increased by drought secondary to climate change and to the lack of spring runoff from reduced winter snows. These fires can create smoke and haze, which can settle over urban populations causing acute and exacerbating chronic respiratory illness.[11]

c. Regulatory Framework

In response to growing scientific and political concern with global climate change, federal and state entities have adopted a series of laws to reduce emissions of GHGs to the atmosphere, which are discussed herein.

(1) Federal

(a) Federal Clean Air Act

The United States Supreme Court (Supreme Court) ruled in *Massachusetts v. Environmental Protection Agency*, 127 S.Ct. 1438 (2007), that CO_2 and other GHGs are pollutants under the federal Clean Air Act (CAA), which the USEPA must regulate if it determines they pose an endangerment to public health or welfare. The Supreme Court did not mandate that the USEPA enact regulations to reduce GHG emissions. Instead, the Court found that the USEPA could avoid taking action if it found that GHGs do not contribute to climate change or if it offered a "reasonable explanation" for not determining that GHGs contribute to climate change.

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[11] *Paul R. Epstein, et al., Urban Indicators of Climate Change, Report from the Center for Health and the Global Environment, (Harvard Medical School and the Boston Public Health Commission, August 2003), unpaginated.*

On April 17, 2009, the USEPA issued a proposed finding that GHGs contribute to air pollution that may endanger public health or welfare. On April 24, 2009, the proposed rule was published in the Federal Register under Docket ID No. EPA-HQ-OAR-2009-0171. The USEPA stated that high atmospheric levels of GHGs "are the unambiguous result of human emissions, and are very likely the cause of the observed increase in average temperatures and other climatic changes." The USEPA further found that "atmospheric concentrations of greenhouse gases endanger public health and welfare within the meaning of Section 202 of the Clean Air Act." The findings were signed by the USEPA Administrator on December 7, 2009. The final findings were published in the Federal Register on December 15, 2009. The final rule was effective on January 14, 2010.[12] While these findings alone do not impose any requirements on industry or other entities, this action is a prerequisite to regulatory actions by the USEPA, including, but not limited to, GHG emissions standards for light-duty vehicles.

On July 20, 2011, the USEPA published its final rule deferring GHG permitting requirements for CO_2 emission from biomass-fired and other biogenic sources until July 21, 2014. Environmental groups have challenged the deferral. In September 2011, USEPA released an "Accounting Framework for Biogenic CO_2 Emissions from Stationary Sources," which analyzes accounting methodologies and suggests implementation for biogenic CO_2 emitted from stationary sources.

On April 4, 2012, USEPA published a proposed rule to establish, for the first time, a new source performance standard for GHG emissions. Under the proposed rule, new fossil fuel–fired electric generating units larger than 25 megawatts (MW) are required to limit emissions to 1,000 pounds of CO_2 per MW-hour (CO_2/MWh) on an average annual basis, subject to certain exceptions.

On April 17, 2012, the USEPA issued emission rules for oil production and natural gas production and processing operations, which are required by the CAA under Title 40 of the Code of Federal Regulations, Parts 60 and 63. The final rules include the first federal air standards for natural gas wells that are hydraulically fractured, along with requirements for several other sources of pollution in the oil and gas industry that currently are not regulated at the federal level.[13]

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[12] *USEPA, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, Final Rule, www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a-clean, accessed March 11, 2020.*

[13] *USEPA, 2012 Final Rules for Oil and Natural Gas Industry, April 17, 2012, www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry/2012-final-rules-oil-and-natural-gas-industry, accessed March 11, 2020.*

(b) Corporate Average Fuel Economy (CAFE) Standards

In response to the *Massachusetts v. Environmental Protection Agency* ruling, the George W. Bush Administration issued Executive Order 13432 in 2007, directing the USEPA, the United States Department of Transportation (USDOT), and the United States Department of Energy (USDOE) to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the National Highway Traffic Safety Administration (NHTSA) issued a final rule regulating fuel efficiency for and GHG emissions from cars and light-duty trucks for model year 2011; in 2010, the USEPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, President Obama issued a memorandum directing the USEPA, USDOT, USDOE, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the USEPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards are projected to achieve 163 grams/mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon (mpg) if the standards were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking. On April 2, 2018, the USEPA signed the Mid-term Evaluation Final Determination which finds that the model year 2022–2025 greenhouse gas standards are not appropriate and should be revised.[14] This Final Determination serves to initiate a notice to further consider appropriate standards for model year 2022–2025 light duty vehicles. On August 24, 2018, the USEPA and NHTSA published a proposal to freeze the model year 2020 standards through model year 2026 and to revoke California's waiver under the Clean Air Act to establish more stringent standards.[15]

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011 the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the

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[14] *Federal Register, Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022–2025 Light-Duty Vehicles, April 13, 2018.*

[15] *Regulations, The Safer Affordable Fuel-Efficient Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks, www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0756, accessed March 11, 2020.*

USEPA, this regulatory program would reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines.[16]

Building on the first phase of standards, in August 2016, the USEPA and NHTSA finalized Phase 2 standards for medium and heavy-duty vehicles through model year 2027 that will improve fuel efficiency and cut carbon pollution. The Phase 2 standards would be expected to lower CO_2 emissions by approximately 1.1 billion metric tons and save vehicle owners fuel costs of about $170 billion.[17] However, as discussed above, the USEPA and NHTSA have proposed to rollback GHG and fuel economy standards for cars and light-duty trucks, which suggests a similar rollback of Phase 2 standards for medium and heavy-duty vehicles may be pursued.

(c) Energy Independence and Security Act

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

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[16] *The emission reductions attributable to the regulations for medium- and heavy-duty trucks were not included in the Project's emissions inventory due to the difficulty in quantifying the reductions. Excluding these reductions results in a more conservative (i.e., higher) estimate of emissions for the Project.*

[17] *U.S. EPA, EPA and NHTSA Adopt Standards to Reduce GHG and Improve Fuel Efficiency of Medium- and Heavy-Duty Vehicles for Model Year 2018 and Beyond, August 2016.*

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."[18]

(2) State

(a) Executive Order S-3-05, Executive Order B-30-15, and Executive Order B-55-18

Executive Order S-3-05, issued by Governor Schwarzenegger in June 2005, established GHG emissions targets for the state, as well as a process to ensure the targets are met. The order directed the Secretary for the California Environmental Protection Agency (CalEPA) to report every two years on the state's progress toward meeting the Governor's GHG emission reduction targets. The statewide GHG targets established by Executive Order S-3-05 are as follows:

- By 2010, reduce to 2000 emission levels;[19]
- By 2020, reduce to 1990 emission levels; and
- By 2050, reduce to 80 percent below 1990 levels.

Executive Order B-30-15, issued by Governor Brown in April 2015, established an additional statewide policy goal to reduce GHG emissions 40 percent below their 1990 levels by 2030. Reducing GHG emissions by 40 percent below 1990 levels in 2030 and by 80 percent below 1990 levels by 2050 (consistent with Executive Order S-3-05) aligns with scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius.[20]

The State Legislature adopted equivalent 2020 and 2030 statewide targets in the California Global Warming Solutions Act of 2006 (also known as Assembly Bill [AB] 32),and Senate Bill (SB) 32, respectively, both of which are discussed below. However, the Legislature has not yet adopted a target for the 2050 horizon year. As a result of Executive Order S-3-05, the California CAT, led by the Secretary of CalEPA, was formed. The CAT

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[18] *A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.*

[19] *The 2010 target to reduce GHG emissions to 2000 levels was not met. Source: Rubin, Thomas A., "Does California Really Need Major Land Use and Transportation Changes to Meet Greenhouse Gas Emissions Targets?," July 3, 2013.*

[20] *CARB, Frequently Asked Questions about Executive Order B-30-15, 2030 Carbon Target and Adaptation FAQs, April 29, 2015.*

is made up of representatives from a number of state agencies and was formed to implement global warming emission reduction programs and to report on the progress made toward meeting statewide targets established under the Executive Order. The CAT reported several recommendations and strategies for reducing GHG emissions and reaching the targets established in the Executive Order.[21]

The CAT stated that smart land use is an umbrella term for strategies that integrate transportation and land-use decisions. Such strategies generally encourage jobs/housing proximity, promote transit-oriented development (TOD), and encourage high-density residential/commercial development along transit corridors. These strategies develop more efficient land-use patterns within each jurisdiction or region to match population increases, workforce, and socioeconomic needs for the full spectrum of the population. "Intelligent transportation systems" refers to the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and the movement of people, goods, and service.[22]

Executive Order B-55-18, issued by Governor Brown in September 2018, establishes a new statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045, and achieve and maintain net negative emissions thereafter. Based on this executive order, the California Air Resources Board (CARB) would work with relevant state agencies to develop a framework for implementation and accounting that tracks progress towards this goal as well as ensuring future scoping plans identify and recommend measures to achieve the carbon neutrality goal.

(b) Assembly Bill 32 (California Global Warming Solutions Act of 2006) and Senate Bill 32

The California Global Warming Solutions Act of 2006 (also known as AB 32) commits the state to achieving the following:

- By 2010, reduce to 2000 GHG emission levels;[23] and
- By 2020, reduce to 1990 levels.

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[21] *CalEPA, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006.*

[22] *CalEPA, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006, p. 58.*

[23] *The 2010 target to reduce GHG emissions to 2000 levels was not met. Source: Rubin, Thomas A., "Does California Really Need Major Land Use and Transportation Changes to Meet Greenhouse Gas Emissions Targets?," July 3, 2013.*

To achieve these goals, which are consistent with the California CAT GHG targets for 2010 and 2020, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources consistent with the CAT strategies, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. In order to achieve the reduction targets, AB 32 requires CARB to adopt rules and regulations in an open public process that achieve the maximum technologically feasible and cost-effective GHG reductions.[24]

SB 32, signed September 8, 2016, updates AB 32 to include an emissions reductions goal for the year 2030. Specifically, SB 32 requires the state board to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. The new plan, outlined in SB 32, involves increasing renewable energy use, imposing tighter limits on the carbon content of gasoline and diesel fuel, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

(c) Climate Change Scoping Plan

In 2008, CARB approved a *Climate Change Scoping Plan* (referred to herein as the *Climate Change Scoping Plan*) as required by AB 32.[25] Subsequently, CARB approved updates to the *Climate Change Scoping Plan* in 2014 (First Update) and 2017 (2017 Update), with the 2017 Update considering SB 32 (adopted in 2016) in addition to AB 32.

The *Climate Change Scoping Plan* proposed a "comprehensive set of actions designed to reduce overall carbon GHG emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health."[26] The *Climate Change Scoping Plan* identified a range of GHG reduction actions which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms, such as a cap-and-trade system, and an AB 32 implementation fee to fund the program.

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[24] *CARB's list of discrete early action measures that could be adopted and implemented before January 1, 2010, was approved on June 21, 2007. The three adopted discrete early action measures are: (1) a low-carbon fuel standard, which reduces carbon intensity in fuels statewide; (2) reduction of refrigerant losses from motor vehicle air conditioning system maintenance; and (3) increased methane capture from landfills, which includes requiring the use of state-of-the-art capture technologies.*

[25] *Climate Change Proposed Scoping Plan was approved by CARB on December 11, 2008.*

[26] *CARB, Climate Change Scoping Plan: A Framework for Change, December 2008.*

The *Climate Change Scoping Plan* called for a "coordinated set of solutions" to address all major categories of GHG emissions. Transportation emissions were addressed through a combination of higher standards for vehicle fuel economy, implementation of the Low Carbon Fuel Standard (LCFS), and greater consideration to reducing trip length and generation through land use planning and transit-oriented development. Buildings, land use, and industrial operations were encouraged and, sometimes, required to use energy more efficiently. Utility energy providers were required to include more renewable energy sources through implementation of the Renewables Portfolio Standard.[27] Additionally, the *Climate Change Scoping Plan* emphasized opportunities for households and businesses to save energy and money through increasing energy efficiency. It indicated that substantial savings of electricity and natural gas would be accomplished through "improving energy efficiency by 25 percent."

The *Climate Change Scoping Plan* identified a number of specific issues relevant to the Project, including:

- The potential of using the green building framework as a mechanism, which could enable GHG emissions reductions in other sectors (i.e., electricity, natural gas), noting that:

  > *A Green Building strategy will produce greenhouse gas savings through buildings that exceed minimum energy efficiency standards, decrease consumption of potable water, reduce solid waste during construction and operation, and incorporate sustainable materials. Combined, these measures can also contribute to healthy indoor air quality, protect human health, and minimize impacts to the environment.*

- The importance of supporting the Department of Water Resources' work to implement the Governor's objective to reduce per capita water use by 20 percent by 2020. Specific measures to achieve this goal include water use efficiency, water recycling, and reuse of urban runoff. The *Climate Change Scoping Plan* noted that water use requires significant amounts of energy, including approximately one-fifth of statewide electricity.

- Encouraging local governments to set quantifiable emission reduction targets for their jurisdictions and use their influence and authority to encourage reductions in emissions caused by energy use, waste and recycling, water and wastewater systems, transportation, and community design.

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[27] *For a discussion of Renewables Portfolio Standard, refer to subsection 2(f)i, California Renewables Portfolio Standard.*

Forecasting the amount of emissions that would occur in 2020 if no actions are taken was necessary to assess the scope of the reductions California has to make to return to the 1990 emissions level by 2020 as required by AB 32. CARB originally defined the "business-as-usual" or BAU scenario as emissions in the absence of any GHG emission reduction measures discussed in the *Climate Change Scoping Plan*. For example, in further explaining CARB's BAU methodology, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards. In the *Climate Change Scoping Plan*, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5 percent from the otherwise projected 2020 emissions level (i.e., those emissions that would occur in 2020, absent GHG-reducing laws and regulations).[28]

Subsequent to adoption of the *Climate Change Scoping Plan*, a lawsuit was filed challenging CARB's approval of the *Climate Change Scoping Plan Functional Equivalent Document* (FED) (*FED to the Climate Change Scoping Plan*). On May 20, 2011 (Case No. CPF-09-509562), the Court found that the environmental analysis of the alternatives in the *FED to the Climate Change Scoping Plan* was not sufficient under the California Environmental Quality Act (CEQA). CARB staff prepared a revised and expanded environmental analysis of the alternatives, and the *Supplemental FED to the Climate Change Scoping Plan* was approved on August 24, 2011 (*Supplemental FED*). The *Supplemental FED* indicated that there is the potential for adverse environmental impacts associated with implementation of the various GHG emission reduction measures recommended in the *Climate Change Scoping Plan*.

As part of the *Supplemental FED*, CARB updated the projected 2020 BAU emissions inventory based on then current economic forecasts (i.e., as influenced by the economic downturn) and emission reduction measures already in place, replacing its prior 2020 BAU emissions inventory. CARB staff derived the updated emissions estimates by projecting emissions growth, by sector, from the state's average emissions from 2006 through 2008. Specific emission reduction measures included were the million-solar-roofs program, the AB 1493 (Pavley I) motor vehicle GHG emission standards, and the LCFS.[29] In addition, CARB also factored into the 2020 BAU inventory emissions reductions associated with a 33-percent Renewable Energy Portfolio Standard (RPS) for electricity generation. Based on the new economic data, CARB determined that achieving the 1990

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[28] *CARB, Climate Change Scoping Plan, December 2008, p. 12.*

[29] *Pavley I are the first GHG standards in the nation for passenger vehicles and took effect for model years starting in 2009 to 2016. Pavley I could potentially result in 27.7 million metric tons CO_2e reduction in 2020. Pavley II will cover model years 2017 to 2025 and potentially result in an additional reduction of 4.1 million metric tons CO_2e.*

emissions level by 2020 would require a reduction in GHG emissions of 21.7 percent (down from 28.5 percent) from BAU conditions. When the 2020 emissions level projection also was updated to account for newly implemented regulatory measures discussed above, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16 percent (down from 28.5 percent) from the BAU conditions.[30,31]

In 2014, CARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework* (First Update).[32] The stated purpose of the First Update was to "highlight… California's success to date in reducing its GHG emissions and lay… the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050."[33] The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32 and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.[34]

In conjunction with the First Update, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050."[35] Those six areas were: (1) energy; (2) transportation (vehicles/ equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6) natural and working lands. The First Update identified key recommended actions for each sector that would facilitate achievement of the 2050 reduction target.

Based on CARB's research efforts, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050."[36] Those technologies include energy demand

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30 *CARB, Supplement to the AB 32 Scoping Plan FED, Table 1.2-2.*

31 *The emissions and reductions estimates found in the Supplemental FED to the Climate Change Scoping Plan fully replace the estimates published in the Climate Change Scoping Plan. See CARB, Resolution 11-27 (Aug. 24, 2011) (setting aside approval of Climate Change Scoping Plan and associated emissions forecasts, and approving the Supplemental FED). The estimates in the 2008 document are 596 million metric tons CO_2e under 2020 BAU and a required reduction of 169 million metric tons CO_2e (28.4 percent).*

32 *Health & Safety Code §38561(h) requires CARB to update the Scoping Plan every five years.*

33 *CARB, 2014 Update, May 2014, p. 4.*

34 *CARB, 2014 Update, May 2014, p. 34.*

35 *CARB, 2014 Update, May 2014, p. 6.*

36 *CARB, 2014 Update, May 2014, p. 32.*

reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

The First Update discussed new residential and commercial building energy efficiency improvements, specifically identifying progress towards zero net energy buildings as an element of meeting mid-term and long-term GHG reduction goals. The First Update expressed CARB's commitment to working with the California Public Utilities Commission (CPUC) and California Energy Commission (CEC) to facilitate further achievements in building energy efficiency.

In January 2018, CARB adopted the *2017 Climate Change Scoping Plan Update: The Strategy for Achieving California's 2030 Greenhouse Gas Target*. The 2017 Update builds upon the framework established by the *Climate Change Scoping Plan* and the First Update while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health. The 2017 Update includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and-Trade Program, which constrain and reduce emissions at covered sources.[37]

(d) Assembly Bill 197

AB 197, signed September 8, 2016, is a bill linked to SB 32, which prioritizes efforts to cut GHG emissions in low-income or minority communities. AB 197 requires CARB to make available, and update at least annually, on its website, the emissions of greenhouse gases, criteria pollutants, and toxic air contaminants for each facility that reports to CARB and air districts. In addition, AB 197 adds two Members of the Legislature to the CARB board as ex officio, non-voting members and also creates the Joint Legislative Committee on Climate Change Policies to ascertain facts and make recommendations to the Legislature and the houses of the Legislature concerning the state's programs, policies, and investments related to climate change.

(e) Cap-and-Trade Program

The *Climate Change Scoping Plan* identified a cap-and-trade program as one of the strategies for California to reduce GHG emissions. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap are

[37] *CARB, 2017 Update, November 2017, p. 6.*

able to trade permits to emit GHGs within the overall limit. According to CARB, a cap-and-trade program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by the year 2020.[38] CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32 and the State Legislature extended the Program through 2030 with the adoption of AB 398. With continuation of the Cap-and-Trade Program, the State can achieve a 40-percent reduction target by 2030.[39]

The Cap-and-Trade Program is designed to reduce GHG emissions from major sources, such as refineries and power plants, (deemed "covered entities"). "Covered entities" subject to the Cap-and-Trade Program are sources that emit more than 25,000 metric tons CO_2e ($MTCO_2e$) per year. Triggering of the 25,000 $MTCO_2e$ per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (Mandatory Reporting Rule or MRR).

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or in part (if eligible) and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender an allowance for each metric ton CO_2e of GHG they emit.

The Cap-and-Trade Program provides a firm cap, ensuring that the 2020 and 2030 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade Program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on a cumulative basis. As summarized by CARB in the First Update:

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[38] *With continuation of the Cap-and-Trade Program, the State can achieve a 40-percent reduction target by 2030.*

[39] *Energy and Environmental Economics (E3). "Summary of the California State Agencies' PATHWAYS Project: Long-term Greenhouse Gas Reduction Scenarios" (April 2015); Greenblatt, Jeffrey, Energy Policy, "Modeling California Impacts on Greenhouse Gas Emissions" (Vol. 78, pp. 158–172). The California Air Resources Board, California Energy Commission, California Public Utilities Commission, and the California Independent System Operator engaged E3 to evaluate the feasibility and cost of a range of potential 2030 targets along the way to the state's goal of reducing GHG emissions to 80 percent below 1990 levels by 2050. With input from the agencies, E3 developed scenarios that explore the potential pace at which emission reductions can be achieved, as well as the mix of technologies and practices deployed. E3 conducted the analysis using its California PATHWAYS model. Enhanced specifically for this study, the model encompasses the entire California economy with detailed representations of the buildings, industry, transportation and electricity sectors.*

> *The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced.*

For example, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a commensurate reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative.

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. Thus, the Cap-and-Trade Program assures that California will meet its GHG emissions reduction mandates:

> *The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the "capped sectors." Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the [Low Carbon Fuel Standard] LCFS, and the 33 percent [Renewables Portfolio Standard] RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together, direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap.[40] […]*
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> *[T]he Cap-and-Trade Regulation provides assurance that California's 2020 limit will be met because the regulation sets a firm limit on 85 percent of California's GHG emissions.[41]*

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[40] *CARB, 2014 Update, May 2014, p. 88.*

[41] *CARB, 2014 Update, May 2014, pp. 86–87.*

Overall, the Cap-and-Trade Program will achieve aggregate, rather than site-specific or project-level, GHG emissions reductions. Also, due to the regulatory framework adopted by CARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the state's emissions forecasts and the effectiveness of direct regulatory measures.

As of January 1, 2015, the Cap-and-Trade Program covered approximately 85 percent of California's GHG emissions.[42]

The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. Furthermore, the Cap-and-Trade Program also covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported. The point of regulation for transportation fuels is when they are "supplied" (i.e., delivered into commerce). Accordingly, as with stationary source GHG emissions and GHG emissions attributable to electricity use, virtually all, if not all, of GHG emissions from CEQA projects associated with vehicle-miles traveled (VMT) are covered by the Cap-and-Trade Program.

AB 398 was enacted in 2017 to extend and clarify the role of the State's Cap-and-Trade Program through December 31, 2030. As part of AB 398, refinements were made to the Cap-and-Trade program to establish updated protocols and allocation of proceeds to reduce GHG emissions.

(f) Energy-Related Sources

(i) California Renewables Portfolio Standard

The California RPS program (SB 1078) required that 20 percent of the available energy supplies are from renewable energy sources by 2017. In 2006, SB 107 accelerated the 20-percent mandate to 2010. These mandates apply directly to investor-owned utilities. On April 12, 2011, Governor Brown signed into law SB 2X, which modified California's RPS program to require that both public and investor-owned utilities in California receive at least 33 percent of their electricity from renewable sources by the year 2020. California SB 2X

[42] *Center for Climate and Energy Solutions, California Cap-and-Trade, www.c2es.org/content/california-cap-and-trade, accessed March 11, 2020.*

also requires regulated sellers of electricity to meet an interim milestone of procuring 25 percent of their energy supply from certified renewable resources by 2016. These levels of reduction are consistent with the Los Angeles Department of Water and Power's (LADWP) commitment to achieve 35 percent renewables by 2020.

In 2019, LADWP indicated that 32 percent of its electricity came from renewable resources in Year 2018.[43] Therefore, under SB 2X, LADWP is required to increase its electricity from renewable resources by an additional 3 percent to comply with the RPS of 33 percent by 2020.

(ii) Senate Bill 350

SB 350, signed October 7, 2015, is the Clean Energy and Pollution Reduction Act of 2015. The objectives of SB 350 are: (1) to increase from 33 percent to 50 percent, the procurement of our electricity from renewable sources by 2030; and (2) to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.[44]

(iii) Senate Bill 100

SB 100, signed September 10, 2018, is the 100 Percent Clean Energy Act of 2018. SB 100 updates the goals of California's Renewable Portfolio Standard and SB 350, as discussed above, to the following: achieve 50-percent renewable resources target by December 31, 2026, and achieve a 60-percent target by December 31, 2030. SB 100 also requires that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045.[45]

(iv) Senate Bill 1368

SB 1368, signed September 29, 2006, is a companion bill to AB 32, which requires the CPUC and the CEC to establish GHG emission performance standards for the generation of electricity. These standards also generally apply to power that is generated outside of California and imported into the state. SB 1368 provides a mechanism for reducing the emissions of electricity providers, thereby assisting CARB to meet its mandate under AB 32. On January 25, 2007, the CPUC adopted an interim GHG Emissions Performance Standard, which is a facility-based emissions standard requiring that all new

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[43] *CPUC, 2018 Power Content Label, Los Angeles Department of Water and Power, July 2019.*

[44] *SB 350 (2015–2016 Reg, Session) Stats 2015, ch. 547.*

[45] *SB 100 (2017–2018 Reg. Session_ Stats 2018, ch. 312.*

long-term commitments for baseload generation to serve California consumers be with power plants that have GHG emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO_2 per MWh. Furthermore, on May 23, 2007, the CEC adopted regulations that establish and implement an identical Emissions Performance Standard of 1,100 pounds of CO_2 per MWh (see CEC Order No. 07-523-7).

(g) Mobile Sources

(i) Assembly Bill 1493 (Pavley I)

AB 1493, passed in 2002, requires the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the state. CARB originally approved regulations to reduce GHGs from passenger vehicles in September 2004, with the regulations to take effect in 2009. On September 24, 2009, CARB adopted amendments to these "Pavley" regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016.[46] Although setting emission standards on automobiles is solely the responsibility of the USEPA, the federal CAA allows California to set state-specific emission standards on automobiles if the state first obtains a waiver from the USEPA. The USEPA granted California that waiver on July 8, 2009. A comparison between the AB 1493 standards and the Federal CAFE standards was completed by CARB and the analysis determined that California emission standards are 16-percent more stringent through the 2016 model year and 18-percent more stringent for 2020 model year.[47] CARB is also committed to further strengthening these standards beginning with 2020 model year vehicles to obtain a 45-percent GHG reduction in comparison to the 2009 model year. As discussed above, the USEPA and NHTSA published a proposal in 2018 to freeze the model year 2020 CAFE standards through model year 2026 and to revoke California's waiver under the Clean Air Act to establish more stringent standards.

(ii) Executive Order S-1-07 (California Low Carbon Fuel Standard)

Executive Order S-1-07, the LCFS (issued on January 18, 2007), requires a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. Regulatory proceedings and implementation of the LCFS were directed to CARB. CARB released a draft version of the LCFS in October 2008. The final regulation was approved

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[46] *CARB, Clean Car Standards—Pavley, Assembly Bill 1493, ww2.arb.ca.gov/californias-greenhouse-gas-vehicle-emission-standards-under-assembly-bill-1493-2002-pavley, accessed March 11, 2020.*

[47] *CARB, "Comparison of Greenhouse Gas Reductions for all Fifty United States under CAFE Standards and ARB Regulations Adopted Pursuant to AB 1493," January 23, 2008.*

by the Office of Administrative Law and filed with the Secretary of State on January 12, 2010; the LCFS became effective on the same day.

The development of the 2017 Update has identified LCFS as a regulatory measure to reduce GHG emission to meet the 2030 emissions target. In calculating statewide emissions and targets, the 2017 Update has assumed that the LCFS be extended to an 18-percent reduction in carbon intensity beyond 2020. In September 2018, CARB approved a carbon intensity reduction of 20 percent by 2030, in order to meet the 2030 emissions target.[48]

(iii) Advanced Clean Cars Regulations

In 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015–2025.[49] The components of the Advanced Clean Cars program include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles).[50] In March 2017, CARB voted unanimously to continue with the vehicle greenhouse gas emission standards and the ZEV program for cars and light trucks sold in California through 2025.[51]

(iv) Senate Bill 375

Acknowledging the relationship between land use planning and transportation sector GHG emissions, SB 375 was signed by the Governor on September 30, 2008. This legislation links regional planning for housing and transportation with the GHG reduction goals outlined in AB 32. Reductions in GHG emissions would be achieved by, for example, locating employment opportunities close to transit. Under SB 375, each Metropolitan Planning Organization (MPO) would be required to adopt a Sustainable Community Strategy (SCS) to encourage compact development that reduces passenger VMT and trips so that the region will meet a target, created by CARB, for reducing GHG emissions. If the SCS is unable to achieve the regional GHG emissions reduction targets, then the MPO is

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[48] *CARB, "CARB amends Low Carbon Fuel Standard for wider impact," September 27, 2018, ww2.arb.ca.gov/news/carb-amends-low-carbon-fuel-standard-wider-impact, accessed March 11, 2020.*

[49] *CARB, California's Advanced Clean Cars Program, About, ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about, accessed March 11, 2020.*

[50] *CARB, California's Advanced Clean Cars Program, About, ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about, accessed March 11, 2020.*

[51] *CARB, News Release: CARB finds vehicle standards are achievable and cost-effective, ww2.arb.ca.gov/news/carb-finds-vehicle-standards-are-achievable-and-cost-effective, accessed March 11, 2020.*

required to prepare an alternative planning strategy that shows how the GHG emissions reduction target could be achieved through alternative development patterns, infrastructure, and/or transportation measures.

As required under SB 375, CARB is required to update regional GHG emissions targets every 8 years with the last update formally adopted in March 2018. As part of the 2018 update, CARB has adopted a passenger vehicle related GHG reduction target of 19 percent for 2035 for the SCAG region, which is more stringent than the previous reduction target of 13 percent for 2035.[52]

(h) Building Standards

(i) California Appliance Efficiency Regulations (Title 20, Sections 1601 through 1608)

The 2014 Appliance Efficiency Regulations, adopted by the CEC, include standards for new appliances (e.g., refrigerators) and lighting, if they are sold or offered for sale in California. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

(ii) California Building Energy Efficiency Standards (Title 24, Part 6)

California's Energy Efficiency Standards for Residential and Nonresidential Buildings, located at Title 24, Part 6 of the California Code of Regulations (CCR) and commonly referred to as "Title 24," were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.[53]

On May 9, 2018, the CEC adopted the 2019 Title 24 Standards, which went into effect on January 1, 2020. The 2019 standards continue to improve upon the previous (2016) Title 24 standards for new construction of, and additions and alterations to, residential and non-residential buildings.[54] The 2019 Title 24 Standards, the standards ensure that builders use the most energy efficient and energy conserving technologies and construction practices. As described in the 2019 Title 24 Standards represent "challenging but achievable design and construction practices" that represent "a major step towards

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[52] *CARB, SB 375 Regional Greenhouse Gas Emissions Reduction Targets.*

[53] *CEC, 2019 Building Energy Efficiency Standards, www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency, accessed March 11, 2020.*

[54] *CEC, 2019 Building Energy Efficiency Standards.*

meeting the Zero Net Energy (ZNE) goal." Single-family homes built with the 2019 Title 24 Standards are projected to use approximately 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards. Once the mandated rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards. Nonresidential buildings are projected to use approximately 30 percent less energy due mainly to lighting upgrades.[55] Compliance with Title 24 is enforced through the building permit process.

(iii) California Green Building Standards (CALGreen Code)

The most recent update to the California Green Building Standards Code (CCR, Title 24, Part 11), commonly referred to as the 2019 CALGreen Code, became effective on January 1, 2020. Most of the mandatory measure changes in the 2019 CALGreen Code relative to the previous 2016 CALGreen Code were related to definitions and to the clarification or addition of referenced manuals, handbooks, and standards. For example, several definitions related to energy that were added or revised affect electric vehicles chargers and charging and hot water recirculation systems. For new multi-family dwelling units, the residential mandatory measures were revised to provide additional electric vehicle charging space requirements, including quantity, location, size, single EV space, multiple EV spaces, and identification.[56] For nonresidential mandatory measures, the table (Table 5.106.5.3.3) identifying the number of required EV charging spaces has been revised in its entirety.[57] Compliance with the CALGreen Code is enforced through the building permit process.

(i) Senate Bill 97

On June 19, 2008, the Office of Planning and Research (OPR) released a technical advisory on addressing climate change. This guidance document outlines suggested components to CEQA disclosure, including quantification of GHG emissions from a project's construction and operation; determination of significance of the project's impact to climate change; and if the project is found to be significant, the identification of suitable alternatives and mitigation measures.

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[55] *CEC, News Release: Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation, www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first, accessed March 11, 2020.*

[56] *California Building Standards Commission, 2019 California Green Building Standards Code, California Code of Regulations, Title 24, Part 11, Chapter 4—Residential Mandatory Measures, effective January 1, 2020.*

[57] *California Building Standards Commission, 2019 California Green Building Standards Code, California Code of Regulations, Title 24, Part 11, Chapter 5—Nonresidential Mandatory Measures, effective January 1, 2020.*

SB 97, passed in August 2007, is designed to work in conjunction with CEQA and AB 32. SB 97 requires OPR to prepare and develop guidelines for the mitigation of GHG emissions or the effects thereof, including, but not limited to, the effects associated with transportation and energy consumption. The Draft Guidelines Amendments for Greenhouse Gas Emissions (Guidelines Amendments) were adopted on December 30, 2009, and address the specific obligations of public agencies when analyzing GHG emissions under CEQA to determine a project's effects on the environment.

However, neither a threshold of significance nor any specific mitigation measures are included or provided in the Guidelines Amendments.[58] The Guidelines Amendments require a lead agency to make a good-faith effort, based on the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. The Guidelines Amendments give discretion to the lead agency whether to: (1) use a model or methodology to quantify GHG emissions resulting from a project, and which model or methodology to use; or (2) rely on a qualitative analysis or performance-based standards. Furthermore, the Guidelines Amendments identify three factors that should be considered in the evaluation of the significance of GHG emissions:

1. The extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting;

2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and

3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.[59]

The administrative record for the Guidelines Amendments also clarifies "that the effects of greenhouse gas emissions are cumulative, and should be analyzed in the context of CEQA's requirements for cumulative impact analysis."[60]

The California Natural Resources Agency is required to periodically update the Guidelines Amendments to incorporate new information or criteria established by CARB

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[58] *See 14 Cal. Code Regs. §§ 15064.7 (generally giving discretion to lead agencies to develop and publish thresholds of significance for use in the determination of the significance of environmental effects), 15064.4 (giving discretion to lead agencies to determine the significance of impacts from GHGs).*

[59] *14 CCR § 15064.4(b).*

[60] *Letter from Cynthia Bryant, Director of the Governor's Office of Planning and Research to Mike Chrisman, California Secretary for Natural Resources, dated April 13, 2009.*

pursuant to AB 32. SB 97 applies retroactively to any environmental impact report (EIR), negative declaration, mitigated negative declaration, or other document required by CEQA, which has not been finalized.

(j) Center for Biological Diversity v. California Department of Fish and Wildlife

The California Supreme Court's decision published on November 30, 2015, in the *Center for Biological Diversity v. California Department of Fish and Wildlife* (62 Cal.4th 204) (also known as the "Newhall Ranch Case") reviewed the methodology used to analyze GHG emissions in an EIR prepared for a project that proposed 20,885 dwelling units with 58,000 residents on 12,000 acres of undeveloped land in a rural area of the County of Los Angeles. The EIR used a BAU approach to determine whether the project would impede the state's compliance with statutory emissions reduction mandate established by the AB 32 *Climate Change Scoping Plan*. The Court did not invalidate the BAU approach entirely but did hold that "the Scoping Plan nowhere related that *statewide* level of reduction effort to the percentage of reduction that would or should be required from *individual projects a*nd nothing DFW or Newhall have cited in the administrative record indicates the required percentage reduction from business as usual is the same for an individual project as for the entire state population and economy."[61]

The California Supreme Court suggested regulatory consistency as one pathway to compliance, by stating that a lead agency might assess consistency with AB 32's goal in whole or in part by looking to compliance with regulatory programs designed to reduce GHG emissions from particular activities. The Court stated that a lead agency might assess consistency with AB 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities, including statewide programs and local climate action plans or GHG emissions reduction plans. This approach is consistent with CEQA Guidelines Section 15064, which provides that a determination that an impact is not cumulatively considerable may rest on compliance with previously adopted plans or regulations, including plans or regulations for the reduction of GHG emissions. The Court also suggested: "A lead agency may rely on existing numerical thresholds of significance for greenhouse gas emissions" (bright line threshold approach) if supported by substantial evidence.

[61] *Center for Biological Diversity v. California Department of Fish and Wildlife (62 Cal.4th 204, 230), p. 20.*

(3) Regional

(a) South Coast Air Quality Management District

The Southern California Air Quality Management District (SCAQMD) adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives:

- Phase out the use and corresponding emissions of chlorofluorocarbons, methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995;
- Phase out the large quantity use and corresponding emissions of hydrochlorofluorocarbons by the year 2000;
- Develop recycling regulations for hydrochlorofluorocarbons (e.g., SCAQMD Rules 1411 and 1415);
- Develop an emissions inventory and control strategy for methyl bromide; and
- Support the adoption of a California GHG emission reduction goal.

In 2008, SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds.[62] Within its October 2008 document, SCAQMD proposed the use of a percent emission reduction target to determine significance for commercial/residential projects that emit greater than 3,000 $MTCO_2e$ per year. Under this proposal, commercial/residential projects that emit fewer than 3,000 $MTCO_2e$ per year would be assumed to have a less than significant impact on climate change. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold of 10,000 $MTCO_2e$ per year for stationary source/industrial projects where SCAQMD is the lead agency. However, SCAQMD has yet to adopt a GHG significance threshold for land use development projects (e.g., residential/commercial projects); therefore, the proposed draft commercial/residential thresholds were not formally adopted.

[62] *SCAQMD, Draft Guidance Document—Interim CEQA Greenhouse Gas (GHG) Significance Threshold, October 2008, Attachment E.*

(b) Southern California Association of Governments

To implement SB 375 and reduce GHG emissions by correlating land use and transportation planning, SCAG adopted the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (2016–2040 RTP/SCS) on April 7, 2016.[63,64] The 2016–2040 RTP/SCS reaffirms the land use policies that were incorporated into the 2012–2035 RTP/SCS. These foundational policies, which guided the development of the 2016–2040 RTP/SCS's strategies for land use, include the following:

- Identify regional strategic areas for infill and investment;
- Structure the plan on a three-tiered system of centers development;[65]
- Develop "Complete Communities";
- Develop nodes on a corridor;
- Plan for additional housing and jobs near transit;
- Plan for changing demand in types of housing;
- Continue to protect stable, existing single-family areas;
- Ensure adequate access to open space and preservation of habitat; and
- Incorporate local input and feedback on future growth.

The 2016–2040 RTP/SCS recognizes that transportation investments and future land use patterns are inextricably linked, and continued recognition of this close relationship will help the region make choices that sustain existing resources and expand efficiency, mobility, and accessibility for people across the region. In particular, the 2016–2040 RTP/SCS draws a closer connection between where people live and work, and it offers a blueprint for how Southern California can grow more sustainably. The 2016–2040 RTP/SCS also includes strategies focused on compact infill development and economic

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[63] *SCAG, Final 2016–2040 RTP/SCS.*

[64] *SCAG, Executive Order G-16-066, SCAG 2016 SCS ARB Acceptance of GHG Quantification Determination, June 2016.*

[65] *Complete language: "Identify strategic centers based on a three-tiered system of existing, planned and potential relative to transportation infrastructure. This strategy more effectively integrates land use planning and transportation investment." A more detailed description of these strategies and policies can be found on pp. 90–92 of the SCAG 2008 Regional Transportation Plan, adopted in May 2008.*

growth by building the infrastructure the region needs to promote the smooth flow of goods and easier access to jobs, services, educational facilities, healthcare and more.

The 2016–2040 RTP/SCS states that the SCAG region is home to about 18.3 million people in 2012 and currently includes approximately 5.9 million homes and 7.4 million jobs.[66] By 2040, the integrated growth forecast projects that these figures will increase by 3.8 million people, with nearly 1.5 million more homes and 2.4 million more jobs. High Quality Transit Areas[67] (HQTAs) will account for 3 percent of regional total land area but are projected to accommodate 46 percent and 55 percent of future household and employment growth respectively between 2012 and 2040. The 2016–2040 RTP/SCS overall land use pattern reinforces the trend of focusing new housing and employment in the region's HQTAs. HQTAs are a cornerstone of land use planning best practice in the SCAG region because they concentrate roadway repair investments, leverage transit and active transportation investments, reduce regional life cycle infrastructure costs, improve accessibility, create local jobs, and have the potential to improve public health and housing affordability.

The 2016–2040 RTP/SCS is expected to reduce per capita transportation emissions by 8 percent by 2020 and 18 percent by 2035.[68] Furthermore, although there are no per capita GHG emission reduction targets for passenger vehicles set by CARB for 2040, the 2016–2040 RTP/SCS's GHG emission reduction trajectory shows that more aggressive GHG emission reductions are projected for 2040.[69] Subsequent to adoption of the 2016–2040 RTP/SCS, CARB adopted in 2018 a new target requiring a 19-percent decrease in VMT for the SCAG region by 2035. It is expected that this new target will be incorporated into the next RTP/SCS. The 2016–2040 RTP/SCS and/or the next RTP/SCS are expected to fulfill and exceed SB 375 compliance with respect to meeting the State's GHG emission reduction goals.

In March 2018, CARB updated the SB 375 targets to require 8-percent reduction by 2020 and a 19-percent reduction by 2035 in per capita passenger vehicle GHG emissions.[70] As this reduction target was updated after the 2016–2040 RTP/SCS, it is expected that the next iteration of the RTP/SCS will be updated to include this target

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[66] *2016–2040 RTP/SCS population growth forecast methodology includes data for years 2012, 2020, 2035, and 2040.*

[67] *Defined by the 2016–2040 RTP/SCS as generally walkable transit villages or corridors that are within 0.5 mile of a well-serviced transit stop or a transit corridor with 15-minute or less service frequency during peak commute hours.*

[68] *CARB, Updated SB 375 Regional Greenhouse Gas Emissions Reduction Targets, March 2018.*

[69] *SCAG, Final Program Environmental Impact Report for 2016–2040, RTP/SCS, April 2016, Figure 3.8.4-1.*

[70] *CARB, SB 375 Regional Greenhouse Gas Emissions Reduction Targets.*

(4) Local

(a) City of Los Angeles Sustainable City pLAn/L.A.'s Green New Deal

The City of Los Angeles began addressing the issue of global climate change by publishing *Green LA, An Action Plan to Lead the Nation in Fighting Global Warming* (LA Green Plan/ClimateLA) in 2007. This document outlines the goals and actions the City has established to reduce the generation and emission of GHGs from both public and private activities.

To facilitate implementation of the LA Green Plan/ClimateLA, the City adopted the Los Angeles Green Building Code, as discussed below.

In 2008, the City released an implementation program for the LA Green Plan referred to as ClimateLA, which provides detailed information about each action item discussed in the LA Green Plan framework.[71] Action items range from harnessing wind power for electricity production and energy efficiency retrofits in City buildings, to converting the City's fleet vehicles to cleaner and more efficient models, and reducing water consumption.

In 2015, Mayor Eric Garcetti issued the Sustainable City pLAn, a mayoral directive that includes both short-term and long-term aspirations through the year 2035 in various topic areas, including: water, solar power, energy-efficient buildings, carbon and climate leadership, waste and landfills, housing and development, mobility and transit, and air quality, among others. Specific targets include the construction of new housing units within 1,500 feet of transit by 2017, reducing vehicle miles traveled per capita by 5 percent by 2025, and increasing trips made by walking, biking or transit by at least 35 percent by 2025. In addition, building energy use per square foot for all building types will be reduced by 22 percent by 2025, 34 percent by 2035, and 44 percent by 2050. The Sustainable City pLAn will be updated every four years.

In 2019, the first four-year update to the 2015 Sustainable City pLAn was released. Although not a formally adopted plan or policy, but rather a mayoral initiative, the updated document, known as L.A.'s Green New Deal, expands upon the City's vision for a sustainable future and provides accelerated targets and new goals.[72] L.A.'s Green New Deal has established targets such as 100-percent renewable energy by 2045, diversion of 100 percent of waste by 2050, and recycling 100 percent of wastewater by 2035.

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[71] *City of Los Angeles, ClimateLA Program Document, 2008*

[72] *City of Los Angeles, L.A.'s Green New Deal, Sustainable City pLAn, 2019.*

(b) City of Los Angeles Green Building Code

On December 11, 2019, the Los Angeles City Council approved Ordinance No. 186,488, which amended Chapter IX of the Los Angeles Municipal Code (LAMC), referred to as the Los Angeles Green Building Code, by adding a new Article 9 to incorporate various provisions of the 2019 CALGreen Code. Projects filed on or after January 1, 2020, must comply with the provisions of the Los Angeles Green Building Code.[73] Measures included in the Los Angeles Green Building Code that would serve to reduce GHG emissions include requirements for water reduction and water conserving plumbing fixtures and fittings, requirements for bicycle parking spaces, and electric vehicle charging, among others.

(c) City of Los Angeles General Plan

The City of Los Angeles does not have a General Plan Element specific to Global Warming and GHG emissions. However, the following five goals from the Air Quality Element of the City of Los Angeles General Plan would also serve to reduce GHG emissions:

- Less reliance on single-occupancy vehicles with fewer commute and non-work trips;
- Efficient management of transportation facilities and system infrastructure using cost-effective system management and innovative demand-management techniques;
- Minimal impacts of existing land use patterns and future land use development on air quality by addressing the relationship between land use, transportation and air quality;
- Energy efficiency through land use and transportation planning, the use of renewable resources and less-polluting fuels and the implementation of conservation measures including passive measures, such as site orientation and tree planting; and
- Citizen awareness of the linkages between personal behavior and air pollution and participation in efforts to reduce air pollution.

[73] *International Code Council, 2016 California Green Building Standards Code, Part 11.*

(d) Transportation Study Policies and Procedures

In July 2019, the City of Los Angeles Department of Transportation (LADOT) issued the Transportation Assessment Guidelines (TAG) to create a review process that advances the City's vision of developing a safe, accessible, well-maintained, and well-connected multimodal transportation network. The TAG supersedes the previous Transportation Impact Study Guidelines from December 2016 and conforms to the requirement of SB 743 which shifts the focus of transportation analysis from level of service to VMT. The TAG has been developed to identify land use development and transportation projects that may impact the transportation system; to ensure proposed land use development projects achieve site access design requirements and on-site circulation best practices; to define whether off-site improvements are needed; and to provide step-by-step guidance for assessing impacts and preparing Transportation Assessment Studies.

d. Existing Conditions

(1) Existing Statewide GHG Emissions

GHG emissions are the result of both natural and human-influenced activities. Regarding human-influenced activities, motor vehicle travel, consumption of fossil fuels for power generation, industrial processes, heating and cooling, landfills, agriculture, and wildfires are the primary sources of GHG emissions. Without human intervention, Earth maintains an approximate balance between the emission of GHGs into the atmosphere and the storage of GHGs in oceans and terrestrial ecosystems. Events and activities, such as the industrial revolution and the increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.), have contributed to the rapid increase in atmospheric levels of GHGs over the last 150 years. As reported by the CEC, California contributes 1 percent of global and 8.2 percent of national GHG emissions.[74] California represents approximately 12 percent of the national population. Approximately 80 percent of GHGs in California consist of CO_2 produced from fossil fuel combustion. The current California GHG inventory compiles statewide anthropogenic GHG emissions and carbon sinks/storage from years 2000 to 2016.[75] It includes estimates for CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. The GHG inventory for California for years 2011 through 2017 is presented in Table IV.E-3 on page IV.E-33. As shown in Table IV.E-3, the GHG inventory for California in 2017 was 424.10 million $MTCO_2e$.

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[74] *CEC, Tracking Progress, Greenhouse Gas Emission Reductions, December 2017.*

[75] *A carbon inventory identifies and quantifies sources and sinks of greenhouse gases. Sinks are defined as a natural or artificial reservoir that accumulates and stores some carbon-containing chemical compound for an indefinite period.*

Table IV.E-3
California GHG Inventory
(million metric tons CO_2e)

	2011	2012	2013	2014	2015	2016	2017
Transportation	**161.51**	**161.22**	**160.90**	**162.28**	**166.14**	**169.38**	**169.86**
On Road	148.03	147.71	147.07	148.04	151.52	154.64	155.75
Passenger Vehicles	111.37	111.77	111.52	112.20	116.33	119.03	119.94
Heavy Duty Trucks	36.65	35.93	35.55	35.83	35.19	35.62	35.81
Ships & Commercial Boats	3.52	3.43	3.42	3.49	3.42	3.24	3.32
Aviation (Intrastate)	3.73	3.75	3.93	3.90	4.22	4.44	4.68
Rail	2.38	2.38	2.38	2.38	2.38	2.37	1.83
Off Road	2.13	2.23	2.33	2.43	2.53	2.63	2.73
Unspecified	1.72	1.71	1.77	2.04	2.07	2.07	1.54
Percent of Total Emissions	*36%*	*36%*	*36%*	*37%*	*38%*	*39%*	37%
Electric Power	**88.06**	**95.09**	**89.65**	**88.24**	**83.67**	**68.58**	**62.39**
In-State Generation	41.20	51.03	49.47	51.72	49.93	42.30	38.45
Natural Gas	35.92	45.77	45.66	46.43	45.16	38.28	34.88
Other Fuels	4.03	4.44	2.91	4.40	3.65	2.55	2.61
Fugitive and Process Emissions	1.25	0.82	0.90	0.90	1.13	1.48	0.95
Imported Electricity	46.86	44.07	40.17	36.51	33.74	26.28	23.94
Unspecified Imports	15.52	17.48	11.82	13.44	11.21	9.68	8.84
Specified Imports	31.34	26.59	28.35	23.07	22.52	16.60	15.10
Percent of Total Emissions	*20%*	*21%*	*20%*	*20%*	*19%*	*16%*	15%
Commercial and Residential	**45.50**	**42.89**	**43.54**	**37.37**	**37.94**	**39.36**	**41.14**
Residential Fuel Use	29.64	27.34	28.14	22.87	23.29	24.20	26.00
Natural Gas	27.51	25.76	26.52	21.58	21.90	22.80	23.62
Other Fuels	2.13	1.58	1.62	1.28	1.39	1.40	2.38
Commercial Fuel Use	13.71	13.41	13.30	12.51	12.67	12.92	13.02
Natural Gas	11.33	11.25	11.28	10.39	10.50	10.89	11.06
Other Fuels	2.38	2.16	2.02	2.12	2.16	2.03	1.95
Commercial Cogeneration Heat Output	0.78	0.76	0.71	0.58	0.56	0.81	0.68
Other Commercial and Residential	1.37	1.38	1.40	1.41	1.42	1.43	1.44
Percent of Total Emissions	*10%*	*10%*	*10%*	*8%*	*9%*	*9%*	6%
Industrial	**90.94**	**91.07**	**93.73**	**93.96**	**91.58**	**89.61**	**89.40**
Refineries	30.12	29.88	29.22	29.40	28.21	29.61	29.89
General Fuel Use	18.78	18.91	19.31	19.87	19.23	18.53	19.07
Natural Gas	14.50	14.48	14.36	15.56	14.79	14.99	15.28
Other Fuels	4.28	4.43	4.94	4.31	4.45	3.53	3.78
Oil & Gas Extraction[a]	16.73	16.73	19.11	19.47	19.58	17.93	17.22
Fuel Use	14.91	14.87	16.99	17.18	17.22	15.66	14.94
Fugitive Emissions	1.82	1.86	2.12	2.29	2.36	2.27	2.28
Cement Plants	6.14	6.92	7.20	7.61	7.56	7.60	7.66
Clinker Production	4.08	4.65	4.93	5.27	5.17	5.15	4.85
Fuel Use	2.07	2.26	2.28	2.34	2.39	2.45	2.81

Table IV.E-3 (Continued)
California GHG Inventory
(million metric tons CO_2e)

	2011	2012	2013	2014	2015	2016	2017
Cogeneration Heat Output	11.15	10.81	10.99	9.64	8.98	8.00	7.79
Other Process Emissions	8.02	7.81	7.90	7.98	8.01	7.95	7.78
Percent of Total Emissions	*20%*	*20%*	*21%*	*21%*	*21%*	*21%*	*21%*
Recycling and Waste	**8.47**	**8.49**	**8.52**	**8.59**	**8.73**	**8.81**	**8.89**
Landfills[b]	8.19	8.20	8.22	8.28	8.40	8.47	8.54
Composting	0.27	0.29	0.30	0.31	0.33	0.34	0.35
Percent of Total Emissions	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	2%
High Global Warming Potential	**14.54**	**15.54**	**16.65**	**17.70**	**18.93**	**19.78**	**19.99**
Ozone Depleting Substance Substitutes	14.21	15.25	16.38	17.42	18.37	19.24	19.64
Electricity Grid SF6 Losses[c]	0.25	0.24	0.18	0.14	0.42	0.37	0.18
Semiconductor Manufacturing[b]	0.08	0.06	0.08	0.14	0.14	0.16	0.17
Percent of Total Emissions	*3%*	*3%*	*4%*	*4%*	*4%*	*5%*	*5%*
Agriculture[d]	**34.89**	**36.08**	**34.61**	**35.95**	**34.41**	**33.84**	**32.42**
Livestock	23.84	24.47	23.49	23.81	23.10	22.99	22.68
Enteric Fermentation (Digestive Process)	11.98	12.10	11.78	11.85	11.40	11.35	11.05
Manure Management	11.86	12.38	11.71	11.96	11.70	11.64	11.62
Crop Growing & Harvesting	7.40	7.73	7.42	7.48	6.91	6.89	6.63
Fertilizers	5.67	5.93	5.65	5.72	5.28	5.25	5.14
Soil Preparation and Disturbances	1.65	1.73	1.69	1.68	1.56	1.56	1.40
Crop Residue Burning	0.08	0.08	0.08	0.08	0.08	0.08	0.09
General Fuel Use	3.65	3.88	3.71	4.66	4.39	3.95	3.11
Diesel	2.52	2.47	2.53	3.54	3.66	3.19	2.40
Natural Gas	0.66	0.70	0.69	0.63	0.64	0.72	0.67
Gasoline	0.48	0.71	0.49	0.49	0.10	0.04	0.05
Other Fuels	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Percent of Total Emissions	*8%*	*8%*	*8%*	*8%*	*8%*	*8%*	*8%*
Total Net Emissions	**443.91**	**450.38**	**447.59**	**444.10**	**441.40**	**429.35**	**424.10**

[a] *Reflects emissions from combustion of fuels plus fugitive emissions.*

[b] *These categories are listed in the Industrial sector of CARB's GHG Emission Inventory sectors.*

[c] *This category is listed in the Electric Power sector of CARB's GHG Emission Inventory sectors.*

[d] *Reflects use of updated USEPA models for determining emissions from livestock and fertilizers.*

Source: California GHG Inventory for 2000–2017—by Category as Defined in the Climate Change Scoping Plan million metric tons of CO_2e—(based upon IPCC Second Assessment Report's Global Warming Potentials).

(2) Existing Project Site Emissions

The Project Site is currently developed with seven buildings containing 10 live-work units, 2,109 square feet of warehousing, 25,739 square feet of retail uses, and 6,983 square feet of office. Area source emissions are generated by maintenance equipment, landscape equipment, and use of products that contain solvents. Energy source emissions are typically associated with building electricity and natural gas usage at the Project Site. In addition, mobile source emissions from the existing uses are generated by motor vehicle trips to and from the Project Site. Additionally, waste sources emissions are from solid waste generated at the Project Site and water source emissions are generated from water used on the Project Site. Table IV.E-4 below presents the GHG emissions associated with the existing land uses.

Table IV.E-4
Existing (2018) Project Site Annual GHG Emissions Summary

Scope	Metric Tons of Carbon Dioxide Equivalent[a] ($MTCO_2e$)
Area	2
Energy	266
Mobile	529
Solid Waste	5
Water/Wastewater Generation	42
Total Emissions	844

Numbers may not add up exactly due to rounding.

[a] *CO_2e was calculated using CalEEMod and the results are provided in Appendix B of this Draft EIR.*

Source: Eyestone Environmental, 2020.

3. Project Impacts

a. Thresholds of Significance

(1) State CEQA Guidelines Appendix G

In accordance with Appendix G of the State CEQA Guidelines, the Project would have a significant impact related to GHGs if it would:

Threshold (a): Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Threshold (b): Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs?

CEQA Guidelines Section 15064.4 recommends that lead agencies quantify GHG emissions of projects and consider several other factors that may be used in the determination of significance of GHG emissions from a project: the extent to which the project may increase or reduce GHG emissions; whether the project exceeds an applicable significance threshold; and the extent to which the project complies with regulations or requirements adopted to implement a reduction or mitigation of GHGs.

Section 15064.4 does not establish a threshold of significance. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies, or suggested by other experts, such as the California Air Pollution Control Officers Association (CAPCOA), as long as any threshold chosen is supported by substantial evidence (see CEQA Guidelines Section 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative, and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines Section 15130(f)).[76] It is noted that the CEQA Guidelines were amended in response to SB 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact less than significant.

Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project.[77] To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency.[78] Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions."[79] Put another way, CEQA Guidelines Section

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[76] *See, generally, CEQA Guidelines Section 15130(f); see also Letter from Cynthia Bryant, Director of the Office of Planning and Research to Mike Chrisman, Secretary for Natural Resources, dated April 13, 2009.*

[77] *14 CCR § 15064(h)(3).*

[78] *14 CCR § 15064(h)(3).*

[79] *14 CCR § 15064(h)(3).*

15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies, and/or other regulatory schemes to reduce GHG emissions.[80]

In the absence of any applicable adopted numeric threshold, the significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b) by considering whether the Project is consistent with applicable regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. For this Project, as a land use development project, the most directly applicable adopted regulatory plan to reduce GHG emissions is the 2016–2040 RTP/SCS, which is designed to achieve regional GHG reductions from the land use and transportation sectors as required by SB 375 and the State's long-term climate goals. This analysis also considers consistency with regulations or requirements adopted by the AB 32 *Climate Change Scoping Plan* and subsequent updates, and the Sustainable City pLAn/L.A.'s Green New Deal.

(2) SCAQMD Thresholds

As discussed above, SCAQMD only has an interim GHG significance threshold of 10,000 $MTCO_2e$ per year for stationary source/industrial projects where SCAQMD is the lead agency. This SCAQMD interim GHG significance threshold is not applicable to the Project as the Project is a residential/commercial project and the City of Los Angeles is the Lead Agency.

(3) 2006 L.A. CEQA Thresholds Guide

The *L.A. CEQA Thresholds Guide* does not identify any factors to evaluate GHG emissions impacts. Thus, the potential for the Project to result in impacts from GHG

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[80] *See, for example, San Joaquin Valley Air Pollution Control District, CEQA Determinations of Significance tor Projects Subject to ARB's GHG Cap-and-Trade Regulation, APR—2030 (June 25, 2014), in which the SJVAPCD "determined that GHG emissions increases that are covered under ARB's Cap-and-Trade regulation cannot constitute significant increases under CEQA…" Further, the South Coast Air Quality Management District (SCAQMD) has taken this position in CEQA documents it has produced as a lead agency. SCAQMD has prepared three Negative Declarations and one Draft Environmental Impact Report that demonstrate SCAQMD has applied its 10,000 $MTCO_2e$ /yr. significance threshold in such a way that GHG emissions covered by the Cap-and-Trade Program do not constitute emissions that must be measured against the threshold. See: SCAQMD, Final Negative Declaration for: Ultramar Inc. Wilmington Refinery Cogeneration Project, SCH No. 2012041014 (October 2014); SCAQMD, Final Negative Declaration tor Phillips 66 Los Angeles Refinery Carson Plant—Crude Oil Storage Capacity Project, SCH No. 2013091029 (December 2014); Final Mitigated Negative Declaration for Toxic Air Contaminant Reduction for Compliance with SCAQMD Rules 1420.1 and 1402 at the Exide Technologies Facility in Vernon, CA, SCH No. 2014101040 (December 2014); and Draft Environmental Impact Report for the Breitburn Santa Fe Springs Blocks 400/700 Upgrade Project, SCH No. 2014121014 (April 2014).*

emissions is based on the Appendix G thresholds. For the reasons set forth above, to answer both of the above Appendix G thresholds, the City will consider whether the project is consistent with AB 32 and SB 375 (through demonstration of conformance with the 2016–2040 RTP/SCS), and the Sustainable City pLAn/L.A.'s Green New Deal. As discussed above, OPR has noted that lead agencies "should make a good-faith effort to calculate or estimate GHG emissions from a project.[81] GHG emissions are quantified below, consistent with OPR guidelines.

b. Methodology

Amendments to CEQA Guidelines Section 15064.4 were adopted to assist lead agencies in determining the significance of the impacts of GHG emissions. Consistent with existing CEQA practice, Section 15064.4 gives lead agencies the discretion to determine whether to assess those emissions quantitatively or qualitatively. If a qualitative analysis is used, in addition to quantification, this section recommends certain qualitative factors that may be used in the determination of significance (i.e., extent to which the project may increase or reduce GHG emissions compared to the existing environment; whether the project exceeds an applicable significance threshold; and extent to which the project complies with regulations or requirements adopted to implement a reduction or mitigation of GHGs). The amendments do not establish a threshold of significance; rather, lead agencies are granted discretion to establish significance thresholds for their respective jurisdictions, including looking to thresholds developed by other public agencies, or suggested by other experts, such as CAPCOA, so long as any threshold chosen is supported by substantial evidence (see Section 15064.7(c)). The California Natural Resources Agency has also clarified that the CEQA Guidelines amendments focus on the effects of GHG emissions as cumulative impacts, and that they should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see Section 15064(h)(3)).[82]

The City has not adopted a numerical significance threshold for assessing impacts related to GHG emissions and has not formally adopted a local plan for reducing GHG emissions. Nor have SCAQMD, OPR, CARB, CAPCOA, or any other state or regional agency adopted a numerical significance threshold for assessing GHG emissions that is applicable to the Project. Since there is no applicable adopted or accepted numerical threshold of significance for GHG emissions, the methodology for evaluating the Project's impacts related to GHG emissions focuses on its consistency with statewide, regional, and

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[81] *OPR Technical Advisory, p. 5.*

[82] *See generally California Natural Resources Agency, Final Statement of Reasons for Regulatory Action (December 2009), pp. 11–13, 14, 16; see also Letter from Cynthia Bryant, Director of the Office of Planning and Research to Mike Chrisman, Secretary for Natural Resources, April 13, 2009.*

local plans adopted for the purpose of reducing and/or mitigating GHG emissions. This evaluation of consistency with such plans is the sole basis for determining the significance of the Project's GHG-related impacts on the environment.

For information purposes, the analysis also calculates the amount of GHG emissions that would be attributable to the Project using recommended air quality models, as described below. The primary purpose of quantifying the Project's GHG emissions is to satisfy State CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions. The estimated emissions inventory is also used to determine if there would be a reduction in the Project's incremental contribution of GHG emissions as a result of compliance with regulations and requirements adopted to implement plans for the reduction or mitigation of GHG emissions. However, the significance of the Project's GHG emissions impacts is not based on the amount of GHG emissions resulting from the Project.

(1) Consistency with Plans

The Project's GHG impacts are evaluated by assessing the Project's consistency with applicable GHG reduction strategies and local actions adopted by the City. As discussed previously, the City has established goals and actions to reduce the generation and emission of GHGs from both public and private activities in the Sustainable City pLAn/L.A.'s Green New Deal.

OPR encourages lead agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. The City does not have a programmatic mitigation plan to tier from, such as a Greenhouse Gas Emissions Reduction Plan as recommended in the relevant amendments to the CEQA Guidelines. However, the City has adopted the Sustainable City pLAn/L.A.'s Green New Deal and Green Building Code that encourage and require applicable projects to implement energy efficiency measures. On a regional level, the SCAG 2016–2040 RTP/SCS has a reduction goal for per capita transportation emissions consistent with SB 375 targets. In addition, the California CAT Report provides recommendations for specific emission reduction strategies for reducing GHG emissions and reaching the targets established in AB 32 and Executive Order S-3-05. Thus, if the Project is designed in accordance with these policies and regulations, the Project would result in a less than significant impact, because it would be consistent with the overarching State regulations on GHG reduction (i.e., AB 32, SB 32, AB 100, AB 1493, and SB 375).

A consistency analysis is provided and describes the Project's compliance with or conflict with performance-based standards included in the regulations outlined in the applicable portions of the *Climate Change Scoping Plan*, 2016/2040 RTP/SCS, and the Sustainable City pLAn/L.A.'s Green New Deal.

(2) Quantification of Emissions

In view of the above considerations, the City has determined to quantify the Project's total annual GHG emissions, taking into account the GHG emission reduction measures that would be incorporated into the Project's design. However, given the lack of a formally adopted numerical significance threshold or a formally adopted local plan for reducing GHG emissions applicable to this Project, the City has determined to assess the significance of the Project's GHG emissions by comparing them to SCAQMD's draft performance standards[83] in the context of an assessment of the Project's consistency with regulatory schemes, comparable to formally adopted local GHG emission reduction plans, that are designed to reduce GHG emissions by encouraging development located and designed to result in the efficient use of resources.

This Draft EIR quantifies the Project's annual GHG emissions and compares them to a Project without Reduction Features scenario, as defined by CARB's most updated projections for AB/SB 32.[84] The Project without Reduction Features scenario does not account for energy efficiency measures that would exceed the Title 24 Building Standards Code, and does not account for trip reductions from availability of public transportation within 0.25 mile. This comparison is being done for informational purposes only, including to disclose the relative carbon efficiency of the Project. The City, as lead agency, is focusing its determination of the significance of the Project's GHG emissions in relation to the Project's location and design and its consistency with local City of Los Angeles regulatory schemes, as explained below.

(3) Project GHG Emissions

The California Climate Action Registry (Climate Registry) General Reporting Protocol provides basic procedures and guidelines for calculating and reporting GHG emissions from a number of general and industry-specific activities.[85] The General Reporting Protocol is based on the "Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard" developed by the World Business Council for Sustainable Development and the World Resources Institute through "a multi-stakeholder effort to

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[83] *SCAQMD, Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group Meeting #15 Presentation, September 28, 2010.*

[84] *The comparison to a BAU scenario is not used as a threshold of significance, but is used to provide information and a quantitative metric to measure the Project's GHG emissions and level of reductions from Project Design Features and characteristics. See Center for Biological Diversity, et al. v. California Department of Fish and Wildlife (The Newhall Land and Farming Company, Real Party in Interest) (2015) 62 Cal. 4th 204.*

[85] *California Climate Action Registry, General Reporting Protocol Version 3.1, January 2009.*

develop a standardized approach to the voluntary reporting of GHG emissions."[86] Although no numerical thresholds of significance have been developed, and no specific protocols are available for land use projects, the General Reporting Protocol provides a basic framework for calculating and reporting GHG emissions from the project. The information provided in this section is consistent with the General Reporting Protocol's reporting requirements. A detailed discussion of the GHG methodology is included in Appendix B of this Draft EIR.

The General Reporting Protocol recommends the separation of GHG emissions into three categories that reflect different aspects of ownership or control over emissions. They include the following:

- Scope 1: Direct, onsite combustion of fossil fuels (e.g., natural gas, propane, gasoline, and diesel).
- Scope 2: Indirect, offsite emissions associated with purchased electricity or purchased steam.
- Scope 3: Indirect emissions associated with other emissions sources, such as third-party vehicles and embodied energy (e.g., energy used to convey, treat, and distribute water and wastewater).[87]

The General Reporting Protocol provides a range of basic calculations methods. However, the General Reporting Protocol calculations are typically designed for existing buildings or facilities. These retrospective calculation methods are not directly applicable to planning and development situations where buildings do not yet exist.

CARB recommends consideration of indirect emissions to provide a more complete picture of the GHG footprint of a facility. Annually reported indirect energy usage aids the conservation awareness of a facility and provides information to CARB to be considered for future strategies.[88] For example, CARB has proposed requiring the calculation of direct and indirect GHG emissions as part of the AB 32 reporting requirements. Additionally, OPR has noted that lead agencies "should make a good-faith effort, based on available information, to calculate, model, or estimate… GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage and

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[86] *California Climate Action Registry, General Reporting Protocol Version 3.1, January 2009.*

[87] *Embodied energy is a scientific term that refers to the quantity of energy required to manufacture and supply to the point of use a product, material, or service.*

[88] *CARB, Initial Statement of Reasons for Rulemaking, Proposed Regulation for Mandatory Reporting of Greenhouse Gas Emissions Pursuant to the California Global Warming Solutions Act of 2006 (AB 32), Planning and Technical Support Division Emission Inventory Branch, October 19, 2007.*

construction activities."[89] Therefore, direct and indirect emissions have been calculated for the Project.

A fundamental difficulty in the analysis of GHG emissions is the global nature of the existing and cumulative future conditions. Changes in GHG emissions can be difficult to attribute to a particular planning program or project because the planning effort or project may cause a shift in the locale for some type of GHG emissions, rather than causing "new" GHG emissions. As a result, there is frequently an inability to conclude whether a project's GHG emissions represent a net global increase, reduction, or no change in GHGs that would exist if the project were not implemented. The analysis of the Project's GHG emissions is particularly conservative in that it assumes all of the GHG emissions are new additions to the atmosphere.

The California Emissions Estimator Model® (CalEEMod) is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California, which provided data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) to account for local requirements and conditions. The model is considered by SCAQMD to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California.[90]

(4) Construction

The Project's construction emissions were calculated using CalEEMod Version 2016.3.2. Details of the modeling assumptions and emission factors are provided in Appendix B of this Draft EIR. CalEEMod calculates emissions from off-road equipment usage and on-road vehicle travel associated with haul, delivery, and construction worker trips. GHG emissions during construction were forecast based on the construction assumptions included in Appendix B and applying the mobile-source and fugitive dust emissions factors derived from CalEEMod.

The calculations of the emissions generated during Project construction activities reflect the types and quantities of construction equipment that would be used to demolish existing buildings, remove existing pavement, grade and excavate the Project Site,

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[89] *OPR Technical Advisory– CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act Review, June 2008, p. 5.*

[90] *California Air Pollution Control Officers Association, California Emissions Estimator Model, CalEEMod™, www.caleemod.com.*

construct the proposed building and related improvements, and plant new landscaping within the Project Site.

In accordance with SCAQMD's guidance, GHG emissions from construction were amortized (i.e., averaged annually) over the lifetime of the Project. As impacts from construction activities occur over a relatively short-term period of time, they contribute a relatively small portion of the overall lifetime project GHG emissions. In addition, GHG emission reduction measures for construction equipment are relatively limited. Therefore, SCAQMD recommended that construction emissions be amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies.[91] Thus, total construction GHG emissions were divided by 30 to determine an annual construction emissions estimate comparable to operational emissions.

(5) Operation

Similar to construction, the SCAQMD-recommended CalEEMod is used to calculate potential direct and indirect GHG emissions generated by new land uses on the Project Site, including area sources, electricity, natural gas, mobile sources, stationary sources (i.e., emergency generators), solid waste generation and disposal, and water usage/wastewater generation. CalEEMod default values for generation/usage rates, GHG emission factors, and GWP values were used in the evaluation of operational GHG emissions from the Project.

Area source emissions, which include landscaping, natural gas combustion (HVAC and water heaters), and architectural coating activities, are calculated based on the size of the land uses (e.g., square footage or dwelling unit), the GHG emission factors for fuel combustion, and the GWP values for the GHGs emitted.

GHG emissions associated with electricity usage are based on the size of the land uses, the electrical demand factors for the land uses, the GHG emission factors for the electricity utility provider, and the GWP values for the GHGs emitted. GHG emissions from electricity use are directly dependent on the electricity utility provider. In this case, GHG intensity factors for LADWP were selected in CalEEMod. The carbon intensity (lbs/MWh) for electricity generation was calculated for the Project buildout year based on LADWP projections for year 2024 (615 lb. CO_2 per MWh). LADWP's carbon intensity projections also take into account SB 350 RPS requirements for renewable energy.

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[91] *SCAQMD, Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, 2008.*

As with electricity, the emissions of GHGs associated with natural gas combustion are based on the size of the land uses, the natural gas combustion factors for the land uses in units of million British thermal units (MMBtu), the GHG emission factors for natural gas combustion, and the GWP values for the GHGs emitted.

Electricity and natural gas emissions were calculated using the CalEEMod emissions inventory model, which multiplies an estimate of the energy usage by applicable emissions factors chosen by the utility company.

Mobile source GHG emissions are calculated based on an estimate of the Project's annual VMT, which is derived using CalEEMod based on the trip generation provided in the Project's Transportation Study, included as Appendix N.1 of this Draft EIR.[92] The Project VMT was derived from the Los Angeles Department of Transportation (LADOT) VMT Calculator. The VMT Calculator was developed by the City and LADOT to comply with SB 743 which requires lead agencies to adopt VMT criteria to determine transportation related impacts. The LADOT-derived VMT values account for the variations in trip frequency and length associated with new employee and visitor trips to and from the Project Site and other activities that generate a vehicle trip. It should be noted that the above VMT per capita calculation is provided for informational purposes only, to demonstrate the Project's consistency with the 2016 RTP/SCS, and is not considered a threshold of significance (as no such numeric thresholds have been adopted).[93]

Stationary source GHG emissions are based on proposed stationary sources (i.e., emergency generators) that would be provided on the Project Site.

The emissions of GHGs associated with solid waste disposal are based on the size of the Project's proposed land uses, the waste disposal rate for the land uses, the waste diversion rate, the GHG emission factors for solid waste decomposition, and the GWP values for the GHGs emitted.

The GHG emissions related to water usage and wastewater generation are based on the Project's land uses, the water demand factors, the electrical intensity factors for water supply, treatment, and distribution and for wastewater treatment, the GHG emission factors for the electricity utility provider, and the GWP values for the GHGs emitted.

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92 *Fehr and Peers, 2143 Violet Street Project Transportation Impact Analysis, City of Los Angeles, February 2020.*

93 *As this calculation is provided for informational purposes only and is not being utilized as a significance threshold, the analysis is consistent with the holding of Golden Door Properties, LLC v. County of San Diego/Sierra Club, LLC v. County of San Diego (2018) 27 Cal.App.5th 892.*

The GHG emissions calculations for the Project include credits or reductions for implementation of relevant project design features set forth in this Draft EIR. The analysis of Project GHG emissions at buildout also takes into account actions and mandates already approved and expected to be in force by Project buildout (e.g., Pavley I Standards, full implementation of California's Statewide Renewables Portfolio Standard beyond current levels of renewable energy, and the California LCFS). It should be noted that GHG reductions due to LCFS are currently not incorporated into CalEEMod. In addition, as mobile source GHG emissions are directly dependent on the number of vehicle trips, a decrease in the number of Project-generated trips as a result of Project characteristics (e.g., close proximity to transit) would provide a proportional reduction in mobile source GHG emissions compared to a generic project without such locational benefits. Calculation of Project emissions conservatively did not include actions and mandates that are not already in place, but are expected to be enforced by Project buildout (e.g., Pavley II, which could further reduce GHG emissions from use of light-duty vehicles by 2.5 percent). Similarly, emissions reductions regarding the Cap-and-Trade Program were not included in this analysis. By not speculating on potential regulatory conditions, the analysis takes a conservative approach that likely overestimates the Project's GHG emissions at buildout because the state is expected to continue to implement a number of policies and programs aimed at reducing GHG emissions from the land use and transportation sectors to meet the state's long-term climate goals.

c. Project Design Features

The following project design features are proposed with regard to GHG emissions:

Project Design Feature GHG-PDF-1: The design of the new buildings shall incorporate the following sustainability features:

- Incorporate energy-saving technologies and components to reduce the Project's electrical use profile. Examples of these components include the use of light-emitting diode (LED) and other efficient lighting technology, energy saving lighting control systems such as light- and motion-detection controls (where applicable), and energy efficient heating, ventilation, and air conditioning (HVAC) equipment.
- HVAC mechanical systems and building lighting shall be controlled with timing systems to prevent accidental or inappropriate conditioning or lighting of unoccupied space.
- Demand control ventilation shall be utilized in HVAC systems, and refrigerants in HVAC equipment shall have low GHG emission rates. In particular, the HVAC system shall be designed to optimize exterior and interior air-flow to ensure healthy indoor air quality.

In addition, as part of the Project, the Applicant would incorporate project features to further support and promote environmental sustainability. The Project would comply with all applicable state and local regulatory requirements, including the provisions set forth in the City's Green Building Ordinance. The Project would comply with the City's EV charging requirements which specifies that 10 percent of new parking spaces would require EV charging equipment. In addition, 30 percent of all new parking spaces would be required to be EV "ready" which will be capable of supporting future EV charging equipment.[94] The Project would also include water conservation and waste reduction features as set forth in Section IV.K.1, Utilities and Service Systems—Water Supply and Infrastructure.

d. Project Impacts

Would the Project:

Threshold (a): Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Threshold (b): Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG?

(1) Impact Analysis

(a) Consistency with Applicable Plans and Policies

As described above, compliance with applicable GHG emissions reduction plans would result in a less-than-significant Project-level and cumulative impact. The following section describes the extent the Project complies with or exceeds the performance-based standards included in the regulations outlined in the *Climate Change Scoping Plan* and subsequent updates, the 2016–2040 RTP/SCS, and the Sustainable City pLAn/L.A.'s Green New Deal. As shown herein, the Project would be consistent with the applicable GHG reduction plans and policies.

(i) Climate Change Scoping Plan

The *Climate Change Scoping Plan* sets forth a range of GHG reduction actions which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 implementation fee to fund the program. The following discussion demonstrates how the pertinent reduction actions relate to and reduce project-related GHG emissions.

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[94] *City of Los Angeles Ordinance No. 186485. December 11, 2019.*

Project GHG emissions are quantified further below in the document as shown in Table IV.E-10 on page IV.E-67, the Project would result in 8,040 MTCO2e annually.[95] The breakdown of the Project's GHG emissions by source category shows approximately 1 percent from area sources; 25 percent from energy consumption; 66 percent from mobile sources; less than 1 percent from stationary sources; 1 percent from solid waste generation; 4 percent from water supply, treatment, and distribution; and 3 percent from construction activities. Provided in Table IV.E-5 on page IV.E-48 is an evaluation of applicable reduction actions/strategies by emissions source category outlined in the *Climate Change Scoping Plan* that through implementation would serve to indirectly reduce Project GHG emissions. Further evaluation of project design features and specific applicable polices and measures in the Climate Change Scoping Plan is provided in Table IV.E-6 on page IV.E-51. As shown therein, the Project would not conflict with the policies included in the *Climate Change Scoping Plan*. Although a number of these measures are currently established as policies and measures, some measures have not yet been formally proposed or adopted. It is expected that these measures or similar actions to reduce GHG emissions will be adopted as required to achieve statewide GHG emissions targets.

(ii) 2016–2040 RTP/SCS

As previously discussed, the purpose of SB 375 is to implement the state's GHG emissions reduction goals by integrating land use planning with the goal of reducing car and light-duty truck travel. Under SB 375, the primary goal of the SCS is to provide a framework for future growth that will decrease per capita GHG emissions from cars and light-duty trucks based on land use planning and transportation options. To accomplish this goal, the SCS identifies various strategies to reduce per capita VMT.

The 2016–2040 RTP/SCS is expected to help SCAG reach its GHG reduction goals, as identified by CARB, with reductions in per capita transportation for specified target years. In March 2018, CARB updated the SB 375 targets to require 8-percent reduction by 2020 and a 19-percent reduction by 2035 in per capita passenger vehicle GHG emissions.[96] As this reduction target was updated after the 2016–2040 RTP/SCS, it is expected that the next iteration of the RTP/SCS will be updated to include this target.

In addition to demonstrating the region's ability to attain and exceed the GHG emission-reduction targets set forth by CARB, the 2016–2040 RTP/SCS outlines a series of actions and strategies for integrating the transportation network with an overall land use

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[95] With implementation of Mitigation Measure TR-MM-1 (TDM Program), GHG emissions would be reduced by an additional 402 $MTCO_2e$ per year.

[96] *CARB, SB 375 Regional Greenhouse Gas Emissions Reduction Targets.*

Table IV.E-5
Mandatory Regulatory Compliance Measures within the Climate Change Scoping Plan

Mandatory Regulatory Compliance Measures
Energy (25 Percent of Project Inventory)
RPS Program and SB 2X: The California RPS program (Updated under SB 2X) requires both public and investor-owned utilities in California receive at least 33 percent of their electricity from renewable sources by the year 2020. SB 350 further requires 50-percent renewables by 2030.[a] In 2019, LADWP indicated that 32 percent of its electricity came from renewable resources in Year 2018.[b] Electricity GHG emissions provided in Table IV.E-10 on page IV.E-69 assume that LADWP will receive at least 33 percent of its electricity from renewable sources by the year 2020 and 50 percent by the year 2030 (with a straight line interpolation for the Project buildout year of 2024) consistent with SB 350. The CalEEMod default carbon intensity for electricity generated by LADWP (pounds of CO_2e per MWh) is based on a year 2007 renewables portfolio of 8t percent and was therefore updated within CalEEMod to reflect the year 2024 renewables portfolio. Please note that under recently passed SB 100, LADWP is required to generate electricity that would increase renewable energy resources to 50 percent by 2026 and, 60 percent by 2030, and 100 percent by 2045. The Project complies with these percentage renewable requirements inasmuch as the Project is served by LADWP, which is committed to achieving the increase in renewable energy resources by the required dates. The electricity-related GHG emissions provided in Table IV.E-10 on page IV.E-69 conservatively do not account for the additional 6 percent reduction that would be achieved by LADWP in year 2024 prior to buildout of the Project (difference between the 44 percent renewables assumed for the buildout year of 2024 and 50 percent required under SB 100 in year 2026) or 16-percent reduction achieved by LADWP in year 2030 (difference between the 44 percent renewables assumed for the buildout year of 2024 and 60 percent required under SB 100 in year 2030). Given LADWP's progress towards meeting and exceeding the established targets as well as penalties for non-compliance, it is assumed LADWP will comply. **SB 350**: As required under SB 350, doubling of the energy efficiency savings from final end uses of retail customers by 2030 would primarily rely on the existing suite of building energy efficiency standards under CCR Title 24, Part 6 (discussed below) and utility-sponsored programs such as rebates for high-efficiency appliances, HVAC systems, and insulation. The Project would further support this regulation since the Project would comply with 2019 Title 24 Standards, which represent challenging but achievable design and construction practices and would implement measures to reduce overall energy usage compared to baseline conditions.
Cap-and-Trade Program: As required by AB 32 and the *Climate Change Scoping Plan*, the Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, this regulatory program applies to electric service providers and not directly to land use development. That being said, the Project would benefit from this regulatory program in that the GHG emissions associated with the Project's electricity usage per year presented in Table IV.E-10 on page IV.E-69 would indirectly be covered by the Cap-and-Trade Program. Furthermore, the Cap-and-Trade Program also covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported. While not quantified in this analysis, the Project would benefit from this regulatory program in that the GHG emissions associated with the Project's electricity usage would indirectly be covered by the Cap-and-Trade Program.

Table IV.E-5 (Continued)
Mandatory Regulatory Compliance Measures within the Climate Change Scoping Plan

Mandatory Regulatory Compliance Measures
Mobile (66 Percent of Project Inventory)
Advanced Clean Cars Program: CARB approved the Advanced Clean Cars Program in 2012 which establishes an emissions control program for model year 2017 through 2025 and increasing the number of zero emission vehicles manufactured in the 2018 through 2025 model years. Standards under the Advanced Clean Cars Program apply to all passenger and light duty trucks within California and indirectly used by employees and deliveries to the Project. Mobile source GHG emissions provided in Table IV.E-10 on page IV.E-69 conservatively do not include this additional 34-percent reduction in mobile source emissions as the CalEEMod model default fleet mix for the Air Basin does not yet account for this regulation. The Project would further support this regulation since the Applicant will provide at least 30 percent of the total parking spaces provided to be capable of supporting future Electric Vehicle Supply Equipment (EVSE) per City codes. The Scoping Plan recommends additional mobile source strategies through the extension of the Advanced Clean Cars Program which are expected to increase GHG stringency on light duty autos and continue adding zero emission and plug in vehicles through 2030. CARB is also developing the Innovative Clean Transit measure to encourage purchase of advanced technology buses such as alternative fueled or battery powered buses. This would allow fleets to phase in cleaner technology in the near future. CARB is also in the process of developing proposals for new approaches and strategies to achieve zero emission trucks under the Advanced Clean Local Trucks (Last Mile Delivery) Program.[c,d] Although the Innovative Clean Transit and Advanced Clean Local Truck Programs have not yet been established, the Modified Project would also indirectly benefit from these measures once adopted. **Low Carbon Fuel Standard (LCFS)**: The current LCFS, adopted in 2007, requires a reduction of at least 10 percent in the carbon intensity (CI) of California's transportation fuels by 2020. CalEEMod includes implementation of LCFS into the calculation of GHG emissions from mobile sources. However, the LCFS was amended in September 2018 to target a 20-percent reduction in CI from a 2010 baseline by 2030.[e] This additional 10-percent reduction in CI would indirectly reduce the Project's mobile source emissions.
Solid Waste (1 Percent of Project Inventory)
California Integrated Waste Management Act of 1989: The regulation requires each jurisdiction's source reduction and recycling element to include a diversion of 50 percent of all solid waste by 2000.[f] **AB 341 (2011)** amended the regulation to include a provision declaring that it is the policy goal of the state that not less than 75 percent of solid waste generated be source reduced, recycled, or composted by the year 2020, and annually thereafter.[g] The Project complies with these percentage recycling requirements inasmuch as the Project is served by the City of Los Angeles, which currently achieves a diversion rate of 76 percent. Project-related GHG emissions from solid waste generation provided in Table IV.E-10 on page IV.E-69 includes a 76-percent reduction in solid waste generation source emissions consistent with the minimum diversion rate required for the City of Los Angeles (CalEEMod default diversion rate is zero percent). The Applicant must also only contract for waste disposal services with a company that recycles solid waste in compliance with AB 341. In addition, the Project would provide recycling bins at appropriate locations to promote recycling of paper, metal, glass and other recyclable material. Further, the Project would recycle and/or salvage at least 75 percent of non-hazardous construction and demolition debris, and the Applicant would prepare a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal and whether the materials will be sorted on-site or comingled.

Table IV.E-5 (Continued)
Mandatory Regulatory Compliance Measures within the Climate Change Scoping Plan

Mandatory Regulatory Compliance Measures

[a] *SB 350 (2015–2016 Regular Session) Stats 2015, Ch. 547.*

[b] *CEC, Annual Power Content Labels for 2018, LADWP, July 2019.*

[c] *CARB, Advance Clean Cars, 2017 Midterm Review Report, ww2.arb.ca.gov/resources/documents/2017-midterm-review-report, accessed March 11, 2020.*

[d] *CARB, Advanced Clean Local Trucks (Last mile delivery and local trucks), ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks, accessed March 11, 2020.*

[e] *CARB, LCFS Regulation, ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard/lcfs-regulation, accessed March 11, 2020.*

[f] *California Integrated Waste Management Act of 1989 and AB 341.*

[g] *AB 341 (2011).*

Source: Eyestone Environmental, 2020.

Table IV.E-6
Consistency Analysis—Climate Change Scoping Plan

Actions and Strategies	Responsible Party(ies)	Project Consistency Analysis
CCR, Title 20: The 2016 Appliance Efficiency Regulations, adopted by the California Energy Commission (CEC), include standards for new appliances (e.g., refrigerators) and lighting, if they are sold or offered for sale in California.	State and CEC	**No Conflict.** These standards are included in default parameters provided in CalEEMod and are reflected in Project-related GHG emissions provided in Table IV.E-10 on page IV.E-69.
CCR, Title 24, Building Standards Code: The 2016 Building Energy Efficiency Standards contained in Title 24, Part 6 (also known as the California Energy Code), requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The California Green Building Standards Code (Part 11, Title 24) established mandatory and voluntary standards on planning and design for sustainable site development, energy efficiency (extensive update of the California Energy Code), water conservation, material conservation, and internal air contaminants.	State and CEC	**No Conflict.** Consistent with regulatory requirements, the Project must comply with applicable provisions of the 2017 Los Angeles Green Code that in turn requires compliance with mandatory standards included in the CalGreen Building Standards. The 2019 Title 24 standards represent "challenging but achievable design and construction practices" and are substantially more efficient than the 2020 Projected Emissions under Business-as-Usual in the *Climate Action Scoping Plan*. Thus, the Project has incorporated energy efficiency standards that do not conflict with measures identified in the *Climate Action Scoping Plan* to reduce GHG emissions.
AB 1109: The Lighting Efficiency and Toxic Reduction Act establishes standards structured to reduce average statewide electrical energy consumption by not less than 50 percent from the 2007 levels for indoor residential lighting and not less than 25 percent from the 2007 levels for indoor commercial and outdoor lighting by 2018.[a]	State/ Manufacturers	**No Conflict.** The Project would not conflict with requirements under AB 1109 because it complies with local and state green building programs and incorporates energy efficient lighting and electricity consumption in compliance with 2019 Title 24 Standards . This reduction was not reflected in CalEEMod default assumptions and was therefore included in the calculation of Project GHG emissions.
SB 375: SB 375 requires integration of planning processes for transportation, land-use and housing. Under SB 375, each Metropolitan Planning Organization would be required to adopt a Sustainable Community Strategy (SCS) to encourage compact development that reduces passenger vehicle miles traveled and trips so that the region will meet a target, created by CARB, for	State, CARB Regional, SCAG	**Consistent.** SB 375 requires SCAG to direct the development of the SCS for the region, which is discussed further below. The Project represents an infill development within an existing urbanized area that would concentrate new residential, office, retail and restaurant uses within an HQTA. As required under SB 375, CARB is required to update regional GHG emissions targets every 8 years with the last update formally adopted in March 2018. As part of the 2018 updates,

Table IV.E-6 (Continued)
Consistency Analysis—Climate Change Scoping Plan

Actions and Strategies	Responsible Party(ies)	Project Consistency Analysis
reducing GHG emissions.		CARB has adopted a passenger vehicle related GHG reduction of 19 percent for 2035 for the SCAG region, which is more stringent than the current reduction target of 13 percent for 2035. As discussed below, the Project-related residential VMT per capita would approximately 67 percent below (see Appendix B of this Draft EIR) the 2016–2040 RTP/SCS baseline per capita VMT and would be greater than the reduction targets in the 2016–2040 RTP/SCS and CARB's updated 2035 target of 19 percent. Project-related worker VMT per capita would be 67 percent below the 2016–2040 RTP/SCS baseline per capita VMT. Therefore, the Project would be consistent with SB 375 the reduction in transportation emission per capita provided in the 2016–2040 RTP/SCS, and with CARB's updated 2035 target.
Updated Scoping Plan: By 2019, adjust performance measures used to select and design transportation facilities. • Harmonize project performance with emissions reductions, and increase competitiveness of transit and active transportation modes (e.g. via guideline documents, funding programs, project selection, etc.).	CalSTA and SGC, OPR, CARB, GoBiz, IBank, DOF, CTC, Caltrans	**No Conflict.** The Project would not involve construction of transportation facilities. However, the Project is located approximately 1.5 miles from the Metro Gold Line and Regional Connector Little Tokyo/Arts District Station (currently under construction and slated for operation in 2021). The Project would benefit from these existing and future stations by encouraging use of mass transit resulting in a reduction of Project-related vehicle trips to and from the site.
Updated Scoping Plan: By 2019, develop pricing policies to support low-GHG transportation (e.g. low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, CTC, OPR/SGC, CARB	**No Conflict.** The Project would not conflict with this policy which would not be implemented at the Project level. However, the Project would support this policy by providing electric vehicle supply wiring (EV ready) in at least 30 percent of the total code required parking spaces and electric vehicle charging stations at 10 percent of the total code required parking spaces consistent with City codes.
Updated Scoping Plan: Implement California Sustainable Freight Action Plan: • Improve freight system efficiency. • Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and	CARB	**No Conflict.** The Project land uses would not include freight transportation or warehousing. Therefore, the Project would not interfere or impede the implementation of the Sustainable Freight Action Plan.

Table IV.E-6 (Continued)
Consistency Analysis—Climate Change Scoping Plan

Actions and Strategies	Responsible Party(ies)	Project Consistency Analysis
equipment powered by renewable energy by 2030.		
CCR, Title 24, Building Standards Code: The California Green Building Standards Code (Part 11, Title 24) includes water efficiency requirements for new residential and non-residential uses, in which buildings shall demonstrate a 20-percent overall water use reduction.	State	**No Conflict.** The Project would comply with applicable provisions of the 2020 Los Angeles Green Building Code which in turn requires compliance with mandatory standards included in the CalGreen Building Standards (20-percent overall water use reduction). Water usage rates were calculated consistent with the requirements under City of Los Angeles Ordinance No. 184,248, 2016 California Plumbing Code, 2019 CalGreen Code, 2017 Los Angeles Plumbing Code, and 2020 Los Angeles Green Building Code and reflects approximately a 20-percent reduction in water usage as compared to the base demand provided in CalEEMod. The Project's reduction in water usage would also reduce energy and associated emissions required to pump and treat water.
SB X7-7: The Water Conservation Act of 2009 sets an overall goal of reducing per-capita urban water use by 20 percent by December 31, 2020. The state is required to make incremental progress toward this goal by reducing per-capita water use by at least 10 percent by December 31, 2015. This is an implementing measure of the Water Sector of the AB 32 Scoping Plan. Reduction in water consumption directly reduces the energy necessary and the associated emissions to convene, treat, and distribute the water; it also reduces emissions from wastewater treatment.	State	**No Conflict.** As discussed above under Title 24, the Project would incorporate water conservation features that would contribute towards meeting this performance-based standard. Project Design Feature WAT-PDF-1 in Section IV.K.1, Utilities and Service Systems---Water Supply and Infrastructure, of this Draft EIR, provides a specific list of water conservation measures, including high-efficiency toilets and showerheads, domestic water heating system located in close proximity to points of use, and drip/subsurface irrigation, among others. The Project thereby includes measures consistent with the GHG reductions sought by SB X7-7 related to water conservation and related GHG emissions.
CARB In-Use Off-Road Regulation: CARB's in-use off-road diesel vehicle regulation ("Off-Road Diesel Fleet Regulation") requires the owners of off-road diesel equipment fleets to meet fleet average emissions standards pursuant to an established compliance schedule.	CARB	**No Conflict.** The Applicant would use construction contractors that would comply with this regulation.

Table IV.E-6 (Continued)
Consistency Analysis—Climate Change Scoping Plan

Actions and Strategies	Responsible Party(ies)	Project Consistency Analysis
CARB In-Use On-Road Regulation: CARB's in-use on-road heavy-duty vehicle regulation ("Truck and Bus Regulation") applies to nearly all privately and federally owned diesel fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating greater than 14,000 pounds.[b]	CARB	**No Conflict.** The Applicant would use construction contractors that would comply with this regulation. This regulation requires replacement of older trucks with more efficient trucks. Trucks used for Project construction activities would comply with this measure requiring more efficient engines which will reduce emissions.
Implement the Short-Lived Climate Pollutant Strategy by 2030: • 40-percent reduction in methane and hydrofluorocarbon emissions below 2013 levels. • 50-percent reduction in black carbon emissions below 2013 levels.	CARB, CalRecycle, CDFA, SWRCB, Local air districts	**No Conflict.** SB 605 was adopted in 2014 and directs CARB to develop a comprehensive Short-Lived Climate Pollutant (SLCP) strategy. SB 1383 was later adopted in 2016 to require CARB to set statewide 2030 emission reduction targets of 40 percent for methane and hydrofluorocarbons and 50 percent black carbon emissions below 2013 levels.[c] The Project would comply with the CARB SLCP Reduction Strategy which limits the use of hydrofluorocarbons for refrigeration uses.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA, SWRCB, Local air districts	**No Conflict.** Under SB 1383, the California Department of Resources Recycling and Recovery (CalRecycle) is responsible for achieving a 50-percent reduction in the level of statewide disposal of organic waste from the 2014 level by 2020 and 75-percent reduction by 2025. As of March 2018, CalRecycle is currently holding workshops to review draft regulatory language. Regulations to achieve SB 1383 targets are expected to take effect in 2022.[d] The Project would not conflict with AB 341 which requires not less than 75 percent of solid waste generated be source reduced through recycling, composting or diversion. Reduction in solid waste generated by the Project would reduce overall GHG emissions. Compliance with AB 341 would also help achieve the goals of SB 1383. This reduction in solid waste generation was not reflected in CalEEMod default assumptions and was conservatively not included in the calculation of Project GHG emissions.

Table IV.E-6 (Continued)
Consistency Analysis—Climate Change Scoping Plan

Actions and Strategies	Responsible Party(ies)	Project Consistency Analysis

[a] *2007b. AB 1109 (2007–2008 Reg. Session) Stats. 2007, Ch. 534.*

[b] *CARB, Truck and Bus Regulation, ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation, accessed August 13, 2019.*

[c] *CARB, Reducing Short-Lived Climate Pollutants in California, ww2.arb.ca.gov/our-work/programs/short-lived-climate-pollutants, accessed March 11, 2020.*

[d] *CalRecycle, Short-Lived Climate Pollutants (SLCP): Organic Waste Methane Emissions Reductions, www.calrecycle.ca.gov/climate/slcp/, accessed March 11, 2020.*

Source: Eyestone Environmental, 2020.

pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. Thus, successful implementation of the 2016–2040 RTP/SCS would result in more complete communities with a variety of transportation and housing choices, while reducing automobile use. With regard to individual developments, such as the Project, strategies and policies set forth in the 2016–2040 RTP/SCS can be grouped into the following three categories: (1) reduction of vehicle trips and VMT; (2) increased use of alternative fuel vehicles; and (3) improved energy efficiency. These strategies and policies are addressed below.

(iii) Consistency with Integrated Growth Forecast

The 2016–2040 RTP/SCS provides socioeconomic forecast projections of regional population growth. The population, housing, and employment forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the specific area; these are used by SCAG in all phases of implementation and review. According to the 2016–2040 RTP/SCS, the forecasted population for the City of Los Angeles Subregion in 2018 is approximately 4,009,193 persons.[97] In 2024, the projected year of full Project occupancy, the City of Los Angeles Subregion is anticipated to have a population of approximately 4,172,886 persons.[98] Based on a household size factor of 2.42 persons per household, the Project is estimated to generate a new residential population of 840 persons at full buildout.[99] The estimated new residents generated by the Project would represent approximately 0.51 percent of the population growth forecasted by SCAG in the City of Los Angeles Subregion between 2018 and 2024.[100] Based on employee generation factors provided by the Los Angeles Unified School District, development of the Project would result in approximately 961 new employment positions on the Project Site.[101] According to the 2016–2040 RTP/SCS, the employment forecast for the City of Los Angeles Subregion in 2018 is approximately 1,797,693 employees.[102] In

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[97] *Based on a linear interpolation of 2012–2040 data.*

[98] *Based on a linear interpolation of 2012–2040 data.*

[99] *Based on a rate of 2.42 persons per multi-family unit based on the 2017 American Community Survey 5-Year Average Estimates per correspondence with Jack Tsao, Data Analyst II, Los Angeles Department of City Planning, July 31, 2019.*

[100] *840 ÷ 163,693 = 0.51 percent*

[101] *LAUSD, Developer Fee Justification Study, March 2018, Table 14. Based on 0.00479 employee per square foot for Standard Commercial Office and 0.00271 employee per square foot for Neighborhood Shopping Centers, the Project's 187,374 square feet of office uses, 21,858 square feet of retail restaurant uses, and 926-square-foot community room residents could use for art creation would result in 961 employees ((187,374 * 0.00479) + (21,858*0.00271) + (926 * 0.00479) = 961). The LAUSD Developer Fee Justification Study does not include an employee generation rate for artist production space. To provide a conservative estimate, the highest generation rate (i.e., Standard Commercial Office) was used.*

[102] *Based on a linear interpolation of 2012–2040 data.*

2024, the projected occupancy year of the Project, the City of Los Angeles Subregion is anticipated to have approximately 1,898,986 employees.[103] Thus, the Project's estimated 961 new employees would constitute approximately 0.95 percent of the employment growth forecasted between 2018 and 2024.[104]

Similar projections form the basis of the 2016 AQMP, which provides emissions inventories, ambient measurements, meteorological episodes, and air quality modeling tools. The AQMP also provides policies and measures to guide responsible agencies in meeting National Ambient Air Quality Standards as expeditiously as practicable, but no later than the statutory attainment deadlines. Because the 2016 AQMP and growth forecasts discussed above are both based on the 2016–2040 RTP/SCS, it can be concluded that the Project would be consistent with the projections in the AQMP and would not conflict with its regional air quality goals. Please refer to Section IV.F, Land Use, of this Draft EIR, for additional information regarding consistency with the 2016–2040 RTP/SCS.

(iv) Consistency with VMT Reduction Strategies and Policies

The 2016–2040 RTP/SCS includes, for the SCAG region as a whole, a daily 22.8 Total VMT per capita for the 2012 Base Year, and a daily 20.5 Total VMT per capita for the 2040 Plan Year.[105] For Los Angeles County, the 2012 Base Year daily Total VMT per capita is 21.5 and the daily Total VMT per capita is 18.4 for the 2040 Plan Year.[106] To analyze the consistency of the Project with the 2016–2040 RTP/SCS, the Project's VMT was calculated separately for households and workers to arrive at the per capita Total Daily VMT estimates. The estimate of 7.7 VMT per capita for Project residents and 7.5 VMT per capita for Project employees, as provided in Table IV.E-7 on page IV.E-58, was compared to SCAG's VMT data for the region and Los Angeles County provided by the 2016–2040 RTP/SCS, which in both instances the Project's per capita Total VMT estimate was lower. As shown in Appendix B of the Draft EIR, the Project design includes characteristics that would reduce trips and VMT as compared to the Project without implementation of VMT reducing measures within the Air Basin as measured by CalEEMod. These relative reductions in vehicle trips and VMT from the Project without implementation of VMT reducing measures within the Air Basin help quantify the GHG emissions reductions achieved by locating the Project in an infill, HQTA area that promotes alternative modes of transportation. Specifically, the Project would increase density on the Project Site from five dwelling units per acre to 157 dwelling units per acre and from 48 jobs per acre to

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[103] *Based on a linear interpolation of 2012–2040 data.*

[104] *961 ÷ 101,293 = 0.95 percent*

[105] *SCAG, 2016–2040 RTP/SCS, April 2016, p. 155.*

[106] *SCAG, 2016–2040 RTP/SCS, April 2016, p. 155.*

Table IV.E-7
Comparison of Project Total VMT/Capita to 2016–2040 RTP/SCS

Scenario	Daily Weekday Trips
Total VMT (Project)[a]	34,480 Daily VMT
Household VMT Per Capita	7.7 VMT/Capita (Daily)
Work VMT per Employee	7.5 VMT/Capita (Daily)

[a] *VMT was calculated using the LADOT VMT Calculator and the results are provided in Appendix B of this Draft EIR.*

Source: Fehr and Peers, 2020.

approximately 434 jobs per acre; introduce a mix of residential, retail, and office uses on the Project Site in proximity to other existing off-site residential, office, retail, restaurant, and industrial uses which would reduce VMT by encouraging walking and non-automotive forms of transportation; introduce new housing and jobs in close proximity to densely populated areas including Downtown Los Angeles; and increase transit accessibility by locating new housing and jobs within 0.25 mile of existing bus routes and approximately 1.5 miles of the Metro Gold Line Little Tokyo/Arts District station.

The LADOT VMT Calculator incorporates the USEPA MXD model and accounts for project features discussed above (e.g., increased density and proximity to transit), which would reduce VMT and associated fuel usage in comparison to free-standing sites. As shown in Appendix B, incorporation of USEPA MXD VMT reduction features applicable to the Project results in a 23-percent reduction in overall VMT and resultant pollutant emissions compared to baseline ITE trip generation rates. Furthermore, with implementation of Mitigation Measure TR-MM-1, implementation of a TDM program, the Project would result in a 28-percent reduction in overall VMT and associated emissions.

As shown in Table IV.E-7, the Total Project VMT per capita of 7.6 per day would be below the overall SCAG region's daily 20.5 Total VMT per capita for the 2040 Plan Year and Los Angeles County's 18.4 daily Total VMT per capita for the 2040 Plan Year. As discussed above, the Project daily per capita VMT is 7.7 miles for residents, which represents a reduction of 67 percent in daily per capita VMT when compared to the SCAG regional baseline of 22.8 daily per capita VMT. Project employee daily per capita VMT is 7.5 miles, which is a 67-percent reduction in comparison to SCAG baseline. This reduction in VMT is substantially better that the goals of the 2016–2040 RTP/SCS with an estimated 18-percent decrease in per capita GHG emissions from passenger vehicles by 2035 and

21-percent decrease in per capita GHG emissions from passenger vehicles by 2040.[107] This reduction is attributable to the Project characteristics of being an infill project near transit that supports multi-modal transportation options. It should be noted that the VMT per capita calculation is for informational purposes to demonstrate consistency with the 2016–2040 RTP/SCS.

The Project would also be consistent with the following key GHG reduction strategies in SCAG's 2016–2040 RTP/SCS, which are based on changing the region's land use and travel patterns:

- Compact growth in areas accessible to transit;
- More multi-family housing;
- Jobs and housing closer to transit;
- New housing and job growth focused in HQTAs; and
- Biking and walking infrastructure to improve active transportation options and transit access.

The Project represents an infill development within an existing urbanized area that would concentrate new residential, office, and restaurant/retail uses within an HQTA, which is defined by the 2016–2040 RTP/SCS as a generally walkable transit village or corridor that is within 0.5 mile of a well-serviced transit stop or a transit corridor with 15-minute or less service frequency during peak commute hours (see Section IV.F, Land Use, of this Draft EIR for further discussion). Specifically, three Metro Local bus routes run within 0.25 mile of the Project Site. The Project Site is also located 1.5 miles from the Metro Little Tokyo/Arts District station. Furthermore, the Project would provide short- and long-term bicycle parking spaces as required by the LAMC. These and other measures would further promote a reduction in VMT and subsequent reduction in GHG emissions, which would be consistent with the goals of SCAG's 2016–2040 RTP/SCS.

(v) Increased Use of Alternative Fueled Vehicles Policy Initiative

The second goal of the 2016–2040 RTP/SCS, with regard to individual development projects, such as the Project, is to increase alternative fueled vehicles to reduce per capita

[107] *CARB updated the SB 375 targets for the SCAG region, requiring a 19-percent decrease in VMT by 2035. Implementation of the 2016 RTP/SCS or the next plan is expected to fulfill and exceed the region's obligations under SB 375 with respect to meeting the State's VMT and related GHG emission reduction goals.*

GHG emissions. The 2016–2040 RTP/SCS policy initiative focuses on providing charge port infrastructure and accelerating fleet conversion to electric or other near zero-emission technologies. The Project would provide at least 30 percent of the total Code-required parking spaces provided to be capable of supporting future EVSE and provide at least 10 percent of the total Code-required parking spaces provided with EV charging stations as dictated by City codes.

(vi) Energy Efficiency Strategies and Policies

The third important goal within the 2016–2040 RTP/SCS for individual developments, such as the Project, involves improving energy efficiency (e.g., reducing energy consumption) to reduce GHG emissions. The 2016–2040 RTP/SCS goal is to actively encourage and create incentives for energy efficiency, where possible. As discussed above, the Project will incorporate energy efficient lighting and electricity consumption in compliance with 2019 Title 24 Standards which ensure that builders use the most energy efficient and energy conserving technologies and construction practices. In total, Project GHG emissions from electricity and natural gas usage would be reduced by 6 percent with implementation of project design features.

(vii) Land Use Assumptions

At the regional level, the 2016–2040 RTP/SCS is a plan adopted for the purpose of reducing GHGs. In order to assess the Project's potential to conflict with the 2016–2040 RTP/SCS, this Draft EIR also analyzes the Project's land use assumptions for consistency with those utilized by SCAG in its RTP/SCS. Generally, projects are considered consistent with the provisions and general policies of applicable City and regional land use plans and regulations, such as the 2016–2040 RTP/SCS, if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals. The Project's consistency with the applicable goals and principles set forth in the 2016–2040 RTP/SCS is analyzed in Table IV.E-5 on page IV.E-63 of Section IV.F, Land Use, of the Draft EIR. As shown in Table IV.E-5 the Project is consistent with the goals and principles set forth in the 2016–2040 RTP/SCS.[108]

In sum, the Project is the type of land use development that is encouraged by the 2016–2040 RTP/SCS to reduce VMT and expand multi-modal transportation options in order for the region to achieve the GHG reductions from the land use and transportation sectors required by SB 375, which, in turn, advances the state's long-term climate

[108] *As discussed in the 2016–2040 RTP/SCS, the actions and strategies included in the 2016–2040 RTP/SCS remain unchanged from those adopted in the 2012–2035 RTP/SCS.*

policies.[109] By furthering implementation of SB 375, the Project supports regional land use and transportation GHG reductions consistent with state regulatory requirements.

Therefore, the Project would be consistent with the GHG reduction-related actions and strategies contained in the 2016–2040 RTP/SCS. Overall, the Project would be consistent with the 2016–2040 RTP/SCS, which is intended to reduce GHG emissions.

(viii) City of Los Angeles Sustainable City pLAn/L.A.'s Green New Deal

As discussed above, the Sustainable City pLAn/L.A.'s Green New Deal, a mayoral initiative, includes both short-term and long-term aspirations through the year 2050 in various topic areas, including: water, renewable energy, energy-efficient buildings, carbon and climate leadership, waste and landfills, housing and development, mobility and transit, and air quality, among others. While not a plan adopted solely to reduce GHG emissions, within L.A.'s Green New Deal (Sustainable City pLAn 2019), climate mitigation is one of eight explicit benefits that help define its strategies and goals.

The Sustainable City pLAn/L.A.'s Green New Deal provides information as to what the City will do with buildings and infrastructure in their control, and provides specific targets related to housing and development as well as mobility and transit, including the reduction of vehicle miles traveled per capita by 5 percent by 2025, and increasing trips made by walking, biking or transit by at least 35 percent by 2025. As noted above, the Sustainable City pLAn was updated in April 2019 and renamed as L.A.'s Green New Deal which has established targets such as 100 percent renewable energy by 2045, diversion of 100 percent of waste by 2050, and recycling 100 percent of wastewater by 2035. Although the Sustainable City pLAn/L.A.'s Green New Deal mainly targets GHG emissions related to City owned buildings and operations, certain reductions would also benefit the Project. Such measures include increasing renewable energy usage; reduction of per capita water usage; promotion of walking and biking to work, promotion of high density housing close to major transportation stops; and various recycling and trash diversion goals. Table IV.E-8 on page IV.E-62 provides a discussion of the Project's consistency with applicable GHG-reducing actions from L.A.'s Green New Deal. As discussed therein, the Project would be consistent with the applicable goals and actions of L.A.'s Green New Deal.

The Project would generally comply with these targets as the Project is an infill development infill development within an existing urbanized area that is within 0.5 mile of a well-serviced transit stop or a transit corridor with 15-minute or less service frequency

[109] *As discussed above, SB 375 legislation links regional planning for housing and transportation with the GHG reduction goals outlined in AB 32.*

Table IV.E-8
Consistency with Applicable GHG Emissions Goals and Actions of L.A.'s Green New Deal

Action	Description	Consistency Analysis
Focus Area: Local Water		
Reduce potable water use per capita by 22.5 percent by 2025; and 25 percent by 2035; and maintain or reduce 2035 per capita water use through 2050	The City would build upon the success of Save the Drop program and develop additional water conservation campaigns. In addition, the City would continue to benchmark customer use and improve data gathering to identify effective programs	**Consistent.** While this action primarily applies to the City and LADWP, the Project would incorporate water conservation features to reduce water use. Water usage rates were calculated consistent with the requirements under City Ordinance No. 184,248, the 2016 California Plumbing Code, 2019 California Green Building Code (CALGreen), 2017 Los Angeles Plumbing Code, and 2020 Los Angeles Green Building Code and reflects approximately a 20-percent reduction in water usage as compared to the base demand. Project-related GHG emissions from water related sources, provided in below also include implementation of Project Design Feature WAT-PDF-1 included in Section IV.K.1, Utilities and Service Systems—Water Supply and Infrastructure, of this Draft EIR.
Focus Area: Clean and Healthy Buildings		
All new buildings will be net zero carbon by 2030; and 100 percent of buildings will be net zero carbon by 2050	The City would perform a complete building electrification study and develop supporting programs. Financing would be expanded and improved to provide electrification existing energy efficiency and solar programs.	**Consistent.** While this action primarily applies to the City, the Project would be designed and operated to meet or exceed the applicable requirements of the state Green Building Standards Code and the City of Los Angeles Green Building Code.
Reduce building energy use per sf for all building types 22 percent by 2025; 34 percent by 2035; and 44 percent by 2050	The City would increase awareness of incentives and smart building energy management systems. An energy consumption report will be prepared to assess the energy-water nexus.	**Consistent.** While this action primarily applies to the City, the Project would be designed and operated to meet or exceed the applicable requirements of the state Green Building Standards Code and the City of Los Angeles Green Building Code.
Focus Area: Housing and Development		
Ensure 57 percent of new housing units are built within 1500 ft of transit by 2025; and 75 percent by 2035	The City would develop regulatory tools and strategies to encourage transit ridership and focus growth in housing near the North Hollywood Station, Van Nuys Station, Sepulveda Station, Reseda Station, and Sherman Way Station. New stations would also be added to the Purple Line from Downtown L.A. to UCLA.	**Consistent.** While this action primarily applies to the City, the Project would concentrate new residential, retail/ restaurant, and office uses within a designated HQTA and TPA. The Project Site is served by multiple local and regional Metro bus lines, and the Greyhound Bus Terminal is located approximately 0.3 mile west of the

Table IV.E-8 (Continued)
Consistency with Applicable GHG Emissions Goals and Actions of L.A.'s Green New Deal

Action	Description	Consistency Analysis
	This action reduces vehicle emissions by facilitating access to transit which can reduce single occupancy vehicle trips and help alleviate traffic congestion, and most importantly, reducing associated GHG emissions.	Project Site on 7th Street. The Project is also located approximately 1.5 miles from the Metro Gold Line Little Tokyo/Arts District station.
Focus Area: Mobility and Public Transit		
Reduce VMT per capita by at least 13 percent by 2025; 39 percent by 2035; and 45 percent by 2050	The City would update the Transportation Demand Management (TDM) ordinance and develop first/ last mile infrastructure improvements around transit stations. TDM strategies would also be implemented consistent with the West Side Mobility Plan to east congestion.	**Consistent.** While this action primarily applies to the City, the Project would be located near mass transit stations to reduce vehicle trips. The Project would also promote a pedestrian-friendly community by placing residential, retail/restaurant, and office uses in a rapidly changing community near transit. The Project Site is located in an HQTA as designated by the 2016–2040 RTP/SCS. The Project would also provide bicycle parking spaces in accordance with LAMC requirements for Project residents and visitors.
Focus Area: Mobility and Public Transit		
Increase the percentage of electric and zero emission vehicles in the city to 25 percent by 2025; 80 percent by 2035; and 100 percent by 2050	The City would increase the electric vehicle ownership by providing rebates for used EVs and chargers as well as promote trade-in events for electric vehicles. The City would also increase the number of EV charging stations by pursuing public-private partnerships in developing charging stations, streamline permitting processes for EV charger installations and update building codes to simplify EV charging requirements.	**No Conflict.** The Project would support this policy since the Applicant would provide electric vehicle charging stations and electric vehicle supply wiring consistent with City codes.

during peak commute hours. Specifically, three Metro Local bus routes run within 0.25 mile of the Project Site. The Project Site is also located 1.5 miles from the Metro Gold Line Little Tokyo/Arts District station. Furthermore, the Project would comply with CALGreen, implement various project design features to reduce energy usage, including Project Design Feature GHG-PDF-1 and Project Design Feature WAT-PDF-1, and would comply with the City of Los Angeles Solid Waste Management Policy Plan, the RENEW LA Plan, and the Exclusive Franchise System Ordinance (Ordinance No. 182,986) in furtherance of the targets included in the Sustainable City pLAn/L.A.'s Green New Deal with regard to energy-efficient buildings and waste and landfills. The Project would also provide secure short- and long-term bicycle storage areas for Project employees and guests. **Therefore,**

the Project would be consistent with the Sustainable City pLAn/L.A.'s Green New Deal.

(ix) Post-2030 Analysis

Recent studies show that the State's existing and proposed regulatory framework will put the State on a pathway to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050 if additional appropriate reduction measures are adopted.[110] Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the Statewide emissions level to remain very low through 2050.

Subsequent to the findings of these studies, SB 32 was passed on September 8, 2016, which would require the State board to ensure that Statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. As discussed above, the new plan, outlined in SB 32, involves increasing renewable energy use, imposing tighter limits on the carbon content of gasoline and diesel fuel, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries. The Project's design features advance these goals by reducing VMT, increasing the use of electric vehicles, improving energy efficiency and reducing water usage.

Further, the Project's consistency with SCAG's RTP/SCS demonstrates that the Project will be consistent with post-2020 GHG reduction goals. The 2016–2040 RTP/SCS would result in an estimated 8-percent decrease in per capita GHG emissions by 2020, 18-percent decrease in per capita GHG emissions from passenger vehicles by 2035, and 21-percent decrease in per capita GHG emissions from passenger vehicles by 2040. In March 2018, CARB adopted updated targets requiring a 19-percent decrease in VMT for the SCAG region by 2035. As the CARB targets were adopted after the 2016–2040 RTP/SCS, it is expected that the updated targets will be incorporated into the next

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[110] *Energy and Environmental Economics (E3). "Summary of the California State Agencies' PATHWAYS Project: Long-term Greenhouse Gas Reduction Scenarios" (April 2015); Greenblatt, Jeffrey, Energy Policy, "Modeling California Impacts on Greenhouse Gas Emissions" (Vol. 78, pp. 158–172). The California Air Resources Board, California Energy Commission, California Public Utilities Commission, and the California Independent System Operator engaged E3 to evaluate the feasibility and cost of a range of potential 2030 targets along the way to the state's goal of reducing GHG emissions to 80 percent below 1990 levels by 2050. With input from the agencies, E3 developed scenarios that explore the potential pace at which emission reductions can be achieved, as well as the mix of technologies and practices deployed. E3 conducted the analysis using its California PATHWAYS model. Enhanced specifically for this study, the model encompasses the entire California economy with detailed representations of the buildings, industry, transportation and electricity sectors.*

RTP/SCS. The 2016–2040 RTP/SCS and/or the next RTP/SCS are expected to fulfill and exceed SB 375 compliance with respect to meeting the State's GHG emission reduction goals.

The Project is the type of land use development that is encouraged by the RTP/SCS to reduce VMT and expand multi-modal transportation options. As shown in Table IV.E-7 on page IV.E-58, the 7.7 Total Project VMT per capita for residential uses is below the overall SCAG region's daily average of 20.5 Total VMT per capita for the 2040 Plan Year and Los Angeles County's daily average of 18.4 VMT per capita for the 2040 Plan Year.

As discussed above, the Project daily per capita VMT for residents represents a reduction of 67 percent in daily per capita VMT when compared to the SCAG regional baseline of 22.8 daily per capita VMT. Project employee daily per capita using LADOT's VMT calculator is VMT is 7.5 miles which is a 67-percent reduction in comparison to SCAG baseline which is consistent with the reduction in transportation emission per capita provided in the 2016–2040 RTP/SCS. By furthering implementation of SB 375, the Project supports regional land use and transportation GHG reductions consistent with State climate targets beyond 2020.

The emissions modeling in the 2017 Update has projected 2030 statewide emissions which take into account known commitments (reduction measures) such as SB 375, SB 350, and other measures shown in Table IV.E-6 on page IV.E-51. The emissions inventory identified an emissions gap, meaning that emissions reductions due to known commitments do not decline fast enough to achieve the 2030 target. In order to fill this gap, the 2017 Update assumed a scenario in which the Cap-and-Trade Program would deliver the reductions necessary to achieve the 2030 emissions target. Although the Project is consistent with the 2017 Update, additional measures to achieve the 2030 targets and beyond are outside of the City or the Project's control. Therefore, any evaluation of post-2030 Project GHG emissions would be speculative.

(x) Conclusion

Because the Project's location, land use characteristics and design render it consistent with statewide and regional climate change mandates, plans, policies, and recommendations, and with the City's Green Building Code and the Sustainability pLAn/L.A.'s Green New Deal, the Project would not conflict with any applicable plan, policy, regulation or recommendation to reduce GHG emissions and its impacts would be less than significant.

(b) Project Emissions

As discussed above, CEQA Guidelines Section 15064.4 recommends quantification of a Project's GHG emissions. However, the quantification is being done for informational purposes only and Project GHG emissions are not evaluated against any numeric threshold. The Project would result in direct and indirect GHG emissions generated by different types of emissions sources, including:

- Construction: emissions associated with demolition of the existing buildings and surface parking areas, shoring, excavation, grading, and construction-related equipment and vehicular activity;
- Area source: emissions associated with landscaping equipment and consumer products;
- Energy source (building operations): emissions associated with space heating and cooling, water heating, energy consumption, and lighting;
- Mobile source: emissions associated with vehicles accessing the Project Site;
- Stationary source: emissions associated with stationary equipment (e.g., emergency generators);
- Solid Waste: emissions associated with the decomposition of the waste, which generates methane based on the total amount of degradable organic carbon; and
- Water/Wastewater: emissions associated with energy used to pump, convey, deliver, and treat water.

The Project would generate an incremental contribution to and cumulative increase in GHG emissions. A specific discussion regarding potential GHG emissions associated with the construction and operational phases of the Project is provided below.

(i) Construction

As described in Section II, Project Description, of this Draft EIR, the timing of construction of specific elements of the Project would depend on the business needs at the time. Project construction could occur in sequential phases (e.g. demolition, then grading, then building construction), with buildout expected to be completed in 2024. Construction activities would include demolition of some existing uses, grading and excavation, mat foundation pouring, construction of new structures and related infrastructure. Approximately 239,500 cubic yards of export material (e.g., concrete and asphalt surfaces) and soil would be hauled from the Project Site during excavation. The emission of GHGs associated with construction of the Project were calculated for each year of construction

activity. A summary of GHG emissions for each year of construction is presented in Table IV.E-9 on page IV.E-68.

As presented in Table IV.E-9, construction of the Project is estimated to generate a total of 6,806 $MTCO_2e$. As recommended by SCAQMD, the total GHG construction emissions were amortized over the 30-year lifetime of the Project (i.e., total construction GHG emissions were divided by 30 to determine an annual construction emissions estimate that can be added to the Project's operational emissions) in order to determine the Project's annual GHG emissions inventory.[111] This results in annual Project construction emissions of 227 $MTCO_2e$. A complete listing of the construction equipment by on-site and off-site activities, duration, and emissions estimation model input assumptions used in this analysis is included within the emissions calculation worksheets that are provided in Appendix B of this Draft EIR.

(ii) Operation

Area Source Emissions

Area source emissions were calculated using the CalEEMod emissions inventory model, which includes landscape maintenance equipment, consumer products, and fireplaces. As shown in Table IV.E-10 on page IV.E-69, the Project, at full buildout, is expected to result in 81 $MTCO_2e$ per year from area sources. Please refer to Appendix B of this Draft EIR for the supporting calculations that reflect the emission reduction measures.

Electricity and Natural Gas Generation Emissions

GHGs are emitted as a result of activities in buildings when electricity and natural gas are used as energy sources. Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere; when this occurs in a building or property, it is a direct emission source associated with that building or property. GHGs are also emitted during the generation of electricity from fossil fuels. When electricity is used in a building, the electricity generation typically takes place off-site at the power plant; accordingly, electricity use in a building generally causes emissions in an indirect manner.

Electricity and natural gas emissions were calculated using the CalEEMod emissions inventory model, which multiplies an estimate of the energy usage by applicable emissions factors chosen by the utility company. GHG emissions from electricity use are directly dependent on the electricity utility provider. In this case, GHG intensity factors for

[111] *SCAQMD Governing Board Agenda Item 31, December 5, 2008.*

Table IV.E-9
Construction-Related Emissions
($MTCO_2e$)

Year	$MTCO_2e$[a]
2021	2,421
2022	1,846
2023	2,415
2024	124
Total	**6,806**
Amortized Over 30 Years	227

[a] *CO_2e was calculated using CalEEMod and the results are provided in Appendix B of this Draft EIR. Totals may not add up due to rounding.*

Source: Eyestone Environmental, 2020.

LADWP were selected in CalEEMod. The carbon intensity (lbs/MWh) for electricity generation was calculated for the Project buildout year based on LADWP projections for year 2024. LADWP's carbon intensity projections also take into account SB 350 RPS requirements for renewable energy.

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building, such as plug-in appliances. CalEEMod calculates energy use from systems covered by Title 24 (e.g., heating, ventilation, and air conditioning [HVAC] system, water heating system, and lighting system); energy use from lighting; and energy use from office equipment, appliances, plug-ins, and other sources not covered by Title 24 or lighting.

CalEEMod electricity and natural gas usage rates are based on the CEC-sponsored California Commercial End-Use Survey (CEUS) and California Residential Appliance Saturation Survey (RASS) studies.[112] The data are specific for climate zones. Zone 12 was selected for the Project Site based on the zip code tool. Since these studies are based on older buildings, adjustments have been made to CalEEMod default energy use assumptions to account for changes to Title 24 building codes.

The Project would implement a number of project design features that would reduce Project energy consumption. Specifically, Project Design Feature GHG-PDF-1, which

[112] *CEC, Commercial End-Use Survey, March 2006, and California Residential Appliance Saturation Survey, October 2010.*

Table IV.E-10
Annual GHG Emissions Summary (Buildout)[a]
(metric tons of carbon dioxide equivalent [$MTCO_2e$])

Scope	Project without Reduction Features	Project with Reduction Features	Reduction[b]
Area[c]	81	81	0%
Energy[d]	2,105	1,971	−6%
Mobile[e,f]	7,169	5,350	−23%
Stationary[g]	2	2	0%
EV Chargers	(183)	(183)	0%
Solid Waste[h]	72	72	0%
Water/Wastewater[i]	422	338	−20%
Construction	227	227	0%
Total Emissions	**9,895**	**8,040**	−20%

[a] *CO_2e was calculated using CalEEMod and the results are provided in Section 2.0 of the Operation CalEEMod output file within Appendix B of this Draft EIR. Totals may not add up due to rounding.*

[b] *Certain GHG reduction features and regulations discussed above in the regulatory consistency analysis are not readily quantifiable and were not included as part of the emissions inventory. In addition, some reduction measures are implemented over time such as RPS, LCFS, and fuel economy standards. Although the Project accounted for RPS, LCFS, and fuel economy standards for the Project buildout year, emissions do not reflect more stringent standards for later years. Therefore, the Project emissions presented herein are conservative and would be lower in future years.*

[c] *Area source emissions are from the use of landscape equipment and natural gas-fueled fireplaces.*

[d] *Energy source emissions are based on CalEEMod default electricity and natural gas usage rates. Emissions from electricity generation only take into account carbon intensity at the build out year, but do not take into account decreasing carbon intensity required by SB 350 and SB 100 (RPS). However, it is recognized that the RPS would require utilities to supply 60 percent renewable energy by 2030 per SB 100.*

[e] *Assumes compliance with LCFS for both the Project and the Project without Reduction Features. Mobile source emissions do not account for increasing fuel economy standards for future years. Project-related mobile source emissions also take into account EV charging requirements, which would provide for 10 percent of code-required parking being equipped with EV charging stations.*

[f] *With implementation of Mitigation Measure TR-MM-1 (TDM Program), GHG emissions would be reduced by an additional 402 $MTCO_2e$ per year.*

[g] *Stationary source emissions are from an on-site emergency generator.*

[h] *Solid waste emissions are calculated based on CalEEMod default solid waste generation rates.*

[i] *Water/Wastewater emissions are calculated based on CalEEMod default water consumption rates. The CalEEMod estimate of water consumption is considered conservative compared to more current water demand rates used by LADWP, which are reflected in Section IV.K.1, Utilities and Service Systems—Water Supply and Infrastructure, of this Draft EIR and the accompanying Water Supply Assessment provided in Appendix P.*

Source: Eyestone Environmental, 2020.

would require the Project to incorporate features to reduce overall energy usage beyond Title 24 requirements.

As shown in Table IV.E-10 on page IV.E-69, Project GHG emissions from electricity and natural gas usage would result in a total of 1,971 $MTCO_2e$ per year and accounts for a 6-percent reduction in energy source emissions with implementation of Project Design Feature GHG-PDF-1 as compared to the Project without implementation of this project design feature. Please refer to Appendix B of this Draft EIR for the supporting calculations that reflect the emission reduction measures.

Mobile Source Emissions

Mobile-source emissions were calculated using the SCAQMD-recommended CalEEMod emissions inventory model. CalEEMod calculates the emissions associated with on-road mobile sources associated with residents, employees, visitors, and delivery vehicles visiting the Project Site based on the number of daily trips generated and VMT.

Mobile source operational GHG emissions were calculated using CalEEMod based on the Project trip-generation estimates provided in the Transportation Study prepared for the Project and included as Appendix N.1 of this Draft EIR.[113] As discussed in Section IV.H, Transportation, of this Draft EIR, the LADOT VMT Calculator was used to calculate Project VMT and trip estimates based on the number of residential units and amount of building area for the commercial retail, restaurant, and office uses. Pass-by trips were determined using applicable trip-generation rates based on the Institute of Transportation Engineers' (ITE) *Trip Generation, 10th Edition*.

As discussed above, the Project design also includes characteristics that would reduce trips and VMT as compared to a project without VMT reducing measures within the Air Basin as measured by the air quality model (i.e., CalEEMod).

The Project represents an infill development within an existing urbanized area that would concentrate new residential, office, and restaurant/retail uses within an HQTA, which is defined by the 2016–2040 RTP/SCS as a generally walkable transit village or corridor that is within 0.5 mile of a well-serviced transit stop or a transit corridor with 15-minute or less service frequency during peak commute hours (see Section IV.F, Land Use, of this Draft EIR for further discussion). Specifically, three Metro Local bus routes run within 0.25 mile of the Project site The Project Site is also located 1.5 miles from the Metro Gold Line Little Tokyo/Arts District station.

[113] *Fehr and Peers, 2143 Violet Street Project Transportation Impact Analysis, City of Los Angeles, February 2020.*

As shown in Table IV.E-10 on page IV.E-69, Project GHG emissions from mobile sources would result in a total of 5,350 $MTCO_2e$ per year, which accounts for a 23-percent reduction in mobile source emissions with implementation of VMT reducing measures as compared to the Project without implementation of VMT reducing measures. Project-related mobile source emissions also take into account City code required EV charging spaces, which would provide for 10 percent of Code-required parking being equipped with EV charging stations. Please refer to Appendix B of this Draft EIR for the supporting calculations that reflect the emission reduction measures.

Stationary Source Emissions

Emissions related to stationary sources were calculated using the CalEEMod emissions inventory model. It is anticipated that the Project would include an emergency generator on-site that would be tested and used infrequently. As shown in Table IV.E-10, the Project scenario is expected to result in two $MTCO_2e$ per year from stationary sources.

Solid Waste Generation Emissions

Emissions related to solid waste were calculated using the CalEEMod emissions inventory model, which multiplies an estimate of the waste generated by applicable emissions factors provided in Section 2.4 of USEPA's AP-42, Compilation of Air Pollutant Emission Factors. CalEEMod solid waste generation rates for each applicable land use were selected for this analysis. As shown in Table IV.E-10, Project GHG emissions from solid waste generation would result in a total of 72 $MTCO_2e$ per year which accounts for a 76-percent reduction in solid waste generation emissions due to the City's recycling/ diversion rate of 76 percent.

Water Usage and Wastewater Generation Emissions

GHG emissions are related to the energy used to convey, treat, and distribute water and wastewater. Thus, these emissions are generally indirect emissions from the production of electricity to power these systems. Three processes are necessary to supply potable water; these include: (1) supply and conveyance of the water from the source; (2) treatment of the water to potable standards; and (3) distribution of the water to individual users. After use, energy is used as the wastewater is treated and reused by the City as reclaimed water.

Emissions related to water usage and wastewater generation were calculated using the CalEEMod emissions inventory model, which multiplies an estimate of the water usage

by the applicable energy intensity factor[114] to determine the embodied energy necessary to supply potable water. GHG emissions are then calculated based on the amount of electricity consumed multiplied by the GHG intensity factors for the utility provider. In this case, embodied energy for Southern California supplied water and GHG intensity factors for LADWP were selected in CalEEMod. Water usage rates were calculated consistent with the requirements under City of Los Angeles Ordinance No. 184,248, 2016 California Plumbing Code, 2019 CALGreen code, 2017 Los Angeles Plumbing Code, and 2020 Los Angeles Green Building Code and reflects approximately a 20-percent reduction as compared to the base demand.

As shown in Table IV.E-10 on page IV.E-69, Project GHG emissions from water/wastewater usage would result in a total of 338 $MTCO_2e$ per year, which takes into account a 20-percent reduction in water/wastewater emissions as required by the 2020 Los Angeles Green Building Code and with implementation of Project Design Feature WAT-PDF-1 included in Section IV.K.1, Utilities and Service Systems—Water Supply and Infrastructure, of this Draft EIR.

(iii) Combined Construction and Operational Impacts

As shown in Table IV.E-10, when taking into consideration implementation of project design features provided throughout this Draft EIR, including the requirements set forth in the City of Los Angeles Green Building Code and the full implementation of current state mandates, the GHG emissions for the Project in 2024 would equal 227 $MTCO_2e$ per year (amortized over 30 years) during construction and 7,813 $MTCO_2e$ per year during operation of the Project with a combined total of 8,040 $MTCO_2e$ per year. It should be noted that Project-related GHG emissions presented above are provided for informational purposes as numeric thresholds have not yet been formally adopted for CEQA evaluations.

(c) Conclusion

In summary, the plan consistency analysis provided above demonstrates that the Project complies with or exceeds the plans, policies, regulations and GHG reduction actions/strategies outlined in the *Climate Change Scoping Plan* and subsequent updates, the 2016–2040 RTP/SCS, and the Sustainable City pLAn/L.A.'s Green New Deal. As the Project would not conflict with relevant plans, policies, and regulations adopted for the purpose of reducing the emissions of GHGs, impacts related to regulatory consistency would be less than significant. **Therefore, the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing emissions of GHGs. Furthermore, because the Project is consistent and**

[114] *The intensity factor reflects the average pounds of CO_2e per megawatt generated by a utility company.*

does not conflict with these plans, policies, and regulations, the Project's incremental increase in GHG emissions as described above would not result in a significant impact on the environment. Therefore, Project-specific impacts with regard to climate change would be less than significant.

(2) Mitigation Measures

Project-level impacts related to GHG emissions would be less than significant and no mitigation measures are required.

(3) Level of Significance After Mitigation

Project-level impacts related to GHG emissions would be less than significant without mitigation.

e. Cumulative Impacts

(1) Impact Analysis

As explained above, the analysis of a project's GHG emissions is inherently a cumulative impacts analysis because climate change is a global problem and the emissions from any single project alone would be negligible. Accordingly, the analysis above took into account the potential for the Project to contribute to the cumulative impact of global climate change. Table IV.E-10 on page IV.E-69 illustrates that implementation of the Project's regulatory requirements and project design features, including state mandates, would contribute to GHG reductions. These reductions support state goals for GHG emissions reduction.

The analysis shows that the Project is consistent with CARB's *Climate Change Scoping Plan* and subsequent updates, particularly its emphasis on the identification of emission reduction opportunities that promote economic growth while achieving greater energy efficiency and accelerating the transition to a low-carbon economy. The Project is also consistent with the 2016–2040 RTP/SCS' regulatory requirements to reduce regional GHG emissions from the land use and transportation sectors by 2020 and 2035. In addition, the Project would be consistent with regional growth forecasts which provide the basis of the 2016 AQMP. Furthermore, the Project would generally comply with the targets of the Sustainable City pLAn/L.A.'s Green New Deal, which includes specific targets related to housing and development, and mobility and transit. Given the Project's consistency with statewide, regional, and local plans adopted for the reduction of GHG emissions, it is concluded that the Project's incremental contribution to greenhouse gas emissions and its effects on climate change would not be cumulatively considerable. **For these reasons,**

the Project's cumulative contribution to global climate change is less than significant.

(2) Mitigation Measures

Cumulative impacts related to GHG emissions would be less than significant and no mitigation measures are required.

(3) Level of Significance After Mitigation

Cumulative impacts related to GHG emissions would be less than significant without mitigation.