

IV. Environmental Impact Analysis

F. Greenhouse Gas Emissions

1. Introduction

This section addresses the Project's impact on global climate change from both short-term construction activities and long-term operation of the improvements to the Project Site. Because no single project is large enough to result in a measurable increase in global concentrations of greenhouse gases (GHG), climate change impacts of a project are considered on a cumulative basis. The information and analysis in this section is based partially on the following technical modeling (refer to Appendix C):

- Air Quality and Greenhouse Gas Emissions Technical Modeling, PlaceWorks, February 17, 2020.

a. Terminology

The following are definitions for terms used throughout this section.

- **Greenhouse gases (GHG).** Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.
- **Global warming potential (GWP).** Metric used to describe how much heat a molecule of a greenhouse gas absorbs relative to a molecule of carbon dioxide (CO₂) over a given period of time (20, 100, and 500 years). CO₂ has a GWP of 1.
- **Carbon dioxide-equivalent (CO₂e).** The standard unit to measure the amount of greenhouse gases in terms of the amount of CO₂ that would cause the same amount of warming. CO₂e is based on the GWP ratios between the various GHGs relative to CO₂.
- **MTCO₂e.** Metric ton of CO₂e.
- **MMTCO₂e.** Million metric tons of CO₂e.

2. Environmental Setting

a. Greenhouse Gases and Climate Change

Many scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The “greenhouse effect” is the natural process that retains heat in the troposphere, which is the bottom layer of the atmosphere. Without the greenhouse effect, thermal energy would escape into space resulting in a much colder and inhospitable planet. GHGs are the components of the atmosphere responsible for the greenhouse effect. The amount of heat that is retained is proportional to the concentration of GHGs in the atmosphere. As more GHGs are released into the atmosphere, GHG concentrations increase and the atmosphere retains more heat, increasing the effects of climate change.

The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO₂), methane (CH₄), and ozone (O₃)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent are nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.^{1,2,3} The major GHGs applicable to the Project are briefly described.

- **Carbon dioxide (CO₂)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

¹ Intergovernmental Panel on Climate Change. 2001. *Third Assessment Report: Climate Change 2001*. New York: Cambridge University Press.

² Water vapor (H₂O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant because it is considered part of the feedback loop rather than a primary cause of change. In general, the amount of water vapor in the atmosphere is dependent on the atmospheric temperature since temperature limits the amount of water vapor contained in the atmosphere. Thus, as part of the feedback loop, the presence of water vapor in the atmosphere is generally short-lived (i.e. hours or days) compared to CO₂ which can remain in the atmosphere between 50 to 200 years.

³ Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (California Air Resources Board. March 2017. *Short-Lived Climate Pollutant Reduction Strategy*. <https://www.arb.ca.gov/cc/shortlived/shortlived.htm>). However, state and national GHG inventories do not include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

- **Methane (CH₄)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in landfills and water treatment facilities.
- **Nitrous oxide (N₂O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table IV.F-1, *GHG Emissions and Their Relative Global Warming Potential Compared to CO₂*. The GWP is used to convert GHGs to CO₂-equivalence (CO₂e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Fourth Assessment Report (AR5) GWP values for CH₄, a project that generates 10 MT of CH₄ would be equivalent to 280 MT of CO₂.⁴

**Table IV.F-1
GHG Emissions and Their Relative Global Warming Potential Compared to CO₂**

Assessment Report	Carbon Dioxide (CO ₂)	Methane (CH ₄) ¹	Nitrous Oxide (N ₂ O)
Fourth Assessment			
Atmospheric Lifetime (Years)	50 to 200	12	114
Global Warming Potential Relative to CO ₂ ²	1	25	298
Fifth Assessment			
Atmospheric Lifetime (Years)	50 to 200	12	121
Global Warming Potential Relative to CO ₂ ²	1	28	265

Source: Intergovernmental Panel on Climate Change. 2007. *Fourth Assessment Report: Climate Change 2007*. New York: Cambridge University Press.; Intergovernmental Panel on Climate Change. *Fifth Assessment Report: Climate Change 2013*. New York: Cambridge University Press.

¹ The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO₂ is not included.

² Based on 100-year time horizon of the GWP of the air pollutant compared to CO₂.

(1) California's GHG Sources and Relative Contribution

In 2020, the Statewide GHG emissions inventory was updated for 2000 to 2018 emissions using the GWPs in IPCC's AR4.⁵ Based on these GWPs, California produced 425.3 MMTCO₂e GHG emissions in 2018. CARB categorizes GHG generation into the following seven sectors.⁶

⁴ CO₂-equivalence is used to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

⁵ Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (2006).

⁶ California Air Resources Board. August 26, 2019. *California Greenhouse Emissions for 2000 to 2017: Trends of Emissions and Other Indicators*.

- **Transportation.** Consists of direct tailpipe emissions from on-road vehicle and direct emissions from off-road transportation mobile sources, intrastate aviation, rail, and watercraft. Emissions are generated from the combustion of fuels in on- and off-road vehicles in addition to aviation, rail, and ships.
- **Electric.** Includes emissions from instate power generation (including the portion of cogeneration emissions attributed to electricity generation) and emissions from imported electricity.
- **Industrial.** Includes emissions primarily driven by fuel combustion from sources that include refineries, oil and gas extraction, cement plants, and the portion of cogeneration emissions attribute to thermal energy output.
- **Commercial and Residential.** Accounts for emissions generated from combustion of natural gas and other fuels for household and commercial business use, such as space heating, cooking, and hot water or steam generation. Emissions associated with electricity usage are accounted for in the Electric Sector.
- **Recycling and Waste.** Consists of emissions generated at landfills and from commercial-scale composting.
- **Agriculture.** Primarily includes methane (CH₄) and nitrous oxide (N₂O) emissions generated from enteric fermentation and manure management from livestock. Also accounts for emissions associated with crop production (fertilizer use, soil preparation and disturbance, and crop residue burning) and fuel combustion associated with stationary agricultural activities (e.g., water pumping, cooling or heating buildings).
- **High Global Warming Potential Gasses.** Associated with ozone depleting substance (ODS) substitutes, emissions from electricity transmission and distribution system, and gases emitted in the semiconductor manufacturing process. ODS substitutes are used in refrigeration and air conditioning equipment, solvent cleaning, foam production, fire retardants, and aerosols.

California's transportation sector was the single largest generator of GHG emissions, producing 39.9 percent of the state's total emissions. Industrial sector emissions made up 21.0 percent, and electric power generation made up 14.8 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (9.7 percent), agriculture and forestry (7.7 percent), high GWP (4.8 percent), and recycling and waste (2.1 percent).⁷

⁷ California Air Resources Board. October 15, 2020. *California Greenhouse Emissions for 2000 to 2018: Trends of Emissions and Other Indicators.*

Since the peak level in 2004, California statewide GHG emissions dropped below the 2020 GHG limit of 431 MMCO₂e in 2016 and have remained below the 2020 GHG limit since then. In 2018, emissions from routine GHG emitting activities Statewide were 6 MMTCO₂e lower than the 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.0 MTCO₂e per person to 10.7 MTCO₂e per person in 2018, a 24-percent decrease. Transportation emissions decreased in 2018 compared to the previous year, which is the first year-over-year decrease since 2013. Since 2008, California's electricity sector has followed an overall downward trend in emissions. In 2018, solar power generation has continued its rapid growth since 2013. Emissions from high-GWP gases increased 2.3 percent in 2018 (2000–2018 average year-over-year increase is 6.8 percent), continuing the increasing trend as they replace ozone-depleting substances being phased out under the 1987 Montreal Protocol. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product [GDP]) is declining, representing a 43-percent decline since the 2001 peak, while the State's GDP has grown 59 percent during this period.⁸

(2) Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities. The amount of CO₂ in the atmosphere has increased by more than 35 percent since preindustrial times and has increased at an average rate of 1.4 parts per million per year since 1960, mainly due to combustion of fossil fuels and deforestation.⁹ These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants.¹⁰ In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime.¹¹

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are hard to predict. Projections of climate change depend heavily upon future human activity. Therefore, climate models are based on different emission scenarios that account for historical trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying

⁸ California Air Resources Board. October 15, 2020. *California Greenhouse Emissions for 2000 to 2018: Trends of Emissions and Other Indicators*

⁹ Intergovernmental Panel on Climate Change. 2007. *Fourth Assessment Report: Climate Change 2007*. New York: Cambridge University Press.

¹⁰ California Climate Action Team. 2006, March. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*.

¹¹ Intergovernmental Panel on Climate Change. 2007. *Fourth Assessment Report: Climate Change 2007*. New York: Cambridge University Press.

degrees of uncertainty. For example, there are varying degrees of certainty on the magnitude of the trends for:

- Warmer and fewer cold days and nights over most land areas.
- Warmer and more frequent hot days and nights over most land areas.
- An increase in frequency of warm spells/heat waves over most land areas.
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas.
- Larger areas affected by drought.
- Intense tropical cyclone activity increases.
- Increased incidence of extreme high sea level (excluding tsunamis).

(3) Potential Climate Change Impacts for California

Observed changes over the last several decades across the western United States reveal clear signs of climate change. Statewide, average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada.¹² The years from 2014 through 2016 have shown unprecedented temperatures with 2014 being the warmest.¹³ By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1 to 8.6°F, depending on emission levels.¹⁴

In California and western North America, observations of the climate have shown: 1) a trend toward warmer winter and spring temperatures; 2) a smaller fraction of precipitation falling as snow; 3) a decrease in the amount of spring snow accumulation in the lower and middle elevation mountain zones; 4) advanced shift in the timing of snowmelt of 5 to 30 days earlier in the spring; and 5) a similar shift (5 to 30 days earlier) in the timing of spring flower blooms.¹⁵ Overall, California has become drier over time, with five of the eight years of severe to extreme drought occurring between 2007 and 2016, with unprecedented dry years occurring in 2014 and 2015.¹⁶ Statewide precipitation has become increasingly variable from year to year, with the driest consecutive four years occurring from 2012 to 2015.¹⁷ According to the California Climate Action Team—a committee of state agency secretaries and the heads of agencies, boards, and

¹² California Climate Change Center. July 2012. *Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California*.

¹³ Office of Environmental Health Hazards Assessment. 2018, May. *Indicators of Climate Change in California*.

¹⁴ California Climate Change Center. July 2012. *Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California*.

¹⁵ California Climate Action Team. March 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*.

¹⁶ Office of Environmental Health Hazards Assessment. May 2018. *Indicators of Climate Change in California*.

¹⁷ Office of Environmental Health Hazards Assessment. May 2018. *Indicators of Climate Change in California*.

departments, led by the Secretary of the California Environmental Protection Agency—even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes (see Table 5.7-1), and the inertia of the Earth’s climate system could produce as much as 0.6°C (1.1°F) of additional warming. Consequently, some impacts from climate change are now considered unavoidable. Global climate change risks to California are shown in Table IV.F-2, *Summary of GHG Emissions Risks to California*, and include impacts to public health, water resources, agriculture, coastal sea level, forest and biological resources, and energy.

Table IV.F-2
Summary of GHG Emissions Risks to California

Impact Category	Potential Risk
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Fewer extremely cold nights Poor air quality made worse Higher temperatures increase ground-level ozone levels
Water Resources Impacts	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: California Energy Commission. 2006. Our Changing Climate: Assessing the Risks to California. 2006 Biennial Report. CEC-500-2006-077. California Climate Change Center; California Energy Commission. 2009, May. The Future Is Now: An Update on Climate Change Science, Impacts, and Response Options for California. CEC-500-2008-0077; California Climate Change Center. 2012, July. Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California; California Natural Resources Agency. 2014, July. Safeguarding California: Reducing Climate Risk: An Update to the 2009 California Climate Adaptation Strategy.

Specific climate change impacts that could affect the region include:

- **Water Resources Impacts.** By late this century, all projections show drying, and half of the projections suggest 30-year average precipitation will decline by more than 10 percent below the historical average. This drying trend is caused by an apparent decline in the frequency of rain and snowfall. Even in projections with relatively small or no declines in precipitation, central and southern parts of the state can be expected to be drier from the warming effects alone—the spring snowpack will melt sooner, and the moisture in soils will evaporate during long dry summer months.¹⁸
- **Wildfire Risks.** Earlier snowmelt, higher temperatures, and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. Human activities will continue to be the biggest factor in ignition risk. The number of large fires statewide is estimated to increase from 58 percent to 128 percent above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57 percent to 169 percent, depending on location.¹⁹
- **Health Impacts.** Many of the gravest threats to public health in California stem from the increase of extreme weather conditions, principally more frequent, more intense, and longer heat waves. Particular concern centers on the increasing tendency for multiple hot days in succession and heat waves occurring simultaneously in several regions throughout the state. Public health could also be affected by climate change impacts on air quality, food production, the amount and quality of water supplies, and energy pricing and availability. Higher temperatures also increase ground-level ozone levels. Furthermore, wildfires can increase particulate air pollution in the major air basins of California.²⁰
- **Increase Energy Demand.** Increases in average temperature and higher frequency of extreme heat events combined with new residential development across the state will drive up the demand for cooling in the increasingly hot and longer summer season and decrease demand for heating in the cooler season. Warmer, drier summers also increase system losses at natural gas plants (reduced efficiency in the electricity generation process at higher temperatures) and hydropower plants (lower reservoir levels). Transmission of electricity will also be

¹⁸ California Climate Change Center (CCCC). 2012, July. *Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California.*

¹⁹ California Climate Change Center (CCCC). 2012, July. *Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California.*

²⁰ California Climate Change Center (CCCC). 2012, July. *Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California.*

affected by climate change. Transmission lines lose 7 percent to 8 percent of transmitting capacity in high temperatures while needing to transport greater loads. This means that more electricity needs to be produced to make up for the loss in capacity and the growing demand.²¹

b. Regulatory Framework

There are several plans, regulations, and programs that include policies, requirements, and guidelines regarding GHG emissions at the federal, state, regional, and local levels. As described below, these plans, guidelines, and laws include the following:

- USEPA
 - US Mandatory Reporting Rule for GHGs (2009)
 - Update to Corporate Average Fuel Economy Standards (2021 to 2026)
 - USEPA Regulation of Stationary Sources under the Clean Air Act
 - Heavy-Duty (Tractor-Trailer) GHG Regulation
- State Executive Orders S-03-05 and B-30-15
 - CARB 2017 Climate Change Scoping Plan
- Assembly Bill 32, the Global Warming Solutions Act (2006)
- Senate Bill 32
- Assembly Bill 197
 - CARB 2008 Scoping Plan and subsequent updates
- Senate Bill 375
- Transportation Sector Specific Regulations
 - Assembly Bill 1493
 - Executive Order S-01-07
 - Executive Order B-16-2012
 - Executive Order N-79-20
 - CARB Phase I and 2 Heavy-Duty Vehicle GHG Standards
- Renewables Portfolio Carbon Neutrality Regulations
 - Senate Bills 1078, 107, X1-2, and Executive Order S-14-08
 - Senate Bill 350
 - Senate Bill 100
 - Executive Order B-55-18
- Energy Efficiency Regulations
 - California Building Code: Building Energy Efficiency Standards
 - California Building Code: CALGreen
 - 2006 Appliance Efficiency Regulations
 - Solid Waste Diversion Regulations
 - Water Efficiency Regulations

²¹ California Climate Change Center (CCCC). 2012, July. *Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California*.

- Short-Lived Climate Pollutant Reduction Strategy
- California Cap-and-Trade Program
- SCAG Regional Transportation Plan Sustainable Communities Strategy (RTP/SCS)
- City of Los Angeles
 - Green New Deal (Sustainable City pLAn 2019)
 - Mobility Plan 2035
 - Green Building Code

(1) Federal

The U.S. Environmental Protection Agency (USEPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The USEPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings did not themselves impose any emission reduction requirements, but allowed the USEPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation.²²

To regulate GHGs from passenger vehicles, USEPA was required to issue an endangerment finding. The finding identifies emissions of six key GHGs—CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and SF₆—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world.²³ The first three are applicable to the Project's GHG emissions inventory because they constitute the majority of GHG emissions, and, per SCAQMD guidance are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

a. US Mandatory Reporting Rule for GHGs (2009)

In response to the endangerment finding, the USEPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 MTCO₂e or more per year are required to submit an annual report.

b. Update to Corporate Average Fuel Economy Standards (2021 to 2026)

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon (mpg) and 163 grams per mile (g/mi) of CO₂ emissions for model year 2025. However, on March 30, 2020, the USEPA finalized an updated CAFE and GHG emissions standards for passenger cars and light trucks and established new standards, covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021-2026. Under

²² *US Environmental Protection Agency (USEPA). December 2009, December. EPA: Greenhouse Gases Threaten Public Health and the Environment: Science overwhelmingly shows greenhouse gas concentrations at unprecedented levels due to human activity.*

SAFE, the fuel economy standards will increase 1.5 percent per year compared to the 5 percent per year under the CAFE standards established in 2012. Overall, SAFE requires a fleet average of 40.4 mpg and 202 g/mi of CO₂ emissions for model year 2026 vehicles.²⁴ However, a consortium of automakers and California have agreed on a voluntary framework to reduce emissions that can serve as an alternative path forward for clean vehicle standards nationwide. Automakers who agreed to the framework are Ford, Honda, BMW of North America and Volkswagen Group of America. The framework supports continued annual reductions of vehicle greenhouse gas emissions through the 2026 model year, encourages innovation to accelerate the transition to electric vehicles, and provides industry the certainty needed to make investments and create jobs. This commitment means that the auto companies party to the voluntary agreement will only sell cars in the United States that meet the CAFE standards established in 2012 for model years 2017 to 2025.²⁵ In addition, per Executive Order 13990 issued by President Biden on January 20, 2021, the USEPA is reconsidering SAFE for the purpose of rescinding the rule. The reconsideration process is ongoing with the planned public hearing occurring on June 2, 2021, which also started the public comment period that ended on July 6, 2021.

c. USEPA Regulation of Stationary Sources under the Clean Air Act (Ongoing)

Pursuant to its authority under the Clean Air Act, the USEPA has been developing regulations for new, large, stationary sources of emissions, such as power plants and refineries. Under former President Obama's 2013 Climate Action Plan, the USEPA was directed to develop regulations for existing stationary sources as well. On June 19, 2019, the USEPA issued the final Affordable Clean Energy rule, which became effective on August 19, 2019. The rule was crafted under the direction of President Trump's Energy Independence Executive Order. It officially rescinds the Clean Power Plan rule issued during the Obama Administration and sets emissions guidelines for states in developing plans to limit CO₂ emissions from coal-fired power plants.

d. Heavy-Duty (Tractor-Trailer) GHG Regulation

The tractors and trailers subject to this regulation must either use USEPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. Sleeper cab tractors model year 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

²⁵ *California Air Resources Board. California and major automakers reach groundbreaking framework agreement on clean emission standards. Accessed on July 5, 2021 at: <https://ww2.arb.ca.gov/news/california-and-major-automakers-reach-groundbreaking-framework-agreement-clean-emission>.*

The SmartWay Program is a public-private initiative between the USEPA, large and small trucking companies, rail carriers, logistics companies, commercial manufacturers, retailers, and other federal and state agencies. Its purpose is to improve fuel efficiency and the environmental performance (reduction of both GHG emissions and air pollution) of the goods movement supply chains. SmartWay is comprised of three components:

- **SmartWay Transport Partnership:** Freight shippers, carriers, logistics companies and other stakeholders partner with the USEPA to measure, benchmark and improve logistics operations so they can reduce their environmental footprint.
- **SmartWay Brand:** Through SmartWay technology verification and branding, the USEPA has accelerated availability, adoption and market penetration of fuel-saving technologies and operational practices while helping companies save fuel, lower costs and reduce adverse environmental impact.
- **SmartWay Global Collaboration:** The USEPA works with a broad range of national and global organizations to harmonize sustainability accounting methods in the freight sector. SmartWay also provides support to global policy makers that wish to model transportation sustainability programs after the SmartWay program.²⁶

Through the SmartWay Technology Program, the USEPA has evaluated the fuel saving benefits of various devices through grants, cooperative agreements, emissions and fuel economy testing, demonstration projects and technical literature review. As a result, the USEPA has determined that the following types of technologies provide fuel-saving and/or emission-reducing benefits when used properly in their designed applications, and has verified certain products:

- Idle reduction technologies—i.e., less idling of the engine when it is not needed—would reduce fuel consumption.
- Aerodynamic technologies minimize drag and improve airflow over the entire tractor-trailer vehicle. Aerodynamic technologies include gap fairings that reduce turbulence between the tractor and trailer, side skirts that minimize wind under the trailer, and rear fairings that reduce turbulence and pressure drop at the rear of the trailer.
- Low rolling resistance tires can roll longer without slowing down, thereby reducing the amount of fuel used. Rolling resistance (or rolling friction or rolling drag) is the force resisting the motion when a tire rolls on a surface. The wheel will eventually slow down because of this resistance.

²⁶ *United State Environmental Protection Agency. 2019. Learn about SmartWay. Accessed on January 13, 2020. <https://www.epa.gov/smartway/learn-about-smartway>.*

- Retrofit technologies include options, such as diesel particulate filters, emissions upgrades (to a higher tier), etc. that would reduce emissions.
- Federal excise tax exemptions.²⁷

(2) State

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Orders S-03-05 and B-30-15; Assembly Bill (AB) 32; Senate Bill (SB) 32; and SB 375.

a. Executive Orders S-03-05 and B-30-15

Executive Order S-03-05, signed June 1, 2005, set the following GHG reduction targets for the state:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions in the state to 40 percent below 1990 levels by year 2030. It also requires the Natural Resources Agency to conduct triennial updates of the California adaptation strategy, Safeguarding California, in order to ensure climate change is accounted for in state planning and investment decisions.

b. Assembly Bill 32, the Global Warming Solutions Act (2006), Senate Bill 32, and Assembly Bill 197

State of California guidance and targets for reductions in GHG emissions are generally embodied in the Global Warming Solutions Act, adopted with passage of AB 32. AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 emissions reduction goal established in Executive Order S-03-05.

In September 2016, Governor Brown signed Senate Bill 32 (SB 32) and Assembly Bill 197 (AB 197), making the Executive Order goal for year 2030 into a statewide, mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direction emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

²⁷ *United States Environmental Protection Agency. Accessed January 13, 2020. Verified Technologies for SmartWay and Clean Diesel. <https://www.epa.gov/verified-diesel-tech>.*

(i) CARB 2008 Scoping Plan

The first Scoping Plan was adopted by the California Air Resources Board (CARB) on December 11, 2008. The 2008 Scoping Plan identified that GHG emissions in California are anticipated to be 596 MMTCO_{2e} in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 MMTCO_{2e} (471 million tons) for the state.²⁸ To effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 MT CO_{2e} per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

(ii) First Update to the Scoping Plan

CARB completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The First Update to the Scoping Plan, adopted May 22, 2014, highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. As part of the update, CARB recalculated the 1990 GHG emission levels with the updated AR4 GWPs, and the 427 MMTCO_{2e} 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, are slightly higher at 431 MMTCO_{2e}.²⁹

The First Update to the Scoping Plan expressed that California is on track to meet the goals of AB 32. The update also addressed the state's longer-term GHG goals in a post-2020 element. The post-2020 element provides a high-level view of a long-term strategy for meeting the 2050 GHG goal, including a recommendation for the state to adopt a midterm target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with or exceeds the trajectory created by statewide goals.³⁰ CARB identified that reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit.³¹

(iii) 2017 Climate Change Scoping Plan

Executive Order B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. On December 24, 2017, CARB approved the 2017 Climate Change Scoping Plan Update, which outlines potential regulations and programs, including strategies consistent with AB 197 requirements, to achieve the 2030 target. The 2017

²⁸ California Air Resources Board. October 2008. *Climate Change Proposed Scoping Plan: A Framework for Change*.

²⁹ California Air Resources Board. May 15, 2014. *First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006*.

³⁰ California Air Resources Board. May 15, 2014. *First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006*.

³¹ California Air Resources Board. May 15, 2014. *First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006*.

Scoping Plan establishes a new emissions limit of 260 MMTCO₂e for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.³²

California's climate strategy will require contributions from all sectors of the economy, including enhanced focus on zero- and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables such as solar roofs, wind, and other types of distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conserve agricultural and other lands. Requirements for GHG reductions at stationary sources complement local air pollution control efforts by the local air districts to tighten criteria air pollutant and toxic air contaminant emissions limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZE buses and trucks;
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency by 25 percent by 2030 and utilizes near-zero emissions technology and deployment of ZE trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- Continued implementation of SB 375.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

In addition to the statewide strategies listed above, the 2017 Climate Change Scoping Plan also identified local governments as essential partners in achieving the state's long-term GHG reduction goals and recommended local actions to reduce GHG emissions—for example, statewide targets of no more than 6 MTCO₂e or less per capita by 2030 and 2 MTCO₂e or less

³² *California Air Resources Board. November 2017. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target.*

per capita by 2050. CARB recommends that local governments evaluate and adopt robust and quantitative locally appropriate goals that align with the statewide per capita targets and sustainable development objectives, and develop plans to achieve the local goals. The statewide per capita goals were developed by applying the percent reductions necessary to reach the 2030 and 2050 climate goals (i.e., 40 percent and 80 percent, respectively) to the state’s 1990 emissions limit established under AB 32. For CEQA projects, CARB states that lead agencies have discretion to develop evidenced-based numeric thresholds (mass emissions, per capita, or per service population) consistent with the Scoping Plan and the state’s long-term GHG goals. To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from vehicle miles traveled (VMT), and direct investments in GHG reductions within the project’s region that contribute potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits.

The Scoping Plan scenario is set against what is called the “business as usual” yardstick—that is, what would the GHG emissions look like if the state did nothing at all beyond the policies that are already required and in place to achieve the 2020 limit, as shown in Table IV.F-3, *2017 Climate Change Scoping Plan Emissions Reductions Gap*. It includes the existing renewables requirements, advanced clean cars, the “10 percent” LCFS, and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. Also shown in the table, the known commitments are expected to result in emissions that are 60 MMTCO_{2e} above the target in 2030. If the estimated GHG reductions from the known commitments are not realized due to delays in implementation or technology deployment, the post-2020 Cap-and-Trade Program would deliver the additional GHG reductions in the sectors it covers to ensure the 2030 target is achieved.

Table IV.F-3
2017 Climate Change Scoping Plan Emissions Reductions Gap

Modeling Scenario	2030 GHG Emissions (MMTCo_{2e})
Reference Scenario (Business-as-Usual)	389
With Known Commitments	320
2030 GHG Target	260
Gap to 2030 Target	60

Source: California Air Resources Board. 2017, November. California’s 2017 Climate Change Scoping Plan: The Strategy for Achieving California’s 2030 Greenhouse Gas Target.

Table IV.F-4, *2017 Climate Change Scoping Plan Emissions Change by Sector*, provides estimated GHG emissions by sector, compared to 1990 levels, and the range of GHG emissions for each sector estimated for 2030.

**Table IV.F-4
2017 Climate Change Scoping Plan Emissions Change by Sector**

Scoping Plan Sector	1990 (MMTCO₂e)	2030 Proposed Plan Ranges (MMTCO₂e)	% Change from 1990
Agricultural	26	24-25	-8% to -4%
Residential and Commercial	44	38-40	-14% to -9%
Electric Power	108	30-53	-72% to -51%
High GWP	3	8-11	267% to 367%
Industrial	98	83-90	-15% to -8%
Recycling and Waste	7	8-9	14% to 29%
Transportation (including TCU)	152	103-111	-32% to -27%
Net Sink ¹	-7	TBD	TBD
Sub Total	431	294-339	-32% to -21%
Cap-and-Trade Program	NA	34-79	NA
Total	431	260	-40%

Source: California Air Resources Board. November 2017. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target.

Notes: TCU = Transportation, Communications, and Utilities; TBD = To Be Determined.

¹ *Work is underway through 2017 to estimate the range of potential sequestration benefits from the natural and working lands sector.*

c. Senate Bill 375

In 2008, SB 375, the Sustainable Communities and Climate Protection Act, was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPOs). The Southern California Association of Governments (SCAG) is the MPO for the Southern California region, which includes the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target.

(i) 2017 Update to the SB 375 Targets

CARB adopted revised SB 375 targets for the MPOs in March 2018 per the requirements that the targets be updated for the MPOs every eight years. The updated targets became effective on October 1, 2018; and are therefore, applicable for the 2019 RTP/SCS update being initiated by SCAG. The updated SB 375 targets for the SCAG region are an 8 percent per capita passenger vehicle GHG reduction in 2020 from 2005 levels (unchanged from the 2010 target) and a 19

percent per capita passenger vehicle GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 13 percent).³³

The targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update (for SB 32), while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks relative to 2005; this excludes reductions anticipated from implementation of state technology and fuels strategies, and any potential future state strategies, such as statewide road user pricing. The proposed targets call for greater per-capita GHG emission reductions from SB 375 than are currently in place, which for 2035 translate into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted SCS to achieve the SB 375 targets. CARB foresees that the additional GHG emissions reductions in 2035 may be achieved from land use changes, transportation investment, and technology strategies.³⁴

d. Transportation Sector Specific Regulations

(i) Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the USEPA. In 2012, the USEPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 light-duty vehicles (see also the discussion on the update to the CAFE standards under *Federal Laws*, above). In January 2012, CARB approved the Advanced Clean Cars (ACC) program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases with requirements for greater numbers of ZE vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025 new automobiles will emit 34 percent less global warming gases and 75 percent less smog-forming emissions. However, as discussed above, under SAFE Rule, the fuel economy standards will increase 1.5 percent per year compared to the 5 percent per year under the CAFE standards established in 2012. Overall, SAFE requires a fleet average of 40.4 mpg and 202 g/mi of CO₂ emissions for model year 2026 vehicles.³⁵ Additionally, the USEPA also published the final rule for the One National Program Rule, which clarifies that federal law preempts state and local tailpipe GHG emissions standards as well as ZE vehicle mandates. Additionally, this rule revokes the waiver granted to California in 2013 for the ACC program as it

³³ California Air Resources Board. February 2018. *Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets*.

³⁴ California Air Resources Board. February 2018. *Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets*.

³⁵ *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks: Final Rule, Vol. 85 Federal Register, No. 84, April 30, 2020.*

relates to GHG and ZE vehicle standards.³⁶ In November 2019, California, joined by 22 other states, the District of Columbia, and the Cities of Los Angeles and New York filed a lawsuit with the U.S. Court of Appeals for the District of Columbia Circuit challenging the One National Program Rule. To date, a ruling has not been made on the lawsuit. Additionally, as stated, the USEPA is reconsidering SAFE for the purpose of rescinding the rule under the direction of Executive Order 13990 issued by President Biden.

(ii) Executive Order S-01-07

On January 18, 2007, the State set a new LCFS for transportation fuels sold in the state. Executive Order S-01-07 set a declining standard for GHG emissions measured in CO₂e gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels, and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.

(iii) Executive Order B-16-2012

On March 23, 2012, the State identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZE vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directed the number of ZE vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are ZE by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions 80 percent below 1990 levels.

(iv) Executive Order N-79-20

On September 23, 2020, Governor Newsom issued Executive Order N-79-20, which sets a timeframe for the transition to ZE passenger vehicles and trucks in addition to off-road equipment. It directs CARB to develop and propose the following:

- Passenger vehicle and truck regulations requiring increasing volumes of new ZE vehicles sold in the California towards the target of 100 percent of in-state sales by 2035.
- Medium- and heavy-duty vehicle regulations requiring increasing volumes of new ZE trucks and buses sold and operated in the California towards the target of 100 percent of the fleet transitioning to ZE vehicles by 2045 everywhere feasible and for all drayage trucks to be ZE by 2035.

³⁶ *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. Vol. 84 Federal Register, No. 188, September 27, 2019.*

- Strategies, in cooperation with other State agencies, the USEPA, and local air districts, to achieve 100 percent zero emission from all off-road vehicles and equipment operations in California by 2035.

(v) Phase I and 2 Heavy-Duty Vehicle GHG Standards

CARB has adopted a new regulation for GHG emissions from heavy-duty trucks and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the USEPA rule for new trucks and engines nationally. Existing heavy-duty vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer Greenhouse Gas Regulation), and in-use fleet retrofit requirements, such as the Truck and Bus Regulation.

In September 2011, the USEPA adopted their new rule for heavy-duty trucks and engines. The USEPA rule has compliance requirements for new compression and spark ignition engines, as well as trucks from Class 2b through Class 8. Compliance requirements begin with model year (MY) 2014 with stringency levels increasing through MY 2018. The rule organizes truck compliance into three groupings, which include (a) heavy-duty pickups and vans; (b) vocational vehicles; and (c) combination tractors. The USEPA rule does not regulate trailers.

CARB staff has worked jointly with the USEPA and the National Highway Traffic Safety Administration (NHTSA) on the next phase of federal GHG emission standards for medium- and heavy-duty vehicles, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later model year heavy-duty vehicles, including trailers.

The USEPA and NHTSA issued a Notice of Proposed Rulemaking for Phase 2 in June 2015 and published the final rule in October 2016. On February 8, 2018 the Board approved the proposed Phase 2 standards, with direction to staff to make additional 15-day changes.^{37,38}

e. *Renewables Portfolio – Carbon Neutrality Regulations*

- (i) Senate Bills 1078, 107, X1-2, and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewables portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08, signed in November 2008, expanded the state's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-

³⁷ California Air Resources Board. 2021, May 6 (accessed). Greenhouse Gas Standards for Medium- and Heavy-Duty Engines and Vehicles. <https://ww2.arb.ca.gov/node/1594/about>.

³⁸ United States Environmental Protection Agency. Accessed on May 7, 2021. Heavy-duty Greenhouse Gas (GHG) Trailer Implementation Workshop. <https://www.epa.gov/transportation-air-pollution-and-climate-change/heavy-duty-greenhouse-gas-ghg-trailer-implementation>.

2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects, because electricity production from renewable sources is generally considered carbon neutral.

(ii) Senate Bill 350

Senate Bill 350 (de Leon) was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

(iii) Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

(iv) Executive Order B-55-18

Executive Order B-55-18, signed September 10, 2018, sets a goal “to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.” Executive Order B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO₂e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

f. Energy Efficiency Regulations

(i) California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2019 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 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 2019 Building Energy Efficiency Standards, which were adopted on May 9, 2018, went into effect on January 1, 2020.

The 2019 standards move toward cutting energy use in new homes by more than 50 percent and require installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: (1) smart residential photovoltaic systems; (2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); (3) residential and nonresidential ventilation requirements; (4) and nonresidential lighting requirements.³⁹ Under the 2019 standards, nonresidential buildings are 30 percent more energy efficient compared to the 2016 standards, and single-family homes are 7 percent more energy efficient.⁴⁰ When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards.⁴¹

(ii) California Building Code: CALGreen Code

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as the CALGreen Code) was adopted as part of the California Building Standards Code. The CALGreen Code established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.⁴² The mandatory provisions of the CALGreen Code became effective January 1, 2011, and were last updated in 2019. The 2019 CALGreen Code became effective January 1, 2020.

(iii) 2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as “business as usual,” they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

g. *Solid Waste Diversion Regulations*

(i) AB 939 – Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code (PRC) §§ 40050 et seq.) set a requirement for cities and counties throughout the State to divert 50

³⁹ California Energy Commission. 2018. Accessed on July 5, 2020. News Release: Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation. <https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first>.

⁴⁰ California Energy Commission. 2019. Accessed on July 5, 2020. 2019 Building Energy and Efficiency Standards Frequently Asked Questions. https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf.

⁴¹ California Energy Commission. 2019. Accessed on July 5, 2020. 2019 Building Energy and Efficiency Standards Frequently Asked Questions. https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf.

⁴² The green building standards became mandatory in the 2010 edition of the code.

percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

(ii) AB 341

AB 341 (Chapter 476, Statutes of 2011) increased the Statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of the CALGreen Code also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

(iii) AB 1327

The California Solid Waste Reuse and Recycling Access Act (AB 1327, PRC Sections 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

(iv) AB 1826

In October of 2014 Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

h. Water Efficiency Regulations

(i) SBX7-7

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and, therefore, dubbed SBX7-7. SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

(ii) AB 1881 – Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or an equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

i. Short-Lived Climate Pollutant Reduction Strategy

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and CH₄. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels. SB 1383 requires the state board, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also establishes targets for reducing organic waste in landfills. On March 14, 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy, which identifies the State's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use.⁴³ In-use on-road rules are expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020. The SCAQMD is one of the air districts that requires air pollution control technologies for chain-driven broilers, which reduces their particulate emissions by over 80 percent.⁴⁴ Additionally, SCAQMD Rule 445 limits installation of new fireplaces in the SCAB.

j. California Cap-and-Trade Program

The Cap-and-Trade Program, which took effect in 2012, was originally developed under AB 32 as a market mechanism-based measure to reduce statewide emissions and move the state towards meeting the year 2020 GHG reduction target. In 2017, passage of Assembly Bill 398 extended the program to 2030, which coincides with the year 2030 GHG reduction target set under SB 32. The Cap-and-Trade Program would deliver the additional GHG reductions necessary to ensure that the 2030 GHG reduction target is met.⁴⁵ Overall, the program covers approximately 85 percent of all emissions in California and covers a variety of emissions sectors such as electricity generators and large industrial facilities, which include refineries, that generate 25,000 MTCO_{2e} or more per year. In addition, the program also covers distributors of transportation fuels, which require fuel distributors to reduce GHG emissions by either supplying low carbon fuels, or

⁴³ California Air Resources Board. March 2017. *Short-Lived Climate Pollutant Reduction Strategy*.

⁴⁴ California Air Resources Board. March 2017. *Short-Lived Climate Pollutant Reduction Strategy*.

⁴⁵ California Air Resources Board. November 2017. *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target*.

purchasing pollution permits to cover GHG emissions generated from combustion of conventional petroleum-based fuel the distributors supply.⁴⁶

(3) Regional

a. *SCAG 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS; Connect SoCal)*

Under SB 375, MPOs are required to prepare a sustainable communities strategy (SCS) in their regional transportation plan (RTP). In general, the SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce VMT from automobiles and light duty trucks and thereby reduce GHG emissions from these sources. Overall, the SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets. Land use strategies to achieve the region's targets include planning for new growth around transit priority areas (TPAs), high quality transit areas (HQTAs), and livable corridors, and creating neighborhood mobility areas to integrate land use and transportation and plan for more active lifestyles.⁴⁷ However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS; instead, it provides incentives to governments and developers for consistency.

For the SCAG region, the 2020-2045 RTP/SCS (Connect SoCal) was adopted on September 3, 2020 and serves as an update to the 2016-2040 RTP/SCS. The 2020-2045 RTP/SCS focuses on the continued efforts of the previous RTP/SCS plans for an integrated approach in transportation and land use strategies in development of the SCAG region through horizon year 2045. It projects that the SCAG region will meet the GHG per capita reduction targets established for the SCAG region of 8 percent by 2020 and 19 percent by 2035. Additionally, its implementation is projected to reduce VMT per capita for year 2045 by 4.1 percent compared to baseline condition for the year. Rooted in the previous RTP/SCS plans, the 2020-2045 RTP/SCS includes "Core Vision" that centers on maintaining and better managing the transportation network for moving people and goods while expanding mobility choices by locating housing, jobs, and transit closer together, and increasing investments in transit and complete streets.⁴⁸

(4) Local

a. *City of Los Angeles Green New Deal (Sustainable City pLAN 2019)*

In April 2019, Mayor Eric Garcetti released the Green New Deal Sustainable City pLAN 2019 (Green New Deal), a program of actions designed to create sustainability-based performance targets through 2050 designed to advance economic, environmental, and equity objectives.

⁴⁶ California Air Resources Board. February 9, 2015. *Overview of ARB Emissions Trading Program*.

⁴⁷ Southern California Association of Governments. September 3, 2020. *Connect SoCal: The 2020-2045 Regional Transportation/Sustainable Communities Strategy of the Southern California Association of Governments*.

⁴⁸ Southern California Association of Governments. September 3, 2020. *Connect SoCal: The 2020-2045 Regional Transportation/Sustainable Communities Strategy of the Southern California Association of Governments..*

Climate mitigation is one of eight explicit benefits that help define its strategies and goals. These include reducing GHG emissions through near-term outcomes:

- Reduce 91.5 percent of GHG emissions by 2050.
- Reduce municipal GHG emissions 55 percent by 2025, 65 percent by 2035, and carbon neutrality by 2045.
- Establish a pathway to derive 100 percent of LADWP's electricity from renewable sources by 2045.
- Develop a comprehensive climate action and adaptation plan, including an annual standardized GHG inventory.
- Work with other cities to establish standardization of municipal and community-wide GHG inventory reporting.
- Accelerate the decarbonization of the electricity grid.
- A zero carbon buildings mandate to ensure all buildings are emissions free by 2050.

b. Mobility Plan 2035

On January 20, 2016, the City of Los Angeles adopted its Mobility Plan 2035, the circulation element of its General Plan. The Plan calls for strategies that advance five goals: (1) Safety First, (2) World Class Infrastructure, (3) Access for All Angelenos, (4) Collaboration, Communication, and Informed Choices, and (5) Clean Environments and Healthy Communities.

While the Plan focuses on developing a multi-modal transportation system, its key policy initiatives include considering the strong link between land use and transportation and targeting GHG through a more sustainable transportation system. As such, the Plan's call for integrated land use planning, clean fuel vehicles are consistent with State and regional plans calling for more compact growth in areas with transportation infrastructure.

c. City of Los Angeles Green Building Code

On December 15, 2011, the Los Angeles City Council approved Ordinance No. 181,481, 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 2010 CALGreen Code. On December 20, 2016, the Los Angeles City Council approved Ordinance No. 184,692, which further amended Chapter IX of the LAMC, by amending certain provisions of Article 9 to reflect local administrative changes and incorporating by reference portions of the 2016 CALGreen Code.

The Los Angeles Green Building Ordinance requires that all projects filed on or after January 1, 2020, comply with the Los Angeles Green Building Code as amended to comply with the 2019 CALGreen Code. The Los Angeles Green Building Ordinance includes measures that would increase energy efficiency on the Project Site, including installing Energy Star rated appliances and installation of water-conserving fixtures.

c. Existing Conditions

The Project Site is currently vacant and does not generate any existing GHG emissions.

3. Project Impacts

a. Thresholds of Significance

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

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

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

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, including the extent to which the project may increase or reduce GHG emissions; whether the project exceeds an applicable significance threshold; and whether 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)). 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. 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. 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 GHG emissions. In summary, CEQA Guidelines Section 15064(h)(3) allows the lead agency to make a finding of less than significant for GHG emission if a project complies with adopted programs, plans, policies, and/or other regulatory schemes to GHG emissions.

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 GHG emission. For this Project, as a land use development project, the most directly applicable adopted regulatory plan to reduce GHG emissions is the 2020–2045 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 Scoping Plan and subsequent updates, and L.A.’s Green New Deal. GHG emissions are quantified below, consistent with OPR guidelines.

(1) South Coast Air Quality Management District

The SCAQMD has adopted an interim significance threshold of 10,000 MTCO_{2e} per year for permitted (stationary) sources of GHG emissions for which SCAQMD is the designated lead agency. This SCAQMD interim GHG significance threshold is not applicable to the Project, as the Project does not include industrial uses with significant stationary sources and the City of Los Angeles is the Lead Agency.

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, CEQA Guidelines 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 amendment focus on the effects

of GHG emission 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)).

The City has not adopted a numerical significance threshold for assessing impacts related to GHG emissions. Similarly, the SCAQMD, OPR, CARB, CAPCOA, or any other state or regional agency have not 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 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 informational purposes, the analysis also calculates the amount of GHG emission 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 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) Project Consistency with Applicable Plans and Policies

The Project's GHG emission impacts are evaluated by assessing the Project's consistency with applicable GHG reduction strategies and local actions approved or adopted by CARB, SCAG, and the City. The methodology for evaluating the Project's impacts related to GHG emissions focuses on its consistency with Statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions.

As discussed previously, the City has established goals and actions to reduce the emission of GHGs from both public and private activities in L.A.'s Green New Deal, and the Los Angeles Green Building Code. Thus, if a project is designed in accordance with these policies and regulations, it would result in a less than significant impact, because it would be consistent with the overarching State regulations on GHG reduction (AB 32 and SB 32).

A consistency analysis is provided and describes the Project's compliance with performance-based standards included in the regulations outlined in the applicable portions of CARB Scoping Plan (i.e., 2017 Scoping Plan), the RTP/SCS, L.A.'s Green New Deal, and the Los Angeles Green Building Code.

(2) Quantification of Emissions

In addition to the evaluation of the Project's consistency with plans adopted for the purpose of reducing and/or mitigating GHG emissions, the analysis also calculates the amount of GHG

emissions that would be attributable to the Project using recommended air quality models, as described below, for informational purposes. The primary purpose of quantifying the Project's GHG emissions is to satisfy CEQA Guidelines Section 15064.4(a), which requires a good-faith effort by the lead agency 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 mitigation measures. The significance the Project's GHG emissions impact is not based on the amount of GHG emissions resulting from the Project.

The quantification of GHG emissions is based on buildout of the Project as modeled using California Emissions Estimator Model, Version 2016.3.2 (CalEEMod), EMFAC2017, Version 1.0.2, and OFFROAD2017, Version 1.0.1 for the following sectors:⁴⁹

- **Transportation:** The annual VMT is based on the average daily trip (ADT) generation and average trip distance traveled for trucks and passenger vehicles was provided by Linscott, Law, and Greenspan, Engineers (LLG). Overall average daily vehicle trips (ADT) (passenger vehicles and trucks) are based on the City of Los Angeles Department of Transportation's Vehicle Miles Traveled Calculator Version 1.2. Overall, the Project would generate up to 1,975 ADTs (non-passenger equivalent) consisting of 1,209 passenger vehicle ADTs and 766 medium-heavy and heavy-heavy duty truck ADTs. Based on the City of Los Angeles Vehicle Miles Traveled Calculator, passenger vehicles are anticipated to average 10.6 miles per trip. Medium-heavy (2 to 3 axle) and heavy-heavy duty trucks (4+-axle trucks) are anticipated to average 39.9 miles per trip. Project-related on-road GHG emissions are based on calendar year 2022 emission rates. The default CalEEMod emissions rates for year 2022 were updated with emission rates derived from EMFAC2017 and CalEEMod methodology. The primary source of mobile-source GHG emissions is tailpipe exhaust emissions from the combustion of fuel (i.e., gasoline and diesel).
- **Area Sources:** Area source emissions from use of landscaping equipment are based on CalEEMod default values and the square footage of the proposed building and surface parking lot areas.
- **Off-Road Equipment:** It is anticipated the Project would utilize up to 15 electric forklifts and 1 diesel-powered yard truck for daily operations. The yard truck is anticipated to operate for 4 hours per day and 365 days per year.⁵⁰ Diesel-powered yard truck emissions are based on calendar year 2022 OFFROAD2017 emission factors for a 175-horsepower rail yard tractor.

⁴⁹ CalEEMod utilizes AR4 GWPs.

⁵⁰ Based on 3.6 yard trucks per million square feet of building space (South Coast Air Quality Management District. June 2014. SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results..

- **Energy:** Emissions of GHG from energy use (electricity and natural gas) are based on the CalEEMod defaults for electricity and natural gas usage by a general light industrial use. The proposed building is modeled to comply with the 2019 Building Energy Efficiency Standards, which are 30 percent more energy efficient for non-residential buildings than the 2016 Building Energy Efficiency Standards. In addition, the Project would install LED lighting, which is anticipated to increase lighting energy efficiency by 10 percent. Furthermore, the emissions benefit from the proposed photovoltaic system, which is anticipated to generate up to 460,000 kilowatt-hour of renewable electricity per year, is also accounted for in the analysis.
- **Solid Waste Disposal:** The Project is estimated to generate approximately 1.42 pounds of solid waste per day per 100 square feet of manufacturing/warehouse use⁵¹, resulting in a total daily solid waste generation of 4,832 pounds per day (ppd). Indirect emissions from waste generation are based on this total daily solid waste generation.
- **Water/Wastewater:** GHG emissions from this sector are associated with the embodied energy used to supply, treat, and distribute water and treat wastewater and with fugitive GHG emissions from wastewater treatment. The Project would result in a total water demand of 11,924,042 gallons per year (gpy). The total annual water demand is based on a water usage rate of 120 percent of wastewater generated.⁵² Based on a wastewater generation rate of 80 gallons per day (gpd) per 1,000 gross square feet,⁵³ the Project would generate approximately 9,936,702 gpy of wastewater.
- **Construction:** Construction of the Project is anticipated to commence October 2021 and last through June of 2022, for a duration of approximately 9 months (see Table IV.B-9, *Construction Activities, Phasing, and Equipment*).

Life cycle emissions are not included in this analysis because not enough information is available for the Project, and therefore life cycle GHG emissions would be speculative.⁵⁴ Black carbon

⁵¹ Based on the CalRecycle manufacturing/warehouse waste generation rate of 1.42 lbs/100SF/day. (Cal Recycle 2017. Accessed May 6, 2021. *Estimated Solid Waste Generation Rates*. <https://www2.calrecycle.ca.gov/wastecharacterization/general/rates.>)

⁵² City of Los Angeles, L.A. CEQA Thresholds Guide. 2006.

⁵³ City of Los Angeles, L.A. CEQA Thresholds Guide. 2006.

⁵⁴ Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analyses was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see *Final Statement of Reasons for Regulatory Action*, December 2009). Because the amount of materials consumed during the operation or construction of the proposed Project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known,

emissions are not included in the GHG analysis because CARB does not include this pollutant in the State's AB 32 inventory but treats this short-lived climate pollutant separately.⁵⁵ Additionally, while not anticipated, industrial sources of emissions that require a permit from SCAQMD (permitted sources) are not included in the Project community inventory since they have separate emission reduction requirements. GHG modeling is included in Appendix C of this Draft EIR.

c. Project Design Features

The Project includes several sustainability features to comply with and exceed the Los Angeles Green Building Code and other regulatory requirements. For example, the proposed building would be designed and built to meet the standard for LEED Silver Certification under either the: (1) LEED v.4 Building Design and Construction Standards for Core and Shell Development set forth by the U.S. Green Building Council or (2) LEED pre-certified Prologis program. Additionally, the Project would install a solar photovoltaic (PV) system that would generate 460,000 kilowatt-hours per year (kWh/yr) of renewable electricity. Project Design Features AQ-PDF-1 through AQ-PDF-6, as set forth in Section IV.B, Air Quality, of this Draft EIR, also apply to GHG emissions.

d. Analysis of Project Impacts

Threshold (a): *Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?;*

Threshold (b): *Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

(1) Impact Analysis

Implementation of a development project could contribute to global climate change through direct emissions of GHGs from on-site area sources and vehicle trips generated by the project, and indirectly through offsite energy production required for on-site activities, water use, and waste disposal. Because no single project is large enough to result in a measurable increase in global concentrations of GHG emissions, climate change impacts of a project are considered on a cumulative basis.

calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (Governor's Office of Planning and Research. 2008, June. CEQA and Climate Change: Addressing Climate Change through CEQA Review. Technical Advisory. <http://www.opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf>).

⁵⁵ *Particulate matter emissions, which include black carbon, are analyzed in Section IV.B., Air Quality. Black carbon emissions have sharply declined due to efforts to reduce on-road and off-road vehicle emissions, especially diesel particulate matter. The State's existing air quality policies will virtually eliminate black carbon emissions from on-road diesel engines within 10 years (California Air Resources Board. 2017, March. Short-Lived Climate Pollutant Reduction Strategy).*

Applicable plans adopted for the purpose of reducing GHG emissions include CARB's Scoping Plan, SCAG's RTP/SCS, and the City's Green New Deal. A consistency analysis with these plans is presented below:

a. *CARB Scoping Plan*

CARB's Scoping Plan is the State's strategy to achieve the GHG emissions reduction goals under AB 32 and SB 32, as well as a long-term strategy to achieve the state's overall carbon neutrality goals for 2050 under Executive Order S-03-05. The CARB Scoping Plan is applicable to state agencies but is not directly applicable to cities/counties and individual projects (i.e., the Scoping Plan does not require the City to adopt policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the state agencies outlined in the Scoping Plan result in GHG emissions reductions at the local level. As a result, local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that affect a local jurisdiction's emissions inventory from the top down.

(i) Transportation Sector

Trucks

Approximately 87 percent of the Project's emissions are from the transportation sector, and over 79 percent of the Project's emissions are associated with VMT generated by transport trucks. In general, the state strategy for the transportation sector for medium and heavy-duty trucks is focused on making trucks more efficient and expediting truck turnover rather than reducing VMT from trucks. This is in contrast to the passenger vehicle component of the transportation sector where both per-capita VMT reductions and an increase in vehicle efficiency are forecasted to be needed to achieve the overall state emissions reductions goals.

Emissions associated with heavy duty trucks involved in goods movements are generally controlled on the technology side and through fleet turnover of older trucks and engines to newer and cleaner trucks and engines. The first battery-electric Class 8 heavy-duty trucks were being tested in 2019 as SCAQMD looks to integrate this new technology into large-scale truck operations.⁵⁶ In November 2020, Volvo was awarded \$20 million in grants under the USEPA Targeted Air Shed Grant Program plus \$1.7 million in charging infrastructure funding from SCAQMD to deploy 70 VNR Electric trucks to various southern California fleet operators in 2021. The following State strategies reduce GHG emissions from the medium- and heavy-duty trucks:

⁵⁶ *Daimler Trucks: North America. 2019, August 12. First Freightliner eCascadia Battery Electric Trucks Headed to Customers. Accessed on July 5, 2020. <https://daimler-trucksnorthamerica.com/company/newsroom/PressDetail/first-freightliner-ecascadia-battery-electric-trucks-2019-08-12>.*

- CARB's Mobile Source Strategy focuses on reducing GHGs through the transition to zero and low emission vehicles and from medium-duty and heavy-duty trucks.⁵⁷
- CARB's Sustainable Freight Action Plan establishes a goal to improve freight efficiency by 25 percent by 2030, deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.⁵⁸
- CARB's Emissions Reduction Plan for Ports and Goods Movement (Goods Movement Plan) in California focuses on reducing heavy-duty truck-related emissions focus on establishment of emissions standards for trucks, fleet turnover, truck retrofits, and restriction on truck idling. While the focus of the Goods Movement Plan is to reduce criteria air pollutant and air toxic emissions, the strategies to reduce these pollutants would also generally have a beneficial effect in reducing GHG emissions.

These strategies would contribute in controlling heavy-duty truck GHG emissions associated with the Project. The Project would not conflict with the statewide strategies. Trucks on-site are required to comply with CARB's Heavy-Duty (Tractor-Trailer) GHG Regulation, which requires SmartWay tractor trailers that include idle-reduction technologies, aerodynamic technologies, and low-rolling resistant tires that would reduce fuel consumption and associated GHG emissions.

Passenger Vehicles

Approximately 8 percent of the emissions associated with the Project are associated with VMT generated by passenger vehicles. Statewide strategies to reduce GHG emissions from passenger vehicles and the transportation sector in general include the LCFS and changes in the corporate average fuel economy standards (e.g., Pavley I and Pavley California Advanced Clean Cars program). The Project would be required to comply with these standards.

(ii) Energy / Commercial-Residential Sector

Energy use generated by the Project represents the second largest source of emissions (10 percent) after the transportation sector. The proposed building of the Project would meet the current CALGreen Code and Building Energy Efficiency Standards. Furthermore, the proposed building would be designed and built to meet the standard for LEED Silver Certification under either the (1) LEED v.4 Building Design and Construction Standards for Core and Shell Development set forth by the U.S. Green Building Council or (2) LEED pre-certified Prologis program. The Project would also install a rooftop PV system that would generate 460,000 kWh/yr of renewable electricity. Over the long-term, energy demand generated by the Project would

⁵⁷ California Air Resources Board. November 2017. *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target.*

⁵⁸ California Air Resources Board. November 2017. *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target.*

continue to be met with energy from sources with lower carbon intensity as a result of the state's carbon neutrality goals established under Executive Order B-55-18. Under SB 100, the RPS is set at 60 percent by 2030 and 100 percent by 2040. As a result, over time, GHG emissions from the energy sector will decrease. Therefore, as the Project would utilize electricity from electric providers subject to these energy-efficient requirements, the Project would not conflict with the State's goals for this sector.

(iii) Other Sources

Other sources of GHG emissions represent approximately 3 percent of the emissions inventory, with the vast majority from solid waste disposal (2 percent), which is associated with landfilling municipal solid waste. The amount of methane emitted to the atmosphere as a fraction of the total amount of methane generated from the decomposition of accumulated waste has gradually declined over time as more landfills install landfill gas collection and control systems and existing systems are operated more efficiently as a result of CARB's Landfill Methane Control Measure.⁵⁹ Therefore, as the Project would utilize local solid waste disposal services subject to these solid waste efficiency requirements, the Project would not conflict with the State's goals for the recycling and waste sector.

Overall, compliance with these statewide building and design standards would contribute in reducing energy demand and water consumption. Therefore, the Project would be consistent with the CARB Scoping Plan, and impacts are considered less than significant.

Table IV.F-5, *Project Consistency with Applicable Climate Change Scoping Plan Greenhouse Gas Reduction Strategies*, contains a list of GHG-reducing strategies applicable to the Project. The analysis determines whether the Project would conflict with the strategies outlined in the State's Climate Change Scoping Plan to reduce GHG emissions.

**Table IV.F-5
Project Consistency with Applicable Climate Change Scoping Plan
Greenhouse Gas Reduction Strategies**

Action and Strategies	Responsible Party	Consistency
Energy		
CCR, Title 24. Energy Efficiency Standards for Residential and Nonresidential Buildings	State, Local Jurisdictions	No Conflict: The Project would meet or exceed the applicable requirements of the Title 24 Building Energy Efficiency Standards and CALGreen Code or applicable version at the time of building permit issuance. The proposed building of the Project would meet the current CALGreen and Building Energy Efficiency Standards. Furthermore, the proposed building would be designed and built to meet the standard for LEED Silver Certification under either the (1) LEED v.4 Building Design and Construction Standards for Core and Shell Development set forth by the U.S. Green Building Council or (2) LEED pre-certified Prologis program.

⁵⁹ California Air Resources Board. 2019, August 26. *California Greenhouse Emissions for 2000 to 2017: Trends of Emissions and Other Indicators*.

**Table IV.F-5
Project Consistency with Applicable Climate Change Scoping Plan
Greenhouse Gas Reduction Strategies**

Action and Strategies	Responsible Party	Consistency
		The proposed building is also modeled to comply with the 2019 Building Energy Efficiency Standards, which are 30 percent more energy efficient for non-residential buildings than the 2016 Building Energy Efficiency Standards. In addition, the Project would install LED lighting, which is anticipated to increase lighting energy efficiency by 10 percent. Furthermore, the emissions benefit from the proposed photovoltaic system is anticipated to generate up to 460,000 kilowatt-hour of renewable electricity per year.
<p>California Green Building Standards Code Requirements. Heating, ventilation, and air conditioning (HVAC) Systems will be designed to meet American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) standards.</p>	State, Local Jurisdictions	<p>No Conflict: The Project would utilize energy efficiency appliances and equipment and would meet the applicable energy standards in the Title 24 Building Energy Efficiency Standards and CALGreen Code, or applicable version at the time of building permit issuance and would install ENERGY STAR compliant appliances, including ENERGY STAR compliant bathroom fans. The Project would utilize energy efficiency HVAC Systems that would meet or exceed the applicable energy standards in ASHRAE Appendix G and the Title 24 Building Energy Efficiency Standards and CALGreen Code, or applicable version of these standards at the time of building permit issuance.</p>
Energy commissioning shall be performed for buildings larger than 10,000 square feet.	State, Local Jurisdictions	<p>No Conflict: The Project would meet this requirement as part of its compliance with the City's requirements and LEED Silver Certification under either the (1) LEED v.4 Building Design and Construction Standards for Core and Shell Development set forth by the U.S. Green Building Council or (2) LEED pre-certified Prologis program.</p>
Refrigerants used in newly installed HVAC systems shall not contain any CFCs.	State, Local Jurisdictions	<p>No Conflict: The Project would implement Project Design Feature AES-PDF-3, which would incorporate mechanical, electrical, and roof top equipment, including HVAC systems into the Project's design. The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code for the use of HFCs in HVAC systems.</p>
Parking spaces shall be designed for carpool or alternative fueled vehicles. Up to eight percent of total parking spaces will be designed for such vehicles.	State, Local Jurisdictions	<p>No Conflict: The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code. The Project site plan incorporates an employee drop-off lane for ride-share services and carpooling. The Project would include at least 6 tractor trailer parking stalls capable of supporting future electric vehicle supply equipment (EVSE). Additionally, the Project would include 20 electric charging stalls for electric passenger vehicles with an additional 38 stalls capable of supporting future electric vehicle chargers.</p>
Long-term and short-term bike parking shall be provided for up to 5 percent of vehicle trips.	State, Local Jurisdictions	<p>No Conflict: The Project would meet this requirement by providing 16 short term and 16 long term bicycle parking stalls, exceeding the City's requirement of 12 short term and 12 long term stalls.</p>

**Table IV.F-5
Project Consistency with Applicable Climate Change Scoping Plan
Greenhouse Gas Reduction Strategies**

Action and Strategies	Responsible Party	Consistency
Stormwater Pollution Prevention Plan (SWPPP) required.	State, Local Jurisdictions	No Conflict: The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code (see Section IV.H, Hydrology and Water Quality, of this Draft EIR).
Indoor water usage must be reduced by 20 percent compared to current California Building Code Standards for maximum flow.	State, Local Jurisdictions	No Conflict: The Project would meet this requirement as part of its compliance with the City's requirements, the CALGreen Code, and the LEED Silver Certification under either the (1) LEED v.4 Building Design and Construction Standards for Core and Shell Development set forth by the U.S. Green Building Council or (2) LEED pre-certified Prologis program.
All irrigation controllers must be installed with weather sensing or soil moisture sensors.	State, Local Jurisdictions	No Conflict: The Project proposes harvesting cisterns within the truck yard west of the proposed driveway on Orchard Avenue to capture stormwater and reuse for irrigation with pumps and fine filtration devices. The irrigation system that would be installed as part of the Project would include irrigation controls that would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
Wastewater generation shall be reduced by 20 percent compared to current California Building Standards.	State, Local Jurisdictions	<p>No Conflict: The Project would meet this requirement as part of its compliance with the City's requirements, the CALGreen Code, and the LEED Silver Certification under either the (1) LEED v.4 Building Design and Construction Standards for Core and Shell Development set forth by the U.S. Green Building Council or (2) LEED pre-certified Prologis program.</p> <p>Wastewater from the Project would enter into and be treated by the Hyperion Treatment Plant (HTP), which is a part of the Hyperion Treatment System, which includes the Tilman Water Reclamation Plant and the Los Angeles–Glendale Water Reclamation Plant. The wastewater generated by the Project would be typical of warehouse uses. The Hyperion Treatment System is in compliance with the State's wastewater treatment requirements. The generation of wastewater from the Project of 27,224 gallons per day would be minimal compared to the average daily flow of HTP and would not exceed the wastewater treatment requirements of the LARWQCB.</p>
Requires a minimum of 50 percent recycle or reuse of nonhazardous construction and demolition debris.	State, Local Jurisdictions	<p>No Conflict: The Project would meet or exceed this requirement as part of its compliance with the City's requirements, the CALGreen Code, and the LEED Silver Certification under either the (1) LEED v.4 Building Design and Construction Standards for Core and Shell Development set forth by the U.S. Green Building Council or (2) LEED pre-certified Prologis program.</p> <p>The Project would comply with LAMC Section 99.05.100, which incorporates by reference the 2019 CALGreen Code,</p>

**Table IV.F-5
Project Consistency with Applicable Climate Change Scoping Plan
Greenhouse Gas Reduction Strategies**

Action and Strategies	Responsible Party	Consistency
		and LAMC Section 5.40, which requires up to 65 percent of nonhazardous construction waste to be diverted.
Requires documentation of types of waste recycled, diverted or reused.	State, Local Jurisdictions	<p>No Conflict: The Project would meet this requirement as part of its compliance with the City's requirements, the CALGreen Code, and the LEED Silver Certification under either the 1) LEED v.4 Building Design and Construction Standards for Core and Shell Development set forth by the U.S. Green Building Council or 2) LEED pre-certified Prologis program.</p> <p>The Project would comply with LAMC Section 99.05.408.1, Construction Waste Diversion, which requires compliance with LAMC Section 66.32, which outlines AB 939 waste hauler and reporting requirements.</p>
Water		
CCR, Title 24. Title 24 includes water efficiency requirements for new residential and non-residential uses.	State, Local Jurisdictions	No Conflict: See discussion under Title 24 Building Standards Code and California Green Building Standards Code Requirements above.
Other Sources		
Climate Action Team. Reduce diesel-fueled commercial motor vehicle idling	State, CARB	No Conflict: The Project would comply with the CARB Air Toxics Control Measure to limit heavy duty diesel motor vehicle idling to no more than 5 minutes at any given time. In addition, implementation of Mitigation Measure AQ-MM-4, which would limit nonessential idling to 5 minutes or less, would further reduce GHG emissions. This would also be applicable to the Project without Reduction Features scenario since the underlying Airborne Toxic Control Measure (ATCM) that limits heavy-duty diesel motor vehicle idling (Title 13 California Code of Regulations [CCR], Section 2485) was adopted by CARB in 2004.
Plant five million trees in urban areas by 2020 to effect climate change emission reductions.	Local Jurisdictions	No Conflict: While this action does not directly apply to individual projects, the Project would provide approximately 165 net new trees in landscaping on the Project Site compared to existing conditions.
Implement efficient water management practices and incentives, as saving water saves energy and GHG emissions	State, Local Jurisdictions	No Conflict: The Project would meet this requirement as part of its compliance with the City's requirements, the CALGreen Code, and the LEED Silver Certification under either the (1) LEED v.4 Building Design and Construction Standards for Core and Shell Development set forth by the U.S. Green Building Council or (2) LEED pre-certified Prologis program.
Reduce GHG emissions from electricity by reducing	State, Local Jurisdictions	No Conflict: While this action does not directly apply to individual projects, the Project would be compliant by utilizing or installing appliances, electrical devices, and/or

**Table IV.F-5
Project Consistency with Applicable Climate Change Scoping Plan
Greenhouse Gas Reduction Strategies**

Action and Strategies	Responsible Party	Consistency
energy demand. The California Energy Commission updates appliance energy efficiency standards that apply to electrical devices or equipment sold in California. Recent policies have established specific goals for updating the standards; new standards are currently in development.		equipment that meet the standards for such appliances, electrical devices, and/or equipment sold in California. Additionally, the Project would include the installation of a solar PV system that would generate 460,000 kWh/yr of renewable electricity.
Apply strategies that integrate transportation and land-use decisions, including but not limited to promoting jobs/housing proximity, high-density residential/commercial development along transit corridors and implementing intelligent transportation systems.	State, CARB, SCAG	No Conflict: While this action does not directly apply to individual projects, the Project would be compliant by adhering to the City of Los Angeles' TDM ordinance, which would reduce VMT to the maximum extent possible. Additionally, the proposed use is consistent with the City's general plan and zoning; jobs at the site have been anticipated in the local and regional projections. Furthermore, the Project would develop the site with a 340,298 square foot warehouse/ manufacturing/ high-cube warehouse/ distribution center in close proximity to the Ports of Los Angeles and Long Beach and the regional highway system, reducing VMT in the region.
Reduce energy use in private buildings	State, Local Jurisdictions	No Conflict: The Project would meet or exceed the energy standards in the Title 24 Building Energy Efficiency Standards, and the CALGreen Code. Energy-saving and sustainable design features and operational programs would be incorporated into the Project, including those required by the CALGreen Code. The Project would also incorporate design features and attributes promoting energy efficiency and sustainability. The Project buildings would be designed and built to meet the standard for LEED Silver Certification under either the (1) LEED v.4 Building Design and Construction Standards for Core and Shell Development set forth by the U.S. Green Building Council or (2) LEED pre-certified Prologis program. Additionally, the Project would provide a rooftop solar installation or other renewable energy power source sized to offset the expected electrical consumption. As previously mentioned, the Project would include at least 6 tractor trailer parking stalls capable of supporting future EVSE. Additionally, the Project would include 20 electric charging stalls for electric passenger vehicles with an additional 38 stalls capable of supporting future electric vehicle chargers.

As described in Table IV.F-5, the Project is compliant with the applicable laws and regulations that serve to reduce GHG emissions. In addition to the Project's consistency with applicable GHG reduction laws and strategies, the Project would not conflict with the future anticipated Statewide GHG reductions goals. CARB has outlined a number of potential strategies for achieving the 2030 reduction target of 40 percent below 1990 levels, as mandated by SB 32. These potential strategies include using renewable resources for half of the State's electricity by 2030, increasing the fuel economy of vehicles and the number of zero-emission or hybrid vehicles, reducing the rate of growth in VMT, supporting other alternative transportation options, and use of high-efficiency appliances, water heaters, and HVAC systems ⁶⁰. The Project would benefit from Statewide and utility-provider efforts towards increasing the portion of electricity provided from renewable resources. The utility provider for the Project, LADWP, currently provides 32 percent of electricity via renewable sources but has committed to providing an increasing percentage from renewable sources that exceed the RPS requirements by providing 50 percent of electricity via renewable sources by 2025, 55 percent by 2030, and 65 percent by 2036.⁶¹ The Project would also include a rooftop PV system that would generate renewable electricity for its use. In addition to the RPS, the Project would also benefit from statewide efforts towards increasing the fuel economy standards of vehicles and heavy-duty trucks.

The 2017 Scoping Plan (adopted in December 2017) also outlines strategies to reduce GHG emissions to achieve the 2030 target from sectors that are not directly controlled or influenced by the Project but, nonetheless, contribute to Project-related GHG emissions. For instance, the Project itself is not subject to the Cap-and-Trade regulation; however, proposed Project-related emissions would decline pursuant to the regulation as utility providers and transportation fuel producers are subject to renewable energy standards, Cap-and-Trade, and the LCFS. While CARB is in the process of expanding the regulatory framework to meet the 2030 reduction target based on the existing laws and strategies in the 2017 Scoping Plan, the Project would support or would not impede implementation of these potential GHG reduction strategies identified by CARB. Additionally, Pavley I, the Advanced Clean Cars Program, CALGreen Code, and SB-X7-7 outline strategies, as discussed above, to reduce GHG emissions to achieve the 2030 target from sectors that are not directly controlled or influenced by the Project but that, nonetheless, would contribute to reductions in Project-related GHG emissions.

Based on the analysis above, the Project would be consistent with CARB's Scoping Plans and the Project would not conflict with the State's GHG reduction targets for 2030 and 2050. Therefore, impacts would be less than significant.

b. SCAG's 2020-2045 RTP/SCS (Connect SoCal)

SCAG's RTP/SCS is Southern California's regional transportation plan to achieve the passenger vehicle emissions reductions identified under SB 375. The 2020-2045 RTP/SCS retains the same

⁶⁰ *Energy + Environmental Economics, Summary of the California State Agencies' PATHWAYS Project: Long-Term Greenhouse Gas Reduction Scenarios, April 6, 2015.*

⁶¹ *Los Angeles Department of Water and Power, 2016 Power Integrated Resource Plan, page ES- 1.*

purpose as the previous RTP/SCS plans in focusing and providing an integrated approach for accommodating project population growth, household and employment growth, and transportation needs in the SCAG region by year 2045. Similar to the previous RTP/SCS plans, the projected regional development pattern under the 2020-2045 RTP/SCS would reduce per capita vehicular-travel-related GHG emissions and achieve the GHG reduction per capita targets for the SCAG region. VMT associated with heavy duty trucks involved in goods movement is outside the purview of the 2020-2045 RTP/SCS, which primarily focuses on VMT associated with passenger vehicles. Under the 2020-2045 RTP/SCS, the focus remains on improving freight mobility in the region and transitioning to near-zero and zero-emissions technology.

Table IV.F-6, *Project Consistency with SCAG's 2020-2045 RTP/SCS*, provides an evaluation of the of the Project in comparison to the primary transportation land use strategies in the 2020-2045 RTP/SCS. As shown in the table, the Project would be consistent with the applicable strategies. It would provide improvements to the pedestrian network by installing new or upgraded paved sidewalks along the three roadways that front the Project Site. Furthermore, the Project would also provide public transit improvements by installing a bus turnout and bus shelter for the existing bus stop adjacent to the Project Site on Vermont Avenue in addition to installing 32 bicycle parking spaces on-site. These proposed improvements could contribute to increasing bicycle and pedestrian trips and public transit use. Moreover, the Project would also be consistent with the 2020-2045 RTP/SCS strategy of increasing employment within HQTAs as the Project Site is within an identified HQTA and is anticipated to provide up to 250 jobs. Overall, the Project would generate a daily VMT per employee of 9.7 miles, which would be below the City's daily VMT threshold of 12.3 miles per employee for the Harbor Area.⁶² Moreover, while VMT associated with heavy duty trucks involved in goods movement is generally outside the realm of the RTP/SCS, which primarily focuses on VMT associated with passenger vehicles, the 2020-2045 RTP/SCS includes the following goods-movement strategies that could benefit the Project from a regional and macro-scale level:⁶³

- **Clean Freight Corridor System/East-West Freight Corridor.** Establishing a freight corridor system to connect the San Pedro Ports and industrial cluster areas in Los Angeles and the Inland Empire.
- **Truck Bottleneck Relief Strategy.** Working to relieve the top 57 truck bottlenecks. Examples of bottleneck relief strategies include ramp metering, extension of merging lanes, ramp and interchange improvements, capacity improvements and auxiliary lane additions.
- **Truck Climbing Lanes.** Installing dedicated truck climbing lanes along key corridors, such as Interstate 5 (I-5), I-10, I-15, State Route 57 (SR-57) and SR-60, to enable other vehicles to move at a faster pace, thereby reducing congestion.

⁶² See Appendix I.1

⁶³ Southern California Association of Governments. 2020, September 3. *Connect SoCal Technical Report: Goods Movement*.

- **Goods Movement Environmental Strategy and Technology Advancement Plan.** Reducing environmental impacts by supporting the deployment of commercially available low-emission trucks and advancing technologies to implement a zero- and near zero-emission freight system.

**Table IV.F-6
Project Consistency with SCAG’s 2020-2045 RTP/SCS**

SCAG Transportation-Land Use Strategies	Consistency
<p>High Quality Transit Areas: High Quality Transit Areas (HQTAs) are corridor-focused Priority Growth Areas within one half mile of an existing or planned fixed guideway transit stop or a bus transit corridor where buses pick up passengers at a frequency of every 15 minutes (or less) during peak commuting hours. Like TPAs, HQTAs are places where vibrant TODs can be realized and are a cornerstone of land use planning best practice in the SCAG region. HQTAs represent under 3 percent of the region’s acreage but are projected to be home to over 51 percent of new households between 2016 and 2045. Infrastructure investments that support walkable, compact communities that integrate land use and transportation planning for a better functioning built environment are essential within HQTAs.</p>	<p>No Conflict: This strategy identifies HQTAs as priority growth areas where a majority of new households will develop and recognizes the importance of walkable communities to integrate land use and transportation planning. The Project site is in a designated HQTAs.¹ The Project would not generate new residents but it would provide additional jobs within an HQTAs, where employees would have greater access to transit. Additionally, the Project would invest in supporting walkable communities by installing a bus turnout and bus shelter for the existing bus stop adjacent to the Project Site on Vermont Avenue. Moreover, 32 bicycle parking spaces would be installed on-site. These improvements would help integrate land use and transportation planning. .</p>
<p>Transit Priority Areas. Transit Priority Areas (TPA) are Priority Growth Areas that are within one half mile of existing or planned major transit stops in the region. TPAs are where transit-oriented development (TOD) can be realized and growth within TPAs supports Connect SoCal’s strategies for preserving natural lands and farmlands and alleviates development pressure in sensitive resource areas by promoting compact, focused infill development in established communities with access to high-quality transportation. While TPAs comprise less than 1 percent of Southern California’s land area, approximately 30 percent of new households are projected to occur within them (SCAG 2020).</p>	<p>No Conflict: The Project area is not in a designated TPA.² However, the Project would be an infill development project, which would lessen potential effects on natural lands and farmland and alleviate development pressure in sensitive resource areas. Additionally, as discussed above, the project area is in an HQTAs and would be in an overall designated Priority Growth Area.</p>
<p>Livable Corridors. The Livable Corridor strategy encourages local jurisdictions to plan and zone for increased density at nodes along key corridors, and to “redevelop” single-story under-performing retail with well-designed, higher density housing and employment centers. This strategy is comprised of the following three components:</p> <ul style="list-style-type: none"> ● Transit improvements: Some corridors have been identified as candidates for on-street, dedicated lane Bus Rapid Transit (BRT) or semi-dedicated “BRT-lite” transit. Other corridors have the potential to support features that improve the user experience and bus 	<p>No Conflict: The Project is a single land use development project that would construct and operate a warehouse and provide up to 250 jobs. The development would provide improvements to the pedestrian network by installing new or upgraded paved sidewalks along the three roadways that front the Project Site (i.e., Orchard Avenue, Redondo Beach Boulevard, and Vermont Avenue). The Project would improve the rail crossing on Vermont Avenue providing a pedestrian crossing and improving mobility and connectivity. In addition, the Project would also provide public transit improvements by installing a bus turnout and bus shelter for the existing bus</p>

**Table IV.F-6
Project Consistency with SCAG's 2020-2045 RTP/SCS**

SCAG Transportation-Land Use Strategies	Consistency
<p>performance, including enhanced bus shelters, real-time travel information, off-bus ticketing, all-door boarding and longer distances between stops to increase speeds.</p> <ul style="list-style-type: none"> • Active transportation improvements: Increased investments in Complete Streets within Livable Corridors and intersecting arterials are essential to support safe bicycling and walking. Investments should include protected lanes to encourage safe bicycling and lower speed mobility, improved pedestrian access and bicycle and micro-mobility parking. • Land use policies: Mixed-use retail centers at key nodes along Livable Corridors are essential, as is increasing neighborhood-oriented retail at intersections, and flexible zoning that allows for the replacement of under-performing auto-oriented retail. 	<p>stop adjacent to the Project Site on Vermont Avenue. Moreover, 32 bicycle parking spaces would be installed on-site. These proposed improvements could contribute to increasing bicycle and pedestrian trips and public transit use.</p>
<p>Neighborhood Mobility Areas. Neighborhood mobility area (NMAs) are Priority Growth Areas with robust residential to non-residential land use connections, high roadway intersection densities and low-to-moderate traffic speeds. NMAs can encourage safer, multimodal, short trips in existing and planned neighborhoods and reduce reliance on single occupancy vehicles.</p> <p>From 2016 to 2045, nearly 29 percent of new households are projected to be located in NMAs. Although 38 percent of all trips made in the SCAG region are three miles or less, more than 78 percent of these short trips are made by driving. Improving public health and reducing per-capita VMT, and GHG reductions relies on the SCAG region's ability to support safe and convenient short trips at the neighborhood scale—by foot, bicycle, micro-mobility devices and slow speed electric vehicles such as e-bikes, scooters, and neighborhood electric vehicles. Adopting and implementing Complete Streets policies supports safer neighborhood mobility and connected, economically dynamic communities. Targeting future growth in these areas has inherent benefits to Southern California residents – providing access to “walkable” and destination rich neighborhoods to more people in the future.</p>	<p>No Conflict: The Project is east-adjacent to, but not within an NMA. While the Project would not install Neighborhood Electric Vehicles (NEVs) as the roadways adjacent to the site are not conducive to NEVs due to vehicle speed limits, the Project would include 20 electric charging stalls for electric passenger vehicles with an additional 38 stalls capable of supporting future electric vehicle chargers. Also, as discussed above, the Project would also result in improvements to the pedestrian network. Additionally, as stated, the Project Site is within an identified HQTAs and is anticipated to provide up to 250 jobs. The Project would provide jobs in close proximity to residential areas to provide the opportunity for convenient short trips by foot or bicycle.</p> <p>Its development within an identified HQTAs would be consistent with the RTP/SCS' strategy of focusing 51 percent of future employment growth within HQTAs, which would be consistent with the overall goal of reducing passenger VMT per capita.</p>

Source: Southern California Association of Governments. 2020, September 3. Connect SoCal Plan: The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy of The Southern California Association of Governments. <https://www.connectsocial.org/Pages/Connect-SoCal-Final-Plan.aspx>.

As demonstrated in Table IV.F-6, the Project would not conflict with SCAG's ability to implement the regional strategies outlined in the 2020-2045 RTP/SCS, and impacts would be less than significant.

c. *City of Los Angeles Green New Deal (2019 Sustainable City pLAN)*

The Project would be consistent with the targets in the City's Green New Deal update, designed to move the City to a carbon neutral future. Although L.A.'s Green New Deal is not an adopted plan or directly applicable to private development projects, the Project would generally be consistent with these aspirations because it is an infill development within an existing urbanized area that would introduce new jobs within an HQTAs. As discussed in Table IV.F-7, *Project Consistency with the Green New Deal*, overall, the Project would not conflict with applicable strategies from the plan or impede the City from achieving any targets identified in the Green New Deal. Therefore, impacts would be less than significant.

Table IV.F-7
Project Consistency with the Green New Deal

Target	Project Consistency
Chapter 3: Local Water	
Reduce potable water use per capita by 22.5% by 2025; 25% by 2035; and maintain or reduce 2035 per capita water use through 2050.	Consistent. While this action primarily applies to the City and LADWP and not to individual projects, the Project would be required to implement a water conservation strategy and demonstrate a minimum 20 percent reduction in indoor water usage when compared to baseline water demand (total expected water demand without implementation of the water conservation strategy).
Chapter 4: Clean and Healthy Buildings	
Reduce building energy use per sq. ft. for all building types 22% by 2025; 34% by 2035; and 44% by 2050 (from a baseline of 68 mBTU/aqft in 2015).	Consistent. While this action applies to City departments and not to private development, the Project would comply with the State's and City's requirements that are designed to reduce GHG emissions over time, including the LA Green Building Code, Title 24, and other increasingly stringent energy conservation programs. Specifically, at minimum, the proposed building would be built to meet the 2019 Building Energy Efficiency Standards. In general, non-residential buildings built under the 2019 Building Energy Efficiency Standards are 30 percent more energy efficient compared to the 2016 Building Energy Efficiency Standards. Furthermore, proposed building would be designed and built to meet the standard for LEED Silver Certification under either the 1) LEED v.4 Building Design and Construction Standards for Core and Shell Development set forth by the U.S. Green Building Council or 2) LEED pre-certified Prologis program, which would further increase energy efficiency. ⁶⁴ In

⁶⁴ Prologis has been designing and developing LEED-certified buildings since 2006. In 2014, Prologis partnered with the U.S. Green Building Council and M.E. Group to use the LEED Volume Program.

**Table IV.F-7
Project Consistency with the Green New Deal**

Target	Project Consistency
All new buildings will be net zero carbon by 2030 and 100% of buildings will be net zero carbon by 2050.	<p>addition, the Project would install LED lighting for both interior and exterior lights, which is anticipated to increase lighting energy efficiency by 10 percent.</p> <p>Consistent. The Project would comply with the State's and City's requirements that are designed to reduce GHG emissions over time, including the LA Green Building Code, Title 24, and other increasingly stringent energy conservation programs. In addition, the Project would install a solar PV system that would provide up to 460,000 kWh/yr of renewal electricity.</p>
Chapter 6: Mobility & Public Transit	
Increase the percentage of all trips made by walking, biking, micro-mobility/matched rides or transit to at least 35% by 2025, 50% by 2035, and maintain at least 50% by 2050.	<p>Consistent. While this action applies to the City and not to individual projects, Project would provide improvements to the pedestrian network by installing new or upgraded paved sidewalks along the three roadways that front the Project Site (i.e., Orchard Avenue, Redondo Beach Boulevard, and Vermont Avenue). In addition, the Project would also provide public transit improvements by installing a bus turnout and bus shelter for the existing bus stop adjacent to the Project Site on Vermont Avenue. Moreover, 32 bicycle parking spaces would be installed on-site. These proposed improvements could contribute to increasing bicycle and pedestrian trips and public transit use and the Project would not inhibit the City's efforts to promote alternative transportation programs.</p>
Reduce VMT per capita by at least 13% by 2025; 39% by 2035; and 45% by 2050.	<p>Consistent. While this action applies to the City and not to individual projects, the Project would generate a daily VMT per employee of 9.7 miles, which would be below the City's daily VMT threshold of 12.3 miles per employee for the Harbor Area Planning Commission. Therefore, the Project would not inhibit the City's citywide efforts to reduce VMT per capita.</p>
Chapter 7: Zero Emission Vehicles	
Increase the percentage of electric and zero emission vehicles in the city to 25% by 2025; 80% by 2035; and 100% by 2050.	<p>Consistent. While this action applies to the City and not to individual projects, the Project would provide 20 electric vehicle charging stalls for electric passenger vehicles with an additional 38 stalls capable of supporting future electric vehicle chargers. Furthermore, the Project would include at least 6 tractor trailer parking stalls capable of supporting future electric vehicle supply equipment.</p>

The Program uses a prototype approach to streamline the certification process and allow builders to achieve consistency in green building improvements, while earning LEED certification faster than would be possible with individual building reviews.

**Table IV.F-7
Project Consistency with the Green New Deal**

Target	Project Consistency
Chapter 9: Waste & Resource Recovery	
Increase landfill diversion rate to 90% by 2025; 95% by 2035 and 100% by 2050.	Consistent. While this action applies to the City and not to individual projects, the Project would participate in City trash services, including separating trash from recycling through the use of blue and green recycling bins provided by LASAN.
Reduce municipal solid waste generation per capita by at least 15% by 2030, including phasing out single-use plastics by 2028 (from a baseline of 17.85 lbs. of waste generated per capita per day in 2011).	Consistent. While this action applies to the City and not to individual projects, the Project would participate in City trash services, including separating trash from recycling through the use of blue and green recycling bins provided by LASAN.
Eliminate organic waste going to landfill by 2028.	Consistent. The Project would participate in City trash services, including the participation in the organic waste recycling program once the Citywide residential program is implemented.
Chapter 11: Urban Ecosystems & Resilience	
Increase tree canopy in areas of greatest need by at least 50% by 2028.	Consistent. While this action applies to the City and not to individual projects, the Project would plant 165 new trees.
Reduce urban/rural temperature differential by at least 1.7 degrees by 2025; and 3 degrees by 2035.	Consistent. While this action applies to the City and not to individual projects, the Project Site is currently vacant with a majority of the ground paved in dark, heat-absorbing asphalt. Due to the nature of the Project, it would require paved surface lots for truck trailer and vehicle parking and internal circulation to serve the proposed warehouse use. All new on-site pavement would be stipulated to be concrete, which has a better solar reflectance index (SRI) than asphalt. Additionally, the Project shall stipulate to incorporating a roof with a Solar Reflectance Index (SRI) of 25 or better to reduce surface temperature (see Project Design Feature AQ-PDF-6), heat island effect, and heat transfer to the interior of the structure, thus contributing to reducing the heat gain. The Project would also provide 73,583 square feet of native landscaping, including 165 trees, which would also contribute in minimizing heat island effects.
Ensure proportion of Angelenos living within 1/2 mile of a park or open space is at least 65% by 2025; 75% by 2035; and 100% by 2050.	Not Applicable. The Project involves the development of an industrial/warehouse land use.

**Table IV.F-7
Project Consistency with the Green New Deal**

Target	Project Consistency
Achieve and maintain 'no-net loss' of native biodiversity by 2035.	Not Applicable. As discussed in Section IV, Biological Resources, of the IS/NOP, the Project Site is in a completely built-out urbanized environment and currently paved with concrete paving. Thus, there are no native plant communities, riparian habitats, wetlands, or other sensitive natural community on-site, and as a result, no suitable habitat for candidate, sensitive or special status species exist on the Project Site.

Source: Los Angeles, City of. 2019. L.A.'s Green New Deal Sustainable City Plan 2019.

d. Los Angeles Green Building Code

As stated, the Los Angeles Green Building Ordinance requires that all projects filed on or after January 1, 2017, comply with the Los Angeles Green Building Code, which incorporates the 2019 CALGreen Code, which became effective on January 1, 2020 and is an update to the 2016 CALGreen Code. Additionally, the Project would also be required to comply with the 2019 Building Energy Efficiency Standards, which generally provide further building energy efficiency compared to the 2016 Building Energy Efficiency Standards. **Overall, because the Project would be required to comply with the latest CALGreen Code and Building Energy Efficiency Standards, it would be consistent with the Los Angeles Green Building Code. Therefore, impacts would be less than significant.**

e. Post-2030 Analysis

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.⁶⁵ Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrate that various combinations of policies could allow the Statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies could allow the State to meet the 2050 target.

⁶⁵ *Energy and Environmental Economics (E3). "Deep Decarbonization in a High Renewables Future, Updated Results from the California PATHWAYS Model" (June 2018) Mahone, Amber. 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 long-term 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. The model encompasses the entire California economy with detailed representations of the buildings, industry, transportation and electricity sectors.*

Subsequent to the findings of these studies, SB 32 was passed on September 8, 2016, which would require CARB to ensure that Statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. These targets would build upon those originally established under AB 32 which required reducing statewide GHG emissions to 1990 levels by 2020. As discussed above, 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 providing charging infrastructure to support use of electric vehicles, installing a rooftop PV system to generate renewable electricity, and improving building energy efficiency.

The emissions modeling in the 2017 Update to the Scoping Plan has projected 2030 Statewide emissions, which take into account known commitments (reduction measures), such as SB 375, SB 350, and other measures. 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 to the Scoping Plan assumed a scenario in which cap-and-trade would deliver the reductions necessary to achieve the 2030 emissions target. Although the Project is consistent with the 2017 Update to the Scoping Plan, additional measures to achieve the 2030 targets and beyond are outside of the City or the Project's control.

Executive Order S-3-05 establishes a goal to reduce GHG emissions to 80 percent below 1990 levels by 2050. This goal, however, has not been codified. That being said, studies have shown that, in order to meet the 2050 target, aggressive technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. In its 2008 Climate Change Scoping Plan, CARB acknowledged that the "measures needed to meet the 2050 are too far in the future to define in detail."⁶⁶ In the First Update to the Scoping Plan, however, CARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately."⁶⁷

Although the Project's emissions level in 2050 cannot be reliably quantified, Statewide efforts are underway to facilitate the State's achievement of that goal and it is reasonable to expect the Project's emissions to decline as the regulatory initiatives identified by CARB in the Climate Change Scoping Plan are implemented, and other technological innovations occur. Such regulatory measures, which will further reduce GHG emissions, include the RPS under SB 100, which requires 100 percent renewable energy by 2045. The Project's total emissions at buildout, presented in the analysis below, represents the emissions inventory for the Project. That inventory takes into account existing regulations and regulations that would apply to the Project at its build out year. As such, the Project is consistent with the Executive Order's horizon-year (2050) goal.

⁶⁶ CARB, *Climate Change Scoping Plan: A Framework for Change*, December 2008.,p. 117.

⁶⁷ CARB, *2017 Scoping Plan Update*, November 2017, p. 18.

The Project is the type of land use development that is encouraged by the 2020–2045 RTP/SCS 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 policies. Furthering implementation of SB 375, the Project supports regional land use and transportation GHG reductions consistent with State climate targets for 2030 and beyond.

For the reasons described above, the Project’s post-2030 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets and Executive Orders S-3-05 and B-30-15.

(2) Quantification of GHG Emissions

Annual GHG emissions were calculated for construction and operation of the Project and are shown in Table IV.F-8, *Project GHG Emissions Inventory*. The Project operational phase emissions are from operation of the proposed land use, off-road equipment used for daily operations, and from Project-related vehicle trips. Construction emissions were amortized into the operational phase in accordance with SCAQMD’s proposed methodology.⁶⁸

**Table IV.F-8
Project GHG Emissions Inventory**

Source	GHG Emissions	
	MTCO ₂ e Per Year	Percent
Area	<1	<1%
Energy ¹	1,724	10%
Mobile – Passenger Vehicles ²	1,489	8%
Mobile – Transport Trucks ²	14,054	79%
Off-Road Equipment ³	48	<1%
Solid Waste	443	2%
Water	74	<1%
Amortized Construction Emissions ⁴	18	<1%
Project Total	17,850	100%

Notes:

1 Buildings constructed after January 1, 2020 are required to meet the 2019 Building Energy Efficiency Standards. Modeling also includes applicable water efficiency improvements required under CALGreen. The Project would install LED lights, which would increase energy efficiency for lighting by 10 percent. Additionally, the proposed PV system would generate 460,000 kWh/yr of renewable electricity.

2 Based on calendar year 2022 aggregated emission rates derived EMFAC2017 Version 1.0.2 and CalEEMod methodology.

3 Based on a diesel-powered yard truck at the facility operating for four hours per day and on calendar year 2022 OFFROAD2017 Version 1.0.1 emission rates for a 175 horsepower diesel-powered rail yard tractor. Per AQ-PDF-5, all forklifts used on-site would be electric-powered.

4 Construction emissions are amortized over a 30-year project lifetime per recommended SCAQMD methodology.

As shown in the table, the Project would generate 17,850 MTCO₂e per year. The primary source of Project-related emissions would be from mobile-source emissions generated from the Project-

⁶⁸ South Coast Air Quality Management District. 2009, November 19. GHG Meeting 14 Main Presentation. Greenhouse Gases (GHG) CEQA Significance Threshold Working Group.

related transport trucks (79 percent). The next largest sources of emissions would be from energy usage (10 percent) followed by passenger vehicles (8 percent) and solid waste (2 percent).

As demonstrated in the analysis above, the Project would have less than significant impacts related to GHG emissions. Nevertheless, Mitigation Measures AQ-MM-3 through AQ-MM-6 from Section IV.B, Air Quality, would also reduce GHG emissions of the Project.

Table IV.F-9, *Project GHG Emissions Inventory With Air Quality Mitigation*, shows the Project's emissions inventory with incorporation of air quality Mitigation Measures AQ-MM-3, AQ-MM-5, and AQ-MM-6. Incorporation of these mitigation measures would contribute to reducing emissions by up to 663 MTCO_{2e} per year. Individually, incorporation of Mitigation Measure AQ-MM-3, which would limit all off-road equipment used for daily operations to electric-powered equipment only, would reduce emissions by 48 MTCO_{2e} per year. Mitigation Measure AQ-MM-6, which would require use of model year 2010 or newer transport trucks and/or transport trucks fitted with 2010 or newer engines, would reduce emissions by 616 MTCO_{2e} per year. In addition, Mitigation Measure AQ-MM-5, which would require use of electric-powered landscaping equipment, would reduce GHG emissions by 0.02 MTCO_{2e} per year. Furthermore, implementation of Mitigation Measure AQ-MM-4, which would limit nonessential idling to 2 minutes or less, would reduce GHG emissions from idling to the extent feasible.

Table IV.F-9
Project GHG Emissions Inventory With Air Quality Mitigation

Source	GHG Emissions	
	MTCO _{2e} Per Year	Percent
Area ¹	0	0%
Energy ²	1,724	10%
Mobile – Passenger Vehicles ³	1,489	9%
Mobile – Transport Trucks ⁴	13,439	78%
Off-Road Equipment ⁵	0	0%
Solid Waste	443	3%
Water	74	<1%
Amortized Construction Emissions ⁵	18	<1%
Project Total	17,187	100%

Notes:

1 Incorporates Mitigation Measure AQ-MM-5, which only allows use of electric-powered landscaping equipment.

2 Buildings constructed after January 1, 2020 are required to meet the 2019 Building Energy Efficiency Standards. Modeling also includes applicable water efficiency improvements required under the CALGreen Code. The Project would install LED lights for all interior and exterior lighting, which would increase energy efficiency for lighting by 10 percent. Additionally, the proposed PV system would generate 460,000 kWh/yr of renewal electricity.

3 Based on calendar year 2022 aggregated emission rates derived EMFAC2017 Version 1.0.2 and CalEEMod methodology.

4 Incorporates Mitigation Measure AQ-MM-6. Utilizes aggregated emission rates based on vehicle model years 2010 through 2022 derived from EMFAC2017 Version 1.0.2 and CalEEMod methodology.

5 Incorporates Mitigation Measure AQ-MM-3, which only allows use of electric-powered off-road equipment.

6 Construction emissions are amortized over a 30-year project lifetime per recommended SCAQMD methodology.

Overall, incorporation of air quality mitigation measures would reduce Project-related emissions by about 3.7 percent (i.e., 663 MTCO_{2e}/yr) from 17,850 MTCO_{2e}/yr down to 17,187 MTCO_{2e}/yr.

(3) Mitigation Measures

Impacts regarding the Project's consistency with applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of GHG emissions were determined to be less than significant. The Project would not generate GHG emissions that would have a significant impact on the environment. Therefore, no mitigation measures are required.

(4) Level of Significance After Mitigation

Impacts regarding the Project's consistency with applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of GHG emissions and generation of GHG emissions were determined to be less than significant without mitigation. Therefore, no mitigation measures were required or included, and impacts remain less than significant.

4. Cumulative Impacts

(1) Impact Analysis

Project-related GHG emissions are not confined to a particular air basin but are dispersed worldwide. Therefore, GHG emission impacts are not project-specific impacts, but the Project's contribution to cumulative GHG impact. Accordingly, the analysis above took into account the potential for the Project to contribute to the cumulative impact on global climate change.

The analysis shows that the Project is consistent with CARB's Scoping Plan and SGAG's 2020–2045 RTP/SCS's strategies 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 AQMP (see Section IV.B, Air Quality, of this Draft EIR). Furthermore, the Project would comply with the targets of L.A.'s Green New Deal, which includes specific targets related to development, 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 GHG emissions and its effects on climate change would not be cumulatively considerable. For these reasons, the Project's cumulative contribution to GHG emissions is less than significant.**

(2) Mitigation Measures

Cumulative impacts regarding the Project's consistency with applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG emissions were determined to be less than significant. The Project would not generate GHG emissions that would have a significant impact on the environment. Therefore, no mitigation measures are required.

(3) Level of Significance After Mitigation

Cumulative impacts regarding the Project's consistency with applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG emissions and generation of GHG emissions were determined to be less than significant without mitigation. Therefore, no mitigation measures were required or included, and impacts remain less than significant.