

3.4 GREENHOUSE GAS EMISSIONS

This section identifies associated regulatory requirements, describes the existing setting related to climate change and greenhouse gases (GHGs), and evaluates potentially adverse impacts related to GHG emissions during construction and operation of the proposed Globemaster Corridor Specific Plan (GCSP; Proposed Project). Modeling data and information related to the GHG emissions analysis have been provided in Appendix B-1, Emission Calculations.

The Initial Study (IS) and Notice of Preparation (NOP) are contained in Appendix A-1, Initial Study; and Appendix A-2, Notice of Preparation, respectively. Comments regarding GHGs, received in response to the NOP (see Appendix A-3, Notice of Preparation Comment Letters), specifically related to reducing vehicle miles traveled (VMT) and preparation of the analysis consistent with the South Coast Air Quality Management District's (SCAQMD's) guidance, were received during the scoping process, and have been considered in the preparation of the analyses presented in this section.

The IS found that the Proposed Project would have potentially significant impacts as it relates to GHG emissions (Appendix A-1). As such, all potential GHG emissions impacts are addressed in this Draft Program Environmental Impact Report (PEIR)/Draft Program Environmental Impact Statement (PEIS).

3.4.1 Existing Conditions

3.4.1.1 Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (U.S. Environmental Protection Agency (EPA) 2017a).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: short-wave radiation emitted by the Sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth’s climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-twentieth century and is the most significant driver of observed climate change (Intergovernmental Panel on Climate Change (IPCC) 2013; EPA 2017a). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system, which is discussed further in Section 3.4.1.5, Potential Effects of Climate Change.

3.4.1.2 Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code section 38505(g) for purposes of administering many of the state’s primary GHG emissions reduction programs, GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃) (see also 14 CCR 15364.5).¹ Some GHGs, such as CO₂, CH₄, and N₂O, are emitted into the atmosphere through natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO₂, include fluorinated gases, such as HFCs, PFCs, and SF₆, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the most common GHGs and their sources.²

Carbon Dioxide. CO₂ is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth’s radiative balance. Natural sources of CO₂ include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-

¹ Climate forcing substances include GHGs and other substances such as black carbon and aerosols. This discussion focuses on the seven GHGs identified in the California Health and Safety Code Section 38505, because impacts associated with other climate forcing substances are not evaluated herein.

² The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change’s Second Assessment Report and Fourth Assessment Report (IPCC 1995, 2007), CARB’s Glossary of Terms Used in GHG Inventories (CARB 2018), and EPA’s Glossary of Climate Change Terms (EPA 2016).

gassing; and decomposition of dead organic matter. Human activities that generate CO₂ are from the combustion of fuels such as coal, oil, natural gas, and wood and changes in land use.

Methane. CH₄ is produced through both natural and human activities. CH₄ is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N₂O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N₂O. Sources of N₂O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N₂O as a propellant (such as in rockets, racecars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone-depleting substances (e.g., CFCs, HCFCs, and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the ozone depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF₆ is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF₆ is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen Trifluoride:** NF₃ is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere) and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O₃.

Hydrochlorofluorocarbons. HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential. Diesel particulate matter emissions are a major source of black carbon and are TACs that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from the California Air Resources Board's (CARB's) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric O₃, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O₃, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O₂), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O₃, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

3.4.1.3 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2016a). The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO₂; therefore, GWP-weighted emissions are measured in metric tons of CO₂ equivalent (MT CO_{2e}).

The current version of the California Emissions Estimator Model (CalEEMod) (Version 2016.3.2) assumes that the GWP for CH₄ is 25 (so emissions of 1 MT of CH₄ are equivalent to emissions of 25 MT of CO₂), and the GWP for N₂O is 298, based on the Intergovernmental Panel on Climate Change's Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the Proposed Project.

3.4.1.4 Sources of Greenhouse Gas Emissions

Per the Environmental Protection Agency (EPA) Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2018 (EPA 2020), total United States GHG emissions were approximately 6,676.6 MMT CO_{2e} in 2018 (EPA 2020). The primary GHG emitted by human activities in the United States was CO₂, which represented approximately 81.3% of total GHG emissions (5,428.1 MMT CO_{2e}). The largest source of CO₂, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 92.8% of CO₂ emissions in 2018 (5,031.8 MMT CO_{2e}). Relative to 1990, gross United States GHG emissions in 2018 are higher by 3.7%, down from a high of 15.2% above 1990 levels in 2007. GHG emissions decreased from 2017 to 2018 by 2.9% (188.4 MMT CO_{2e}) and overall, net emissions in 2018 were 10.2% below 2005 levels (EPA 2020).

According to California's 2000–2017 GHG emissions inventory (2019 edition), California emitted 424 MMT CO_{2e} in 2017, including emissions resulting from out-of-state electrical generation (CARB 2019). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high GWP substances, and recycling and waste. The California GHG emission source categories and their relative contributions in 2017 are presented in Table 3.4-1, Greenhouse Gas Emissions Sources in California.

**Table 3.4-1
Greenhouse Gas Emissions Sources in California**

Source Category	Annual GHG Emissions (MMT CO ₂ e)	Percent of Total ^a
Transportation	169.86	40%
Industrial	89.40	21%
Electric power ^b	62.39	15%
Agriculture	32.42	8%
Residential	26.00	6%
Commercial	15.14	4%
High global-warming potential substances	19.99	5%
Recycling and waste	8.89	2%
Total	424.10	100%

Source: CARB 2018b.

Notes: GHG = greenhouse gas; MMT CO₂e = million metric tons of carbon dioxide equivalent.

Emissions reflect the 2017 California GHG inventory.

^a Percentage of total has been rounded, and total may not sum due to rounding.

^b Includes emissions associated with imported electricity, which account for 23.94 MMT CO₂e annually.

Between 2000 and 2017, per-capita GHG emissions in California have dropped from a peak of 14.1 MT per person in 2001 to 10.7 MT per person in 2017, representing a 24% decrease. In addition, total GHG emissions in 2017 were approximately 5 MMT CO₂e less than 2016 emissions (CARB 2019).

As part of preparing the City’s Climate Action and Adaptation Plan (CAAP), the City developed a baseline GHG emissions inventory for the year 2015. As shown in Table 3.4-2, City of Long Beach 2015 Greenhouse Gas Inventory, below, the City’s 2015 total emissions were 3.1 MMT of CO₂e with the majority coming from transportation (50%) and building energy use (44%); the remaining 6% comes from solid waste and wastewater.

**Table 3.4-2
City of Long Beach 2015 Greenhouse Gas Inventory**

Sector	MT CO ₂ e	Percent of Total ^a
Energy	1,377,291	44%
<i>Residential</i>	428,245	14%
<i>Commercial</i>	300,818	10%
<i>Manufacturing/Construction</i>	399,089	13%
<i>Energy Industries</i>	219,889	7%
<i>Fugitive Emissions (oil/natural gas)</i>	29,240	1%
Transportation	1,546,326	50%
<i>On-road transportation</i>	1,213,601	39%
<i>Railways</i>	11,883	<1%
<i>Waterborne Navigation</i>	301,345	10%
<i>Aviation</i>	4,550	<1%
<i>Off-road Transportation</i>	14,947	<1%

Table 3.4-2
City of Long Beach 2015 Greenhouse Gas Inventory

Sector	MT CO ₂ e	Percent of Total ^a
Waste	176,851	6%
Solid Waste	173,259	6%
Wastewater	3,592	<1%
Total	3,100,468	100%

Source: City of Long Beach 2019a.

Notes: GHG = greenhouse gas; MT CO₂e = metric tons of carbon dioxide equivalent.

^a Percentage of total has been rounded, and total may not sum due to rounding.

3.4.1.5 Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 *Intergovernmental Panel on Climate Change Synthesis Report* (IPCC 2014) indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, rising sea levels, and ocean acidification (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, frequency of severe weather events, and electricity demand and supply. The primary effect of global climate change has been a rise in average global tropospheric temperature. Reflecting the long-term warming trend since pre-industrial times, observed global mean surface temperature for the decade 2006–2015 was 0.87°C (likely between 0.75°C and 0.99°C) higher than the average over the 1850–1900 period (IPCC 2018). Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Human activities are estimated to have caused approximately 1.0°C (1.8 degrees Fahrenheit (°F)) of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C (1.4°F to 2.2°F) (IPCC 2018). Global warming is likely to reach 1.5°C (2.7°F) between 2030 and 2052 if it continues to increase at the current rate (IPCC 2018).

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The Office of Environmental Health Hazard Assessment identified various indicators of climate change in California, which are scientifically-based measurements that track trends in various aspects of climate change. Many indicators reveal discernable evidence that climate change is occurring in California and is having significant, measurable impacts in the state. Changes in the state's climate have been observed including an increase in annual average air temperature with

record warmth from 2012 to 2016, more frequent extreme heat events, more extreme drought, a decline in winter chill, an increase in cooling degree days and a decrease in heating degree days, and an increase in variability of statewide precipitation (OEHHA 2018).

Warming temperatures and changing precipitation patterns have altered California’s physical systems – the ocean, lakes, rivers and snowpack – upon which the state depends. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the state’s annual water supply. Impacts of climate on physical systems have been observed such as high variability of snow-water content (i.e., amount of water stored in snowpack), decrease in snowmelt runoff, glacier change (loss in area), rise in sea levels, increase in average lake water temperature and coastal ocean temperature, and a decrease in dissolved oxygen in coastal waters (OEHHA 2018).

Impacts of climate change on biological systems, including humans, wildlife, and vegetation, have also been observed including climate change impacts on terrestrial, marine, and freshwater ecosystems. As with global observations, species responses include those consistent with warming: elevational or latitudinal shifts in range, changes in the timing of key plant and animal life cycle events, and changes in the abundance of species and in community composition. Humans are better able to adapt to a changing climate than plants and animals in natural ecosystems. Nevertheless, climate change poses a threat to public health as warming temperatures and changes in precipitation can affect vector-borne pathogen transmission and disease patterns in California as well as the variability of heat-related deaths and illnesses. In addition, since 1950, the area burned by wildfires each year has been increasing.

The California Natural Resources Agency (CNRA) has released four California Climate Change Assessments (2006, 2009, 2012, and 2018), which have addressed the following: acceleration of warming across the state, more intense and frequent heat waves, greater riverine flows, accelerating sea level rise, more intense and frequent drought, more severe and frequent wildfires, more severe storms and extreme weather events, shrinking snowpack and less overall precipitation, and ocean acidification, hypoxia, and warming. To address local and regional governments need for information to support action in their communities, the Fourth Assessment (2018) includes reports for nine regions of the state, including the Los Angeles Region, where the project is located. Key projected climate changes for the Los Angeles Region include the following (CNRA 2018):

- Continued future warming over the Los Angeles region. Across the region, average maximum temperatures are projected to increase around 4°F to 5°F by the mid-century, and 5°F to 8°F by the late-century.
- Extreme temperatures are also expected to increase. The hottest day of the year may be up to 10°F warmer for many locations across the Los Angeles region by the late-century under certain model scenarios. The number of extremely hot days is also expected to increase across the region.

- Despite small changes in average precipitation, dry and wet extremes are both expected to increase. By the late 21st century, the wettest day of the year is expected to increase across most of the Los Angeles region, with some locations experiencing 25% to 30% increases under certain model scenarios. Increased frequency and severity of atmospheric river events are also projected to occur for this region.
- Sea levels are projected to continue to rise in the future, but there is a large range based on emissions scenario and uncertainty in feedbacks in the climate system. Roughly 1 foot to 2 feet of sea level rise is projected by the mid-century, and the most extreme projections lead to 8 feet to 10 feet of sea level rise by the end of the century.
- Projections indicate that wildfire may increase over southern California, but there remains uncertainty in quantifying future changes of burned area over the Los Angeles region.

3.4.2 Regulatory Setting

3.4.2.1 Federal

Massachusetts v. EPA. In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- The Administrator found that elevated concentrations of GHGs—CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆—in the atmosphere threaten the public health and welfare of current and future generations. This is the “endangerment finding.”
- The Administrator further found the combined emissions of GHGs—CO₂, CH₄, N₂O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the “cause or contribute finding.”

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Energy Independence and Security Act of 2007. The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions (EPA 2007):

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020, and directs National Highway Traffic Safety Administration (NHTSA) to

establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.

- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy-efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards. In response to the U.S. Supreme Court ruling previously discussed, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (75 FR 25324–25728).

In 2010, President Barack Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO₂ in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021 (77 FR 62624–63200). On January 12, 2017, the EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks (EPA 2017b).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018 (76 FR 57106–57513). The standards for CO₂ emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO₂ emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

In August 2018, EPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards now in place, the 2018 proposal would increase U.S. fuel consumption by about half a million barrels per day (2%–3% of total daily consumption, according to the Energy Information Administration) and would impact the global climate by 3/1000th of one degree Celsius by 2100 (EPA and NHTSA 2018). California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives. Thus, the timing and consequences of the 2018 federal proposal are speculative at this time.

On September 27, 2019, the EPA and NHTSA published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program (84 Fed. Reg. 51,310), which became effective November 26, 2019. The Part One Rule revokes California’s authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. On March 31, 2020, the EPA and NHTSA issued the Part Two Rule, which will go into effect 60 days after being published in the Federal Register. The Part Two Rule sets CO₂ emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. This issue is evolving as California and 22 other states, as well as the District of Columbia and four cities, filed suit against the EPA and a petition for reconsideration of the rule on November 26, 2019. The litigation is not expected to be resolved for at least several months.

Clean Power Plan and New Source Performance Standards for Electric Generating Units.

On October 23, 2015, EPA published a final rule (effective December 22, 2015) establishing the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO₂ emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units, and (2) stationary combustion turbines. Concurrently, the EPA published a final rule (effective October 23, 2015) establishing Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (80 FR 64661–65120). The rule prescribes CO₂ emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. The U.S. Supreme Court stayed implementation of the Clean Power Plan pending resolution of several lawsuits.

3.4.2.2 State

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes EOs, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

The state has taken a number of actions to address climate change. These include EOs, legislation, and CARB plans and requirements. These are summarized below.

EO S-3-05. EO S-3-05 (June 2005) established California’s GHG emissions reduction targets and laid out responsibilities among the state agencies for implementing the EO and for reporting on progress toward the targets. This EO established the following targets:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80% below 1990 levels

EO S-3-05 also directed the California Environmental Protection Agency to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. CAT was formed, which subsequently issued reports from 2006 to 2010 (CAT 2016).

AB 32. In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive multiyear program to limit California’s GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the state’s long-range climate objectives.

CARB’s 2007 Statewide Limit. In 2007, in accordance with California Health and Safety Code, Section 38550, CARB approved a statewide limit on the GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO_{2e}).

CARB’s Climate Change Scoping Plan. One specific requirement of AB 32 is for CARB to prepare a “scoping plan” for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code, Section 38561(a)), and to update the plan at least once every 5 years. In 2008, CARB approved the first scoping plan. The *Climate Change Scoping Plan: A Framework for Change (Scoping Plan)* included a mix of recommended

strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state’s long-range climate objectives. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
2. Achieving a statewide renewable energy mix of 33%
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California’s GHG emissions
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
5. Adopting and implementing measures pursuant to existing state laws and policies, including California’s clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS 17 CCR, Section 95480 et seq.)
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California’s long-term commitment to AB 32 implementation

The Scoping Plan also identified local governments as essential partners in achieving California’s goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations and for community emissions to reduce GHGs by approximately 15% from then levels (2008) by 2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The *First Update to the Climate Change Scoping Plan: Building on the Framework (First Update)* defined the state’s GHG emission reduction priorities for the next 5 years and laid the groundwork to start the transition to the post-2020 goals set forth in EOs S-3-05 and B-16-2012. The *First Update* concluded that California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions. The *First Update* recommended a mix of technologies in key economic sectors to reduce emissions through 2050 including: 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, the rapid market penetration of efficient

and clean energy technologies. As part of the *First Update*, CARB recalculated the state’s 1990 emissions level, using more recent global warming potentials identified by the Intergovernmental Panel on Climate Change, from 427 MMT CO_{2e} to 431 MMT CO_{2e}.

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. The Governor called on California to pursue a new and ambitious set of strategies, in line with the five climate change pillars from his inaugural address, to reduce GHG emissions and prepare for the unavoidable impacts of climate change. In the summer of 2016, the Legislature affirmed the importance of addressing climate change through passage of Senate Bill (SB) 32 (Pavley, Chapter 249, Statutes of 2016).

In December 2017, CARB adopted California’s 2017 Climate Change Scoping Plan (2017 Scoping Plan) for public review and comment (CARB 2017). The 2017 Scoping Plan builds on the successful framework established in the initial Scoping Plan and First Update, while identifying new, technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target as established by SB 32 and define the state’s climate change priorities to 2030 and beyond. The strategies’ known commitments include implementing renewable energy and energy efficiency (including the mandates of SB 350), increasing stringency of the LCFS, implementing measures identified in the Mobile Source and Freight Strategies, implementing measures identified in the proposed Short-Lived Climate Pollutant Plan, and increasing stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, it recommends continuing the Cap-and-Trade Program and a measure to reduce GHGs from refineries by 20%.

For local governments, the 2030 Scoping Plan replaced the initial Scoping Plan’s 15% reduction goal with a recommendation to aim for a community-wide goal of no more than 6 MT CO_{2e} per capita by 2030 and no more than 2 MT CO_{2e} per capita by 2050, which are consistent with the state’s long-term goals. These goals are also consistent with the Under 2 MOU (Under 2 2016) and the Paris Agreement, which are developed around the scientifically based levels necessary to limit global warming below 2°C. The 2030 Scoping Plan recognized the benefits of local government GHG planning (e.g., through climate action plans (CAPs)) and provide more information regarding tools CARB is working on to support those efforts. It also recognizes the CEQA streamlining provisions for project-level review where there is a legally adequate CAP.³ The Second Update was approved by CARB’s Governing Board on December 14, 2017.

³ *Sierra Club v. County of Napa* (2004) 121 Cal.App.4th 1490; *San Francisco Tomorrow et al. v. City and County of San Francisco* (2015) 229 Cal.App.4th 498; *San Franciscans Upholding the Downtown Specific Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656; *Sequoyah Hills Homeowners Assn. V. City of Oakland* (1993) 23 Cal.App.4th 704, 719.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB 32, and the EOs and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. A project is considered consistent with the statutes and EOs if it meets the general policies in reducing GHG emissions to facilitate the achievement of the state's goals and does not impede attainment of those goals. As discussed in several cases, a given project need not be in perfect conformity with each and every planning policy or goals to be consistent. A project would be consistent, if it will further the objectives and not obstruct their attainment.

SB 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to the Board as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and, requires CARB to identify specific information for GHG emissions reduction measures when updating the scoping plan.

CARB's Regulations for the Mandatory Reporting of Greenhouse Gas Emissions. CARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (17 CCR 95100–95157) incorporated by reference certain requirements that EPA promulgated in its Final Rule on Mandatory Reporting of Greenhouse Gases (Title 40, CFR, Part 98). Specifically, Section 95100(c) of the Mandatory Reporting Regulation incorporated those requirements that EPA promulgated in the Federal Register on October 30, 2009; July 12, 2010; September 22, 2010; October 28, 2010; November 30, 2010; December 17, 2010; and April 25, 2011. In general, entities subject to the Mandatory Reporting Regulation that emit over 10,000 MT CO₂e per year are required to report annual GHGs through the California Electronic GHG Reporting Tool. Certain sectors, such as refineries and cement plants, are required to report regardless of emission levels. Entities that emit more than the 25,000 MT CO₂e per year threshold are required to have their GHG emission report verified by a CARB-accredited third-party verified.

EO B-18-12. EO B-18-12 (April 2012) directed state agencies, departments, and other entities under the governor's executive authority to take action to reduce entity-wide GHG emissions by at least 10% by 2015 and 20% by 2020, as measured against a 2010 baseline. EO B-18-12 also established goals for existing state buildings for reducing grid-based energy purchases and water use.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. To facilitate achieving this goal, EO B-30-15 called for CARB to update the Scoping Plan to express the 2030 target in terms of MMT CO₂e. The EO also called for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets.

SB 605 and SB 1383. **SB 605** (2014) requires CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants (SLCPs) in the state; and **SB 1383** (2016) requires CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of SLCPs (40% below 2013 levels by 2030 for methane and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its *Short-Lived Climate Pollutant Reduction Strategy (SLCP Reduction Strategy)* in March 2017. The *SLCP Reduction Strategy* establishes a framework for the statewide reduction of emissions of black carbon, methane, and fluorinated gases.

EO B-55-18. EO B-55-18 (September 2018) establishes a statewide policy for the state to achieve carbon neutrality no later than 2045, and achieve and maintain net negative emissions thereafter. The goal is an addition to the existing statewide targets of reducing the state’s GHG emissions. This EO directs CARB to work with relevant state agencies to ensure that future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California’s building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code, Section 25402(b)(1)). The regulations receive input from members of industry, as well as the public, with the goal of “reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy” (California Public Resources Code, Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402(d)) and cost effectiveness (California Public Resources Code, Sections 25402(b)(2) and (b)(3)). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2019 Title 24 standards are the currently applicable building energy efficiency standards, and became effective on January 1, 2020. The 2019 Title 24 Building Energy Efficiency Standards will further reduce energy used and associated GHG emissions compared to current standards. In general, single-family residences built to the 2019 standards are anticipated to use approximately 7% less energy due to energy efficiency measures than those built to the 2016 standards; once rooftop solar electricity generation is factored in, single-family residences built under the 2019 standards will use approximately 53% less energy than those under the 2016 standards (CEC 2018). Nonresidential buildings built to the 2019 standards are anticipated to use an estimated 30% less energy than those built to the 2016 standards (CEC 2018).

Title 24, Part 11. In addition to the CEC’s efforts, in 2008, the California Building Standards Commission adopted the nation’s first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as California’s Green Building Standards (CALGreen), and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The 2019 CALGreen standards are the current applicable standards, which became effective January 1, 2020.

For nonresidential projects, some of the key mandatory CALGreen 2019 standards include the following (24 CCR Part 11):

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors’ entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 of the CALGreen Code (5.106.5.2).
- Electric vehicle (EV) charging stations. Construction shall comply with Section 5.106.5.3.1 (single charging space requirements) or Section 106.5.3.2 (multiple charging space requirements) to facilitate future installation of electric vehicle supply equipment (EVSE). The compliance requires empty raceways for future conduit and documentation

that the electrical system has adequate capacity for the future load. Table 5.106.5.3.3 of the CALGreen Code shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE (5.106.5.3).⁴

- Shade trees. Shade trees shall be planted to comply with Sections 5.106.12.1 (surface parking areas), 5.106.12.2 (landscape areas), and 5.106.12.3 (hardscape areas). Percentages shown shall be measured at noon on the summer solstice. Landscape irrigation necessary to establish and maintain tree health shall comply with Section 5.304.6. (5.106.12).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
 - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
 - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
 - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
 - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute/20 [rim space (inches) at 60 psi] (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle/20 [rim space (inches) at 60 psi] (5.303.3.4.5).
- Outdoor potable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (5.304.1).

⁴ Table 5.106.5.3.3 establishes a range of EV charging space requirements based on the total number of parking places of a project. At the minimum, 0 EV charging spaces are required if the project has a total 0 to 9 parking spaces. At the maximum, 6% of the total parking spaces are required to be EV charging spaces for projects with a total number of actual parking spaces of 201 and over.

- Recycled water supply systems. Recycled water supply systems shall be installed in accordance with Sections 5.305.1.1 (outdoor recycled water supply systems), 5.305.1.2 (technical requirements for outdoor recycled water supply systems), and the California Plumbing Code (5.305.1).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1 (construction waste management plan), 5.405.1.2 (waste management company), or 5.408.1.3 (waste stream reduction alternative); or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Commissioning. For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner’s or owner representative’s project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity (5.410.2).

The California Public Utilities Commission (CPUC), CEC, and CARB also have a shared, established goal of achieving zero net energy (ZNE) for new construction in California. The key policy timelines include: (1) all new residential construction in California will be ZNE by 2020, and (2) all new commercial construction in California will be ZNE by 2030 (CPUC 2013).⁵ As most recently defined by the CEC in its 2015 *Integrated Energy Policy Report*, a ZNE code building is “one where the value of the energy produced by on-site renewable energy resources is equal to the value of the energy consumed annually by the building” using the CEC’s Time Dependent Valuation metric (CEC 2015).

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer’s demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low-voltage dry-type distribution transformers; power

⁵ It is expected that achievement of the ZNE goal will occur via revisions to the Title 24 standards.

supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

SB 1. SB 1 (August 2006, “Go Solar California” or “Million Solar Roofs”) established a \$3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. The goals included establishing solar energy systems as a viable mainstream option for both homes and businesses within 10 years of adoption, and placing solar energy systems on 50% of new homes within 13 years of adoption.

AB 1470. This bill established the Solar Water Heating and Efficiency Act of 2007. The bill includes findings and declarations of the legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand.

AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting to reduce electricity consumption by 50% for indoor residential lighting and by 25% for indoor commercial lighting.

Renewable Energy and Energy Procurement

SB 1078. SB 1078 (Sher) (September 2002) established the Renewable Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010 (see EO S-14-08 and S-21-09).

SB 1368. SB 1368 (September 2006), required the CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission (CPUC).

AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting, to reduce electricity consumption 50% for indoor residential lighting and 25% for indoor commercial lighting.

EO S-14-08. EO S-14-08 (November 2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This EO required that all retail suppliers of electricity in California serve 33% of

their load with renewable energy by 2020. Furthermore, the EO directed state agencies to take appropriate actions to facilitate reaching this target. The CNRA, through collaboration with the CEC and California Department of Fish and Wildlife (formerly the California Department of Fish and Game), was directed to lead this effort.

EO S-21-09 and SB X1-2. EO S-21-09 (September 2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. CARB was further directed to work with the CPUC and CEC to ensure that the regulation builds upon the RPS program and was applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB was to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health and can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard. However, this regulation was not finalized because of subsequent legislation (SB X1-2, Simitian, statutes of 2011) signed by Governor Brown in April 2011.

SB X1 2 expanded the Renewables Portfolio Standard by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location.

SB X1-2 applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet the renewable energy goals previously listed.

SB 350. SB 350 (October 2015) further expanded the RPS by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (e.g., heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal. Regarding mobile sources, as one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state's 2030 and 2050 reduction targets (see California Public Utilities Code, Section 740.12).

SB 100. SB 100 (2018) increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

Mobile Sources

State Vehicle Standards (AB 1493 and EO B-16-12). AB 1493 (July 2002) was enacted in a response to the transportation sector accounting for more than half of California’s CO₂ emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. EO B-16-12 (March 2012) required that state entities under the governor’s direction and control support and facilitate the rapid commercialization of zero-emissions vehicles. It ordered CARB, CEC, CPUC, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve benchmark goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare. As explained under the “Federal Vehicle Standards” description above, EPA and NHTSA approved the SAFE Vehicles Rule Part One and Two, which revoked California’s authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. As the EPA rule is the subject of pending legal challenges and no GHG adjustment factors have been issued for EMFAC by CARB, this analysis continues to utilize the best available information at this time, as set forth in EMFAC.

Heavy Duty Diesel. CARB adopted the final Heavy Duty Truck and Bus Regulation, Title 13, Division 3, Chapter 1, Section 2025, on December 31, 2014, to reduce PM and NO_x emissions from heavy-duty diesel vehicles. The rule requires PM filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. The rule will require nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxic Control Measure to limit idling of diesel-fueled commercial vehicles on December 12, 2013. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (13 CCR 2485).

EO S-1-07. EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining LCFS for GHG emissions measured in CO_{2e} grams per unit of fuel energy sold in California. The initial target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 (17 CCR 95480 et seq.). The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. The Low Carbon Fuel Standard was subsequently amended in 2018 to require a 20% reduction in carbon intensity by 2030. This new requirement aligns with the California’s overall 2030 target of reducing climate changing emissions 40% below 1990 levels by 2030, set by SB 32. CARB has adopted implementing regulations for both the 10% and 20% carbon intensity reduction targets.

SB 375. SB 375 (Steinberg) (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035 and to update those targets every 8 years. SB 375 requires the state’s 18 regional metropolitan planning organizations (MPOs) to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP) that will achieve the GHG reduction targets set by CARB. If a MPO is unable to devise an SCS to achieve the GHG reduction target, the MPO must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to Government Code, Section 65080(b)(2)(K), a SCS does not: (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a city’s or county’s land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

In September 2010, CARB adopted the first SB 375 targets for the regional metropolitan planning organizations. The targets for Southern California Association of Governments (SCAG) are an 8% reduction in emissions per capita by 2020 and a 13% reduction by 2035. Achieving these goals through adoption of a SCS is the responsibility of the metropolitan planning organizations. SCAG adopted its first RTP/SCS in April 2012. The plan quantified a 9% reduction by 2020 and a 16% reduction by 2035 (SCAG 2012). In June 2012, CARB accepted SCAG’s quantification of GHG reductions and its determination the SCS, if implemented, would achieve SCAG targets. On April 4, 2016, the SCAG Regional Council adopted the 2016 RTP/SCS, which builds upon the progress made in the 2012 RTP/SCS. The updated RTP/SCS quantified an 8% reduction by 2020 and an 18% reduction by 2030 (SCAG 2016). In June 2016, CARB accepted SCAG’s quantification of GHG reductions and its determination the SCS, if implemented, would achieve SCAG targets.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program. The Advanced Clean Cars program (January 2012) is a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2012). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The ZEV program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years.

AB 1236. AB 1236 (October 2015) (Chiu) required a city, county, or city and county to approve an application for the installation of EV charging stations, as defined, through the issuance of specified permits unless the city or county makes specified written findings based upon substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill provided for appeal of that decision to the planning commission, as specified. The bill provided that the implementation of consistent statewide standards to achieve the timely and cost-effective installation of EV charging stations is a matter of statewide concern. The bill required electric vehicle charging stations to meet specified standards. The bill required a city, county, or city and county with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that created an expedited and streamlined permitting process for EV charging stations, as specified. The bill also required a city, county, or city and county with a population of less than 200,000 residents to adopt this ordinance by September 30, 2017.

EO B-48-18. EO B-48-18 (January 2018) launches an eight-year initiative to accelerate the sale of EVs through a mix of rebate programs and infrastructure improvements. The order also sets a new EV target of five million EVs in California by 2030. EO B-48-18 includes funding for multiple state agencies including the CEC to increase EV charging infrastructure and CARB to provide rebates for the purchase of new EVs and purchase incentives for low-income customers.

Solid Waste

AB 939, AB 341, and AB 1826. In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code, Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939

mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 (Chapter 476, Statutes of 2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle conducted several general stakeholder workshops and several focused workshops and in August 2015 published a discussion document titled AB 341 Report to the Legislature, which identifies five priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020, legislative and regulatory recommendations and an evaluation of program effectiveness (CalRecycle 2012).

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. The minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

Water

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

EO B-37-16. Issued May 2016, EO B-37-16 directed the State Water Resources Control Board (SWRCB) to adjust emergency water conservation regulations through the end of January 2017 to reflect differing water supply conditions across the state. The SWRCB also developed a proposal to achieve a mandatory reduction of potable urban water usage that builds off the mandatory 25%

reduction called for in EO B-29-15. The SWRCB and Department of Water Resources will develop new, permanent water use targets that build upon the existing state law requirements that the state achieve 20% reduction in urban water usage by 2020. EO B-37-16 also specifies that the SWRCB permanently prohibit water-wasting practices such as hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; using non-recirculated water in a fountain or other decorative water feature; watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians.

EO B-40-17. EO B-40-17 (April 2017) lifted the drought emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne. It also rescinded EO B-29-15, but expressly states that EO B-37-16 remains in effect and directs the SWRCB to continue development of permanent prohibitions on wasteful water use.

Other State Actions

Senate Bill 97. SB 97 (Dutton) (August 2007) directed the Governor’s Office of Planning and Research (OPR) to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project’s GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant.

Subsequent to the release of the Office of Planning and Research advisory and its development of proposed State CEQA Guidelines provisions, the California Natural Resources Agency adopted State CEQA Guidelines amendments pertaining to GHG emissions in December 2009, which became effective in March 2010. In December 2018, the California Natural Resources Agency finalized various additional amendments to the State CEQA Guidelines, including Section 15064.4 therein. The amendments became effective on December 28, 2018 (OPR 2018). Section 15064.4, as most recently amended in 2018, was considered in this analysis.

With respect to GHG emissions, the State CEQA Guidelines state that lead agencies “shall make a good faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate” GHG emissions (14 CCR 15064.4(a)). The State CEQA Guidelines also note that lead agencies shall quantify emissions by selecting a “model or methodology” of its choosing or rely on “qualitative analysis or performance based standards” (14 CCR 15064.4(a), (c)). The State CEQA Guidelines further state that lead agencies should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may

increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

EO S-13-08. EO S-13-08 (November 2008) is intended to hasten California’s response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009 (CNRA 2009), and an update, *Safeguarding California: Reducing Climate Risk*, followed in July 2014 (CNRA 2014). To assess the state’s vulnerability, the report summarizes key climate change impacts to the state for the following areas: Agriculture, Biodiversity and Habitat, Emergency Management, Energy, Forestry, Ocean and Coastal Ecosystems and Resources, Public Health, Transportation, and Water. Issuance of the *Safeguarding California: Implementation Action Plans* followed in March 2016 (CNRA 2016). In January 2018, the CNRA released the *Safeguarding California Plan: 2018 Update*, which communicates current and needed actions that state government should take to build climate change resiliency (CNRA 2018).

3.4.2.3 Regional and Local

South Coast Air Quality Management District

Air districts typically act in an advisory capacity to local governments in establishing the framework for environmental review of air pollution impacts under CEQA. This may include recommendations regarding significance thresholds, analytical tools to estimate emissions and assess impacts, and mitigations for potentially significant impacts. Although air districts will also address some of these issues on a project-specific basis as responsible agencies, they may provide general guidance to local governments on these issues (SCAQMD 2008). As discussed in Section 3.4.3, *Thresholds of Significance*, the SCAQMD has recommended numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects; however, these thresholds were not adopted. See the SCAQMD Draft Guidance Document – *Interim CEQA Greenhouse Gas Significance Threshold*, dated October 2008, for a discussion of the proposed thresholds (SCAQMD 2008). See Section 3.2.2.3, *Local (South Coast Air Quality Management District)*, for additional discussion on the SCAQMD.

Southern California Association of Governments

SB 375 requires MPOs to prepare a SCS in their RTP. The SCAG Regional Council adopted the 2012 RTP/SCS in April 2012 (SCAG 2012), and the 2016–2040 RTP/SCS (2016 RTP/SCS) was adopted in April 2016. Both the 2012 and 2016 RTP/SCSs establish a development pattern for the

region that, when integrated with the transportation network and other policies and measures, would reduce GHG emissions from transportation (excluding goods movement). Specifically, the 2012 RTP/SCS links the goals of sustaining mobility with the goals of fostering economic development; enhancing the environment; reducing energy consumption; promoting transportation-friendly development patterns; and encouraging all residents affected by socioeconomic, geographic, and commercial limitations to be provided with fair access. The 2012 and 2016 RTP/SCSs do not require that local general plans, specific plans, or zoning be consistent with it but provide incentives for consistency for governments and developers. Because the current SCAQMD AQMP (2016 AQMP) is based on the SCAG 2016 RTP/SCS demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by SCAG for their 2016–2040 RTP/SCS, the SCAG 2016 RTP/SCS is discussed in Section 3.4.4, Impacts Analysis. See Section 3.2.2.3, Local (Southern California Association of Governments), for an additional discussion on SCAG.

SCAG has developed Connect SoCal, the 2020-2045 RTP/SCS, which is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. Connect SoCal charts a path toward a more mobile, sustainable and prosperous region by making connections between transportation networks, between planning strategies and between the people whose collaboration can improve the quality of life for Southern Californians. Connect SoCal embodies a collective vision for the region’s future and is developed with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura. On May 7, 2020, SCAG’s Regional Council adopted Connect SoCal for federal transportation conformity purposes only. In light of the COVID-19 pandemic, the Regional Council will consider approval of Connect SoCal in its entirety and for all other purposes within 120 days from May 7, 2020.

City of Long Beach

General Plan

The City of Long Beach’s (City’s) General Plan has adopted a broad spectrum of policies related to climate change, as shown in the Air Quality Element. This element was adopted in 1996 and sets forth the goals, objectives, and policies that guide the City on the implementation of its air quality improvement programs and strategies. In addition to the goals, policies, and strategies identified in Section 3.2, Air Quality (3.2.2.3 Local) that would reduce criteria air pollutants, which would also result in co-benefits to reducing GHG emissions, the following goals and policies are applicable to the Proposed Project. On December 3, 2019, the City Council adopted a resolution adopting the updated Land Use Element to the Long Beach General Plan, replacing the existing Land Use Element comprised of policies and the adopted General Plan Land Use Designation maps, with

the updated Land Use Element, including revised policies and the PlaceType and Height maps. Goals and policies of the 2019 Land Use Element are addressed in Section 3.2, Air Quality, of this Draft PEIR/PEIS.

- **Goal 7:** Reduce emissions through reduced energy consumption.
- **Policy 7.1:** Energy Conservation. Reduce energy conservation through conservation improvements and requirements.
- **Action 7.1.4:** Encourage the incorporation of energy conservation features in the design of all new construction
- **Action 7.1.7:** Support efforts to reduce GHG emissions that diminish the stratospheric ozone layer

Sustainable City Action Plan

The City adopted its Sustainable City Action Plan (SCAP) in February 2010 to guide operational, policy, and financial decisions within the City. The SCAP is a City-adopted plan to guide the City in becoming more sustainable. The SCAP identifies a wide range of goals and implementation actions to conserve energy and water, reduce solid waste, address global warming, tailor urban design, protect natural habitats, improve transportation options, and reduce risks to human health. Specific goals related to GHG include increasing the use of renewable energy in the City and reducing the City's overall electric load by 10%. Other goals include reducing single-occupancy vehicle trips by 10% and advancing higher density mixed-use neighborhoods that are bike and pedestrian friendly. While the Sustainable City Action Plan provides a sustainable framework for future developments within the City, the goals outlined in the City's Action Plan are primarily municipal in nature, and not project-specific.

Climate Action and Adaptation Plan

On May 31, 2019, the City released a working draft of the CAAP. The CAAP will provide a framework for creating or updating policies, programs, practices, and incentives for Long Beach residents and businesses to reduce the City's GHG footprint, and ensure the community and physical assets are better protected from the impacts of climate change. Engaging those who live, work, and play in Long Beach is essential to creating an effective and successful CAAP. Residents, business owners, students, and other community stakeholders are encouraged to get involved by providing input and sharing ideas, priorities, and solutions to help establish and achieve the City's climate goals.

3.4.3 Thresholds of Significance

3.4.3.1 Significance Criteria

The significance criteria used to evaluate the Proposed Project’s GHG emissions impacts are based on the recommendations provided in Appendix G of the State CEQA Guidelines (14 CCR 15000 et seq.). For the purposes of this GHG emissions analysis, the Proposed Project would have a significant environmental impact if it would:

- A. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
- B. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project, such as the Proposed Project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project’s contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (California Air Pollution Control Officers Association (CAPCOA) 2008), GHG emissions impacts must also be evaluated at a project level under CEQA.

The State CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the State CEQA Guidelines emphasize the lead agency’s discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009a). The State of California has not adopted emission-based thresholds for GHG emissions under CEQA. The Governor’s Office of Planning and Research’s Technical Advisory titled “CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review” states that “public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact” (OPR 2008). Furthermore, the advisory document indicates that “in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a ‘significant impact,’ individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice.” Section 15064.7(c) of the State CEQA Guidelines specifies that “when adopting thresholds of significance,

a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.”

In October 2008, the SCAQMD proposed recommended numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects as presented in its *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* (SCAQMD 2008). This guidance document, which builds on the previous guidance prepared by the California Air Pollution Control Officers Association, explored various approaches for establishing a significance threshold for GHG emissions. The draft interim CEQA thresholds guidance document was not adopted or approved by the Governing Board. However, in December 2008, the SCAQMD adopted an interim 10,000 MT CO_{2e} per-year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency (see SCAQMD Resolution No. 08-35, December 5, 2008).

The SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. From December 2008 to September 2010, the SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. The SCAQMD has continued to consider adoption of significance thresholds for residential and general land use development projects. The most recent proposal, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

- Tier 1** Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.
- Tier 2** Consider whether or not the project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.
- Tier 3** Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT CO_{2e} per year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_{2e} per year), commercial projects (1,400 MT CO_{2e} per year), and mixed-use projects (3,000 MT CO_{2e} per year). Under option 2, a single numerical screening threshold of 3,000 MT CO_{2e} per year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.

Tier 4 Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO_{2e} per service population per year (MT CO_{2e}/SP/year) for project level analyses and 6.6 MT CO_{2e}/SP/year for plan level analyses. The 2035 efficiency targets are 3.0 MT CO_{2e}/SP/year for project level analyses and 4.1 MT CO_{2e}/SP/year for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5 Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

Because the Proposed Project involves a mix of different land uses, this analysis applies the SCAQMD Option 1 screening threshold of 3,000 MT CO_{2e} per year for mixed-use projects for Tier 3. While the Proposed Project would include industrial land uses, because no stationary sources of emissions that would require a permit from the SCAQMD are specifically identified or analyzed herein,⁶ this analysis applies the threshold of 3,000 MT CO_{2e} per year rather than the 10,000 MT CO_{2e} per year threshold for industrial uses. Per the SCAQMD guidance, construction emissions should be amortized over the operational life of the project, which is assumed to be 30 years (SCAQMD 2008). This impact analysis, therefore, adds amortized construction emissions to the estimated annual operational emissions and then compares operational emissions to the proposed SCAQMD threshold of 3,000 MT CO_{2e} per year for the Tier 3 analysis.

For the Tier 4 analysis, because the Proposed Project would be built out in 2040, a more stringent efficiency threshold than proposed by the SCAQMD for Tier 4 is used. The Tier 4 analysis applies the efficiency threshold developed for the Recirculated Draft Environmental Impact Report (RDEIR) prepared for the General Plan Land Use and Urban Design Elements Project (City of Long Beach 2019b), which also anticipated a buildout year of 2040. As part of the City's CAAP, although not yet adopted, a GHG Emission Reduction Target Options Memo was prepared in August 2018 and was updated in May 2019 based on more recent data and direction from the Long Beach Mayor and City Council (LSA 2019). The GHG Emissions Reduction Target Options Memo provides the supporting documentation needed as substantial evidence to support the use of the identified targets for significance analysis of a GHG threshold. The Memo identifies three target options that could be used for the CAAP. Although another target option may be formally adopted, target Option D "Local Emissions Source-Based Intensity Targets", has been identified

6 Emergency, or standby, diesel generators over 50 horsepower are stationary sources that would require a SCAQMD permit; however, due to the Proposed Project being a Specific Plan that does not require specific development to occur, it is not assumed that stationary sources would be proposed and the 10,000 MT CO₂ per year threshold would be applicable.

by the City and its CAAP Scientific Working Group as the preferable target because it represents per capita and per service population⁷ emissions efficiency targets for Long Beach based on the sub-set of statewide emissions sectors that are included in City’s CAAP GHG emissions inventory. This target aligns with the most current guidance from the CARB and OPR in how it is tailored to match the emissions sectors included locally in the City’s inventory. Target Option D consists of a 2040 per capita efficiency target of 2.79 MT CO₂e per year per capita (or MT CO₂e/capita/year); or expressed another way, 1.92 MT CO₂e per service population per year (or MT CO₂e/SP/year (City of Long Beach 2019b). Consistent with the draft CAAP, this efficiency target will be used for purposes of determining project significance. This metric is appropriate in that it would achieve per capita emissions that align with the State’s reduction goals, and would be consistent with the requirements of the Global Covenant of Mayors. Because the Proposed Project is a Specific Plan and would have a buildout year of 2040, it was determined to be appropriate to apply the same threshold used in the RDEIR.

To estimate the Proposed Project-generated GHG emissions per service population per year, the total GHG emissions associated with the Proposed Project in 2040 is divided by the total service population (i.e., employees) associated with the anticipated Proposed Project buildout, as determined in the VMT analysis for the project (LSA 2020) to determine whether the Proposed Project would result in a significant GHG impact. As explained in Chapter 2.0, Project Description, and Section 3.2, Air Quality, in 2040, the estimated job absorption for the Proposed Project is 4,884; the remaining 6,286 jobs are anticipated to occur after 2040. However, the emission inventory for the Proposed Project assumes buildout of the entire GCSP by 2040. Therefore, it is appropriate to assume the full employment projection of 11,170 employees to estimate an efficiency metric when using full buildout emissions as the basis.

Regarding the potential for the Proposed Project to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, the efficiency target of 1.92 MT CO₂e/SP/year is also relevant because the per service population efficiency targets are based on the 2040 reduction targets established for the CAAP and are consistent with the State’s target reductions of 40% below 1990 levels by 2030 and the State’s 2050 GHG target (AECOM 2019).

Regarding the National Environmental Policy Act (NEPA), the Council on Environmental Quality has withdrawn its final guidance for federal agencies on how to consider GHG emissions and the effects of climate change in NEPA reviews, a Notice of Availability for which was published on August 5, 2016 (81 FR 51866) (CEQ 2019). As explained in the Notice of Availability, the withdrawn guidance was not a regulation. Pursuant to Executive Order 13783, Promoting Energy Independence and Economic Growth, of March 28, 2017, the guidance has been withdrawn for

⁷ “Per capita” refers to total citywide emissions divided by the total number of residents in the City. “Per service population” refers to total citywide emissions divided by the number of employees and the number of residents in the planning area.

further consideration (White House 2017). Subsequently, in 2019, the Council on Environmental Quality published draft guidance for the consideration of GHG emissions under NEPA (84 FR 30097–30099). If the 2019 draft guidance is finalized, the result would replace the final guidance that was issued in 2016 and withdrawn in 2017 for further consideration pursuant to Executive Order 13783. There is currently no formal guidance or numeric thresholds for evaluating project-generated GHG emissions in NEPA assessments; however, project-generated GHG emissions are included and evaluated herein per CEQA.

3.4.3.2 Approach and Methodology

Construction Emissions

CalEEMod Version 2016.3.2 was used to estimate potential Proposed Project-generated GHG emissions during construction. Construction of the Proposed Project would result in GHG emissions primarily associated with the use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. All details for construction criteria air pollutants discussed in Section 3.2.3.2, Approach and Methodology (Construction Emissions), are also applicable for the estimation of construction-related GHG emissions. As such, see Section 3.2.3.2 for a discussion of construction emissions calculation methodology and assumptions used in the GHG emissions analysis.

Operational Emissions

Emissions from the operational phase of the Proposed Project were estimated using CalEEMod Version 2016.3.2. Operational year 2040 was assumed consistent with the traffic impact analysis (TIA) prepared for the Proposed Project (Appendix D). Per the TIA, the Proposed Project development scenario would include a mix of commercial, retail, and industrial land uses totaling 7,011,195 square feet.

Emissions from the existing land uses (Existing Scenario) were also estimated using CalEEMod to present the net change in criteria air pollutant emissions. Operational year 2018 was assumed for the Existing Scenario. A large portion of the existing uses (1,409,441 square feet, approximately 40% of 3,503,616 square feet of existing land use) is currently vacant, which was formerly occupied by Boeing. The total existing land use within the Plan Area that is currently occupied and therefore, evaluated in the Existing Scenario is approximately 2,094,175 square feet.

Potential Proposed Project-generated and Existing Scenario operational GHG emissions were estimated for area sources (landscape maintenance), energy sources (natural gas and electricity), mobile sources, solid waste, water supply and wastewater treatment, and other sources of emissions (off-road equipment, emergency generator testing, and TRU idling). Emissions

from each category are discussed in the following text with respect to the Proposed Project. For additional details, see Section 3.2.3.2, Approach and Methodology (Operational Emissions), for a discussion of operational emission calculation methodology and assumptions, specifically for area, energy (natural gas), and mobile sources.

Area

CalEEMod was used to estimate GHG emissions from the Proposed Project's area sources, which include operation of gasoline-powered landscape maintenance equipment, which produce minimal GHG emissions. See Section 3.2.3.2 for a discussion of landscaping equipment emissions calculations. Consumer product use and architectural coatings result in VOC emissions, which are analyzed in air quality analysis only, and little to no GHG emissions.

Energy

The estimation of operational energy emissions was based on CalEEMod land use defaults and units or total area (i.e., square footage) of the Proposed Project's and Existing Scenario land uses. The energy use (electricity or natural gas usage per square foot per year) from nonresidential land uses is calculated in CalEEMod based on the California Commercial End-Use Survey database. Emissions are calculated by multiplying the energy use by the utility carbon intensity (pounds of GHGs per kilowatt-hour for electricity or 1,000 British thermal units for natural gas) for CO₂ and other GHGs. Annual natural gas and electricity emissions were estimated in CalEEMod using the emissions factors for Southern California Edison (SCE), which would be the energy provider for the Plan Area.

The current version of CalEEMod assumes compliance with the 2016 Title 24 Building Energy Efficiency Standards (CAPCOA 2017); however, the Proposed Project would be required to comply with the 2019 Title 24 Standards at a minimum. Per the CEC Impact Analysis for the 2019 Update to the California Energy Efficiency Standards for Residential and Non-Residential Buildings, the first-year savings for newly constructed non-residential buildings are 197 gigawatt hours of electricity, 76.6 megawatt of demand, and 0.27 million therms of gas, representing reductions from the 2016 Title 24 standard of 10.7%, 9%, and 1%, respectively (CEC 2018a). To take into account energy reductions associated with compliance with 2019 Title 24, the CalEEMod Title 24 electricity and natural gas values were reduced by 10.7% and 1%, respectively, for all Proposed Project buildings. The applied reductions are anticipated to be conservative as in general, nonresidential buildings built to the 2019 standards are anticipated to use an estimated 30% less energy than those built to the 2016 standards (CEC 2018b).

CalEEMod default energy intensity factors (CO₂, CH₄, and N₂O mass emissions per kilowatt-hour) for SCE is based on the value for SCE's energy mix in 2012. As explained in Section 3.4.2.2, State, SB X1 2 established a target of 33% from renewable energy sources for all

electricity providers in California by 2020 and SB 100 calls for further development of renewable energy, with a target of 44% by 2024, 52% by 2027, and 60% by 2030. The CO₂ emissions intensity factor for utility energy use in CalEEMod was adjusted consistent with SCE's 2018 Power Content Label, which reported that 36% of the power mix was generated by eligible renewable sources (SCE 2017). Because SCE is striving to meet the 60% RPS by December 31, 2030, the CO₂ emissions intensity factor is anticipated to be less than assumed in CalEEMod at Proposed Project operation (2040), which would reflect the increase in percentage of renewable energy in SCE's energy portfolio.

Mobile Sources

All details for criteria air pollutants discussed in Section 3.2.3.2 are also applicable for the estimation of operational mobile source GHG emissions. In summary, emissions associated with passenger vehicles and heavy-duty trucks traveling to and from the Plan Area were estimated for the Proposed Project and Existing Scenario using CARB EMFAC2017 vehicle emissions factors (2040 for the Proposed Project and 2018 for the Existing Scenario), the TIA (Appendix D), and the VMT analysis prepared for the Proposed Project (LSA 2020). To estimate annual emissions, daily activity was multiple by 365 days per year. While the 365 days per year operating scenario is appropriate for industrial and retail land uses, it is conservative to apply to commercial land uses that have a reduction in activity on the weekends.

Regulatory measures related to mobile sources include AB 1493 (Pavley) and related federal standards. AB 1493 required that CARB establish GHG emission standards for automobiles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. In addition, the NHTSA and EPA have established corporate fuel economy standards and GHG emission standards, respectively, for automobiles and light-, medium-, and heavy-duty vehicles. Implementation of these standards and fleet turnover (replacement of older vehicles with newer ones) will gradually reduce emissions from the Proposed Project's motor vehicles. The effectiveness of fuel economy improvements was evaluated by using the EMFAC2017 emission factors to the extent it was captured for motor vehicles in 2040 for the Proposed Project and 2018 for the Existing Scenario.

Solid Waste

The Proposed Project and Existing Scenario would generate solid waste, and therefore, result in CO_{2e} emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste for the Proposed Project and Existing Scenario. It was assumed that the Proposed Project and Existing Scenario would have a 50% solid waste diversion rate, consistent with the solid waste diversion requirements of AB 939, Integrated Waste Management Act. It should be noted that this is a

conservative assumption for the Proposed Project, as the goal for the state is 75% diversion by 2020 in accordance with AB 341.

Water and Wastewater Treatment

Supply, conveyance, treatment, and distribution of water for the Proposed Project and Existing Scenario require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the Proposed Project and Existing Scenario requires the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment. The indoor and outdoor water use and electricity consumption from water use and wastewater generation were estimated using CalEEMod default values for the Proposed Project and Existing Scenario, and it was assumed that wastewater treatment would be 100% aerobic.

Off-road Equipment, Stationary Sources, and Other Sources of Emissions

Based on the type of land uses that would be developed under the GCSP, there are additional emission sources that are either not captured in CalEEMod or specifics are not available to accurately estimate emissions using CalEEMod. Potential additional sources of GHG emissions include: emergency generators, boilers, broilers (meat cooking), ovens, cogeneration facilities, chillers, cooling towers, autoclave, metals production, painting and spray booths, off-road equipment (e.g., forklifts), truck idling, and transport refrigeration units (TRUs). In addition, emissions from the stationary and mobile sources listed above are also anticipated to occur under the Existing Scenario based on the existing land use. For most of these sources, because specifics are not available to accurately estimate emissions from these anticipated sources under the Proposed Project and Existing Scenario, associated emissions are not included in the estimated emissions presented herein. However, in a good faith effort to include sources typically associated with warehouse/industrial land uses (i.e., warehousing, high cube cold storage warehouse, and manufacturing), forklifts, yard trucks, emergency generators, and TRUs are included in the Proposed Project's emission inventory. For the Existing Scenario, emissions from forklifts and yard trucks associated with the warehouse/industrial land uses (i.e., warehousing, mini warehouse, and manufacturing) are included in the emission inventory. Methods and assumptions to estimate these sources of emissions are discussed in Section 3.2.3.2. Note that all stationary sources developed under the GCSP would be required to comply with applicable SCAQMD rules and regulations, and would be required to obtain a permit to operate from the SCAQMD.

3.4.4 Impacts Analysis

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

Construction Impacts

Construction of the Proposed Project would result in GHG emissions, which are primarily associated with use of off-road construction equipment and on-road vehicles (haul trucks, vendor trucks, and worker vehicles). The SCAQMD *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* (2008) recommends that, “construction emissions be amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies.” Thus, the total construction GHG emissions were calculated, amortized over 30 years, and added to the total operational emissions for comparison with the GHG significance threshold of 3,000 MT CO_{2e} per year. Therefore, the determination of significance is addressed in the operational emissions discussion following the estimated construction emissions.

CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Section 3.2.3.2, Approach and Methodology (Construction Emissions).

Construction of the Proposed Project is assumed to last a total of approximately 20 years. The first full year of construction, which is 2020, was assumed for modeling purposes, which is the estimated worst-case construction year because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years. The 2020 scenario assumes buildout of 5% of the Proposed Project, which assumes steady development of the GCSP over 20 years. To estimate total GHG emissions from construction over 20 years, the estimated annual GHG emissions from 2020 was multiplied by 20. On-site sources of GHG emissions include off-road equipment and off-site sources including haul trucks, vendor trucks, and worker vehicles. Table 3.4-3, Estimated Annual Construction GHG Emissions, presents construction emissions for the Proposed Project from on-site and off-site emission sources.

**Table 3.4-3
Estimated Annual Construction GHG Emissions**

Year	CO ₂	CH ₄	N ₂ O	CO _{2e}
	Metric Tons per Year			
2020 (one full year)	1,419.48	0.21	0.00	1,424.61
Total over 20 years	28,389.67	4.10	0.00	28,492.22

Notes: GHG = greenhouse gas; CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO_{2e} = carbon dioxide equivalent. See Appendix B-1, Emission Calculations, for complete results.

As shown in Table 3.4-3, the estimated total GHG emissions during construction of would total approximately 28,492 MT CO₂e over the assumed 20-year construction period. Estimated Proposed Project-generated construction emissions amortized over 30 years would be approximately 950 MT CO₂e per year. Because there is no separate GHG threshold for construction, the evaluation of significance is discussed in the operational emissions analysis in the following text.

Operational Impacts

Operation of the Proposed Project and operation under the Existing Scenario would generate GHG emissions through motor vehicle trips (including passenger vehicles and heavy-duty truck trips⁸); landscape maintenance equipment operation (area source); energy use (natural gas and electricity); solid waste disposal; water supply, treatment, and distribution and wastewater treatment; and other sources of emissions (off-road equipment, emergency generator testing, and TRU idling). CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described in Section 3.4.3.2, Approach and Methodology (Operational Emissions).

The estimated operational Proposed Project-generated and Existing Scenario GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, water usage and wastewater generation, and other emission sources, and the net change in emissions (Proposed Project minus the Existing Scenario) are shown in Table 3.4-4, Estimated Annual Operational GHG Emissions.

**Table 3.4-4
Estimated Annual Operational GHG Emissions**

Emission Source	CO ₂	CH ₄	N ₂ O	CO ₂ e
	Metric Tons per Year			
<i>Proposed Project</i>				
Area	0.18	0.01	0.00	0.19
Energy	20,889.92	0.77	0.22	20,974.75
Mobile	67,935.82	2.11	6.28	69,860.23
Solid waste	903.67	53.41	0.00	2,238.80
Water supply and wastewater	6,096.57	2.03	1.19	6,501.13
Off-road equipment	21,179.34	0.86	0.00	21,200.78
Emergency Generator Testing (Stationary)	130.41	0.02	0.00	130.87
Transport refrigeration units	92.69	0.00	0.00	92.69
Total	117,228.60	59.21	7.69	120,999.44

⁸ “Heavy-duty trucks” include light-heavy-duty trucks (categories 1 and 2 in EMFAC, 2-axle), medium-heavy-duty trucks (3-axle), and heavy-heavy-duty trucks (4+-axle).

**Table 3.4-4
Estimated Annual Operational GHG Emissions**

Emission Source	CO ₂	CH ₄	N ₂ O	CO _{2e}
	Metric Tons per Year			
<i>Existing Scenario</i>				
Area	0.05	0.00	0.00	0.06
Energy	6,737.27	0.27	0.08	6,766.47
Mobile	39,948.07	2.29	4.21	41,259.83
Solid waste	348.00	20.57	0.00	862.16
Water supply and wastewater	1,852.31	0.59	0.34	1,969.06
Off-road equipment	6,872.29	2.14	0.00	6,925.78
Total	55,757.99	25.86	4.63	57,783.36
<i>Net Change in Emissions</i>				
Net Change (Proposed Project – Existing Scenario)	61,470.61	33.35	3.06	63,216.08
<i>Amortized construction emissions</i>				949.74
Total net operational + amortized construction GHGs				64,165.82

Notes: GHG = greenhouse gas; CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO_{2e} = carbon dioxide equivalent.

See Appendix B-1, Emission Calculations, for complete results.

Totals may not sum due to rounding.

The Proposed Project emissions reflect operational year 2040.

The Existing Scenario emissions reflect operational year 2018.

Limited to sources discussed in Section 3.4.3.2.

As shown in Table 3.4-4, estimated annual Proposed Project-generated GHG emissions would be approximately 120,999 MT CO_{2e} per year as a result of Proposed Project operations only. As the Existing Scenario is estimated to generate 57,783 MT CO_{2e} per year, the net change in emissions is estimated to be 63,216 MT CO_{2e} per year. After accounting for amortized Proposed Project construction emissions, total net GHGs generated by the Proposed Project would be approximately 64,166 MT CO_{2e} per year. As such, annual operational GHG emissions with amortized construction emissions would exceed the SCAQMD threshold of 3,000 MT CO_{2e} per year.

Because the Proposed Project would exceed the Tier 3 SCAQMD threshold of 3,000 MT CO_{2e} per year, a Tier 4 analysis is conducted to evaluate the Proposed Project's efficiency on a service population basis. As explained previously, the Tier 4 efficiency metric threshold used is 1.92 MT CO_{2e}/SP/year consistent with the RDEIR prepared for the General Plan Land Use and Urban Design Elements Project (City of Long Beach 2019b), which is also a plan-level analysis with a 2040 buildout year. The efficiency metric threshold used is 1.92 MT CO_{2e}/SP/year is more stringent than the proposed SCAQMD 2035 efficiency metric of 4.1 MT CO_{2e}/SP/year for plan level analyses. As shown in Table 3.4-3, the Proposed Project would generate approximately 120,999 MT CO_{2e} per year as a result of Proposed Project operations only; however, the net change between the Proposed

Project and Existing, plus amortized Proposed Project construction emissions, is 64,166 MT CO_{2e} per year. The Proposed Project's service population, which is defined as residents plus employees, consists solely of employees as the Proposed Project does not include a residential land use component. Per the Proposed Project's job projection analysis, the estimated service population (i.e., employees) for the Proposed Project is 11,170 (Svesson 2020).⁹ Accordingly, the Proposed Project is estimated to result in 5.74 MT CO_{2e}/SP/year (64,166 MT CO_{2e}/year ÷ 11,170 SP), which would exceed the applied efficiency metric threshold 1.92 MT CO_{2e}/SP/year.

CEQA Impact Determination

Therefore, the Proposed Project's GHG contribution would be cumulatively considerable and is potentially significant. Implementation of mitigation measures **MM-AQ-1** (Construction Equipment Emissions Reductions), **MM-AQ-4** (Vehicle Miles Traveled Reduction Strategies), **MM-AQ-5** (Encourage Electric Vehicles), **MM-AQ-6** (Idling Restriction), **MM-AQ-7** (Energy Conservation), **MM-AQ-9** (Electric Forklifts), **MM-AQ-10** (TRU Plug-Ins), **MM-GHG-1** (Water Conservation), and **MM-GHG-2** (Solid Waste Reduction) would reduce Proposed Project-generated GHG emissions. However, even with the implementation of mitigation, impacts would remain **significant and unavoidable** under CEQA.

NEPA Impact Determination

The Proposed Project's GHG contribution would be cumulatively considerable and is potentially significant. Implementation of mitigation measures **MM-AQ-1** (Construction Equipment Emissions Reductions), **MM-AQ-4** (Vehicle Miles Traveled Reduction Strategies), **MM-AQ-5** (Encourage Electric Vehicles), **MM-AQ-6** (Idling Restriction), **MM-AQ-7** (Energy Conservation), **MM-GHG-1** (Water Conservation), and **MM-GHG-2** (Solid Waste Reduction) would reduce Proposed Project-generated GHG emissions. However, even with the implementation of mitigation, effects would remain **adverse** under NEPA.

⁹ As explained in Chapter 2.0, Project Description, and Section 3.2, Air Quality, in 2040, the estimated job absorption for the Proposed Project is 4,884; the remaining 6,286 jobs are anticipated to occur after 2040. However, the emission inventory for the Proposed Project, as presented in Table 3.4-3, assumes buildout of the entire GCSP by 2040. Therefore, it is appropriate to assume the full employment projection to estimate an efficiency metric when using full buildout emissions as the basis.

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

Consistency with the City’s Sustainable City Action Plan (SCAP)

The SCAP is a City-adopted plan to guide the City in becoming more sustainable. As described in Section 3.4.2.3, the SCAP identifies a wide range of goals and implementation actions to conserve energy and water, reduce solid waste, address global warming, tailor urban design, protect natural habitats, improve transportation options, and reduce risks to human health. Specific goals related to GHG include increasing the use of renewable energy in the City and reducing the City’s overall electric load by 10%. Other goals include reducing single-occupancy vehicle trips by 10% and advancing higher density mixed-use neighborhoods that are bike and pedestrian friendly. The potential for the Proposed Project to conflict with the applicable SCAP sustainability goals is provided in Table 3.4-5, Proposed Project Consistency with Applicable SCAP Sustainability Goals.

**Table 3.4-5
Proposed Project Consistency with Applicable SCAP Sustainability Goals**

Sustainability Goals	Proposed Project Potential to Conflict
<i>Buildings and Neighborhoods</i>	
Create at least 6 new community gardens by 2012	<i>No conflict.</i> While the GCSP does not specify community gardens as an encouraged form of open space (because they are typically associated with residential), the Proposed Project would not prevent the City from implementing this measure. Common open space areas may, according to Chapter 5 of the GCSP, include both active and passive recreational activities, which could include a community garden.
Plant at least 10,000 trees in Long Beach by 2020	<i>No conflict.</i> While the GCSP does not specify exactly how many trees would be planted in the Proposed Project area as a result of implementation of the GCSP, the GCSP does require that open space areas be provided for all new development and that those areas be landscaped with lush and layered landscaping that provides a variety of larger-scale tree types and medium-scale ornamental and flowering trees that are drought-tolerant. Parking areas shall also be planted with trees according to the City’s landscape ordinance.
100% of suitable alley and parking lot projects use permeable pavement by 2020	<i>No conflict.</i> The Proposed Project would not conflict within implementation of this goal. Note that many of the Proposed Project asphalt surfaces may not be suitable for permeable pavement.
50% of Long Beach residents work in Long Beach by 2020	<i>No conflict.</i> The Proposed Project’s addition of jobs within the City will support the goal of increasing Long Beach residents working within Long Beach.
By 2020, at least 30% of Long Beach residents use alternative transportation to get to work	<i>No conflict.</i> The Proposed Project’s Land Use and Mobility Plan is designed to achieve enhanced connectivity through new streets and pedestrian pathways, and expanded mobility

**Table 3.4-5
Proposed Project Consistency with Applicable SCAP Sustainability Goals**

Sustainability Goals	Proposed Project Potential to Conflict
	<p>choices through multimodal street improvements. Bicycle facilities and pedestrian improvements are proposed for Cherry Avenue, Wardlow Road, and all new streets in the plan area to help improve connectivity and connect to existing bicycle infrastructure within the vicinity of the plan area, thus offering resident's enhanced and alternative transportation options to get to work in the Proposed Project area. Bike racks and lockers are also requirements of the GCSP.</p>
<i>Energy</i>	
<p>Reduce community electricity use by 15% by 2020</p>	<p><i>No conflict.</i> The Proposed Project's intent is to improve the sustainability of the Plan Area and includes development standards that require low-impact development, drought tolerant landscaping, solar-shaded parking lots, building orientation, and tree canopies. Each of these components individually and collectively work to reduce community electricity consistent with this action.</p>
<p>Reduce community natural gas use by 10 % by 2020</p>	<p><i>No conflict.</i> The Proposed Project would improve sustainability of development within the GCSP, which may reduce natural gas usage. While the GCSP does not include specific natural gas reduction requirements, the Proposed Project would not prevent the City from implementing this measure.</p>
<p>Facilitate the development of at least 8 Megawatts of solar energy within the community (private rooftops) by 2020</p>	<p><i>No conflict.</i> Chapter 6 of the GCSP (Design Guidelines) contains a guideline in the General Industrial district, which occupies the majority of parcels west of Cherry Avenue and south of the Interstate 405, to incorporate sustainable surface parking lot design through use of solar shade structures for vehicles, which could contribute to the City's goal of developing at least 8 Megawatts of solar energy in the community.</p>
<i>Green Economy and Lifestyle</i>	
<p>Identify and develop at least 2,000 green collar jobs in Long Beach by 2012</p>	<p><i>No conflict.</i> The Proposed Project is created with the intent of increasing jobs in the City. Based on the estimated buildout of the Proposed Project area, the total number of new jobs in the GCSP is estimated to be 11,170.</p>
<p>Enroll 100 green businesses in the Long Beach Green Business Certification Program by 2012</p>	<p><i>No conflict.</i> The Proposed Project is created with the intent of being a major job generator for the City, which would allow the City to achieve this action in large part through implementation of the GCSP.</p>
<i>Transportation</i>	
<p>Reduce vehicle emissions by 30% by 2020</p>	<p><i>No conflict.</i> The Proposed Project's Land Use and Mobility Plan is designed to reduce vehicle emissions through enhanced connectivity and expanded mobility choices that reduce the need to travel by car between uses and to the Plan area, thus helping to reduce vehicle emissions consistent with this action. Additionally, new development projects, additions, demolitions, rebuilds, and remodels are required to comply with the City's Transportation Demand and Trip Reduction Measures set forth in Section 21.64 of the Zoning Regulations.</p>

**Table 3.4-5
Proposed Project Consistency with Applicable SCAP Sustainability Goals**

Sustainability Goals	Proposed Project Potential to Conflict
Increase public transit ridership by 25% by 2016	<i>No conflict.</i> Chapter 5 of the GCSP contains Transportation and Parking Demand Management measures to encourage the use of public transit. The GCSP lists measures that employers could take to reduce parking and enhance transit ridership, including offering monthly employee credit for car-hailing services and/or transit passes as a means to travel to/from work.
Increase bike ridership from 1% to 10% by 2016	<i>No conflict.</i> The Proposed Project's Land Use and Mobility Plan is designed to increase bike ridership. Bicycle facilities are proposed for Cherry Avenue, Wardlow Road, and all new streets in the plan area to help improve connectivity and connect to existing bicycle infrastructure within the vicinity of the plan area. Bike racks and lockers are also requirements of the Plan.
Create a system of at least 200 miles of interconnected bike routes (Class 1-3) by 2020	<i>No conflict.</i> The new street section for Cherry Avenue in the GCSP removes on-street parking on both sides of the street and provides a new 11-foot 6-inch Class IV separated bikeway. The new street section for Wardlow Road reduces the width of the through lanes to add a raised Class IV separated bikeway with a vertical or mountable curb. All street improvements in the Plan Area will be consistent with the City's Bicycle Master Plan.
<i>Urban Nature</i>	
Create 100 miles of green linkages by 2020	<i>No conflict.</i> The Proposed Project's Land Use and Mobility Plan is designed to achieve enhanced connectivity through new streets and pedestrian pathways. Bicycle facilities and pedestrian improvements are proposed for Cherry Avenue, Wardlow Road, and all new streets in the plan area to help improve connectivity and connect to existing bicycle infrastructure within the vicinity of the plan area, thus contributing to the creation of green linkages in the City's mobility network.
<i>Waste Reduction</i>	
Attract and retain of total of 20 RMDZ manufacturing companies by 2020	<i>No conflict.</i> The Proposed Project is created with the intent of being a major job generator for the City. Of the 11,170 new jobs projected to be provided with implementation of the GCSP, 1,659 of them would be in manufacturing, which would allow the City to achieve this action in large part through implementation of the GCSP.
<i>Water</i>	
Reduce per capita use of potable water, exceeding the State mandate to achieve a demand reduction of 20% in per capita water use by the year 2020	<i>No conflict.</i> The Proposed Project would encourage water efficiency through requirement of native and drought-tolerant plants for landscaping. Compliance with low-impact development and Model Water Efficient Landscape Ordinance standards is also required per the GCSP.

**Table 3.4-5
Proposed Project Consistency with Applicable SCAP Sustainability Goals**

Sustainability Goals	Proposed Project Potential to Conflict
Facilitate the development of 50 green roofs communitywide by 2016	<i>No conflict.</i> While the Project does not specify green roofs as a requirement, the Project would not prevent the City from encouraging green roofs as a project amenity. Common open space areas may, according to Chapter 5 of the GCSP, include both active and passive recreational activities, which could include a green roof.

Source: City of Long Beach 2010.

As shown in Table 3.4-5, the Proposed Project would not conflict with the applicable sustainability goals of the City’s SCAP.

Consistency with the City’s Draft Climate Action and Adaptation Plan (CAAP)

As discussed in Section 3.4.2.3, the City is currently in the process of developing a CAAP. Regarding the potential for the Proposed Project to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, the efficiency target of 1.92 MT CO_{2e}/SP/year is also relevant because the per service population efficiency targets are based on the 2040 reduction targets established for the CAAP and are consistent with the State’s target reductions of 40% below 1990 levels by 2030 and the State’s 2050 GHG target (AECOM 2019). Because the Proposed Project would exceed the 1.92 MT CO_{2e}/SP/year threshold, it would not be consistent with the City’s draft CAAP.

While the Proposed Project is not anticipated to be consistent with the City’s CAAP at a numeric level, a qualitative evaluation of the Proposed Project’s potential to conflict with the key sustainability goals of the draft CAAP is conducted for additional disclosure. As discussed previously, to meet and exceed the City’s 2030 target, the CAAP identifies 19 priority actions in the following reduction sectors: Transportation, Buildings and Energy, and Waste. The Proposed Project’s consistency with the key actions of the draft CAAP is provided in Table 3.4-6, Proposed Project Consistency with Draft CAAP Strategies.

**Table 3.4-6
Proposed Project Consistency with Draft CAAP Strategies**

Priority Mitigation Action	Proposed Project Potential to Conflict
<i>Transportation</i>	
T-1 Increase frequency, connectivity, and safety of transit options	<i>No conflict.</i> While the Proposed Project would not govern the frequency of transit provided to the Proposed Project area, the GCSP’s Land Use and Mobility Plan is designed to achieve enhanced connectivity through new streets and pedestrian pathways, and expanded mobility choices through multimodal

**Table 3.4-6
Proposed Project Consistency with Draft CAAP Strategies**

Priority Mitigation Action	Proposed Project Potential to Conflict
	street improvements. The mobility enhancements would result in greater safety and connectivity to bus stops in the Plan area.
T-2 Increase employment and residential development along primary transit corridors	<i>No conflict.</i> Cherry Avenue is a primary transit corridor serving the Proposed Project area and is a central unifying thoroughfare for the GCSP. While the GCSP does not permit residential use, it will provide up to an estimated 11, 170 new jobs in the GCSP, thereby increasing employment along a primary transit corridor.
T-3 Implement the Port of Long Beach Clean Air Action Plan	<i>Not applicable.</i> The Proposed Project is not within the Port of Long Beach jurisdiction.
T-4 Increase bikeway infrastructure	<i>No conflict.</i> Bicycle facilities and pedestrian improvements are proposed for Cherry Avenue, Wardlow Road, and all new streets in the Plan Area to help improve connectivity and connect to existing bicycle infrastructure within the vicinity of the plan area. The new street section for Cherry Avenue in the GCSP removes on-street parking on both sides of the street and provides a new 11-foot 6-inch Class IV separated bikeway. The new street section for Wardlow Road reduces the width of the through lanes to add a raised Class IV separated bikeway with a vertical or mountable curb. All street improvements in the Plan Area will be consistent with the City's Bicycle Master Plan.
T-5 Expand/improve pedestrian infrastructure citywide	<i>No conflict.</i> The Proposed Project's Land Use and Mobility Plan is designed to achieve enhanced pedestrian infrastructure. Pedestrian improvements are proposed for Cherry Avenue, Wardlow Road, and all new streets in the plan area to help improve connectivity, encourage and enhance the walking experience. Projects over 50,000 square feet in the Business Park District are required to incorporate pedestrian connections to expand the overall pedestrian network. The design of pedestrian connections is flexible; however, new pathways should be flanked by landscaping to beautify and provide on-site shading.
T-6 Develop an Electric Vehicle Infrastructure Master Plan	<i>No conflict.</i> While the Proposed Project does not provide an Electric Vehicle Infrastructure Master Plan, new development in the plan area is required to provide electric vehicle charging facilities. For all new development at least 3% of the total parking spaces, but not less than one, shall be capable of supporting future electric vehicle supply equipment.
T-7 Update the Transportation Demand Management Ordinance	<i>Not applicable.</i> This action is directed at the City to implement. Nonetheless, the Proposed Project is required to be consistent with the City's Transportation Demand and Trip Reduction Measures set forth in Section 21.64 of the Zoning Regulations.
T-8 Increase density and mixing of land uses	<i>No conflict.</i> The Proposed Project supports a mix of land uses in densities compatible with industrial zoning, the Long Beach Airport, and nearby residential neighborhoods. A mix of employment-generating and supportive land uses are permitted on parcels to achieve a campus-like environment that supports the needs of businesses and employees on site.

**Table 3.4-6
Proposed Project Consistency with Draft CAAP Strategies**

Priority Mitigation Action	Proposed Project Potential to Conflict
T-9 Integrate SB 743 planning with CAAP process	<i>Not applicable.</i> This action is directed at the City to implement.
T-10 Identify and implement short-term measures to reduce emissions related to oil and gas extraction	<i>Not applicable.</i> The Proposed Project would not include oil and gas extraction activities.
<i>Buildings and Energy</i>	
BE-1 Provide access to renewably generated electricity	<i>No conflict.</i> The Proposed Project may include solar rooftops and shade structures over parking areas as individual projects are developed, which would provide access to renewably generated electricity.
BE-2 Develop a home energy assessment program	<i>Not applicable.</i> This action is directed at the City. The Proposed Project does not permit residential uses; therefore, the Proposed Project would not apply to the development of a home energy assessment program.
BE-3 Provide access to energy efficiency financing, rebates, and incentives for building owners	<i>Not applicable.</i> This action is directed at the City. The Proposed Project is a Specific Plan that does not include access to energy efficiency financing, rebates or incentives to individual business owners.
BE-4 Promote community solar and microgrids	<i>Not applicable.</i> This action is directed at the City. The Plan Area is not under single ownership that would enable the development of a microgrid system, and large scale community solar generation is not permitted in the Plan Area as it would not support the primary goal of the GCSP, which is to generate jobs.
BE-5 Perform municipal energy audits	<i>Not applicable.</i> This action is directed at the City. The Plan Area is not a municipality that would perform energy audits.
<i>Waste</i>	
W-1 Ensure compliance with state law recycling program requirements for multi-family residential and commercial property	<i>No conflict.</i> Individual development projects permitted as part of the Proposed Project will be required to provide recycling services in accordance with state law.
W-2 Develop a residential organic waste collection program	<i>Not applicable.</i> The Proposed Project does not include residential development, which is the target of this action.
W-3 Ensure compliance with state law organic waste diversion requirements for multi-family residential and commercial	<i>No conflict.</i> Individual development projects permitted as part of the Proposed Project will be required to provide solid waste disposal and divert organic waste diversion in accordance with state law.
W-4 Identify organic waste management options	<i>Not applicable.</i> The Proposed Project is a Specific Plan that does not identify project-level organic waste management options, which is more appropriately aimed at City-level implementation.

Source: City of Long Beach 2019c.

As shown in Table 3.4-5, the Proposed Project would not conflict with the applicable sustainability goals of the City’s draft CAAP. Nonetheless, as explained above, because the Proposed Project would exceed the numeric efficiency metric threshold to assess

consistency with the City’s draft CAAP, the Proposed Project is considered to potentially conflict with the draft CAAP.

Consistency with the SCAG’s 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy and 2020 Connect SoCal Regional Transportation Plan/Sustainable Communities Strategy

SCAG’s 2016 RTP/SCS is a regional growth-management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California region pursuant to SB 375. The 2016 RTP/SCS incorporates local land use projections and circulation networks in city and county general plans. Typically, a project would be consistent with the RTP/SCS if the project does not exceed the underlying growth assumptions within the RTP/SCS. As discussed in Section 3.9, Population and Housing, of this Draft PEIR/PEIS, the GCSP does not include any zoning for residential land uses that could directly induce population growth. While the GCSP does not include plans for residentially zoned areas, which could directly induce population growth, the GCSP does have the potential to induce growth through the increase in the number of jobs available within the Plan Area. While the GCSP could increase the number of jobs available relative to the number of jobs that are currently available, increase in employment during construction and operation are not expected to cause people to move into the City or the County from areas outside the City or County.

In addition to demonstrating the region’s ability to attain and exceed the GHG emission-reduction targets set forth by CARB, the 2016 RTP/SCS outlines a series of actions and strategies for integrating the transportation network with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. Thus, successful implementation of the 2016 RTP/SCS would result in more complete communities with a variety of transportation and housing choices, while reducing automobile use. With regard to individual developments, such as the Proposed Project, the strategies and policies set forth in the 2016 RTP/SCS can be grouped into the following three categories: (1) reduction of vehicle trips and VMT; (2) increased use of alternative fuel vehicles; and (3) improved energy efficiency. The Proposed Project’s consistency with these three strategy categories is evaluated below.

1. Consistency with VMT Reduction Strategies and Policies

The Proposed Project’s consistency with this aspect of the 2016 RTP/SCS is demonstrated via the Proposed Project’s land use characteristics and features that would reduce vehicular trips and VMT, as well as the Proposed Project’s consistency with the regional growth forecast assumed in the 2016 RTP/SCS for the City. As discussed in Section 3.2.4 (Air Quality, of this PEIR/PEIS, vehicle trip generation and planned development for the Plan

Area are concluded to have been anticipated in the SCAG 2016 RTP/SCS growth projections because the GCSP does not include any zoning for residential land uses that could directly induce population growth, and while the GCSP could increase the number of jobs available relative to the number of jobs that are currently available, increase in employment during construction and operation are not expected to cause people to move into the City or the County from areas outside the City or County. The overall increase in jobs in the Plan Area would not exceed the SCAG projections for the City as a whole.

Per the VMT analysis prepared for the Proposed Project, the existing regional average VMT per employee is 18.5 and the average VMT per employee for the Proposed Project in horizon year 2040 is 13.9 (LSA 2020). As such, the VMT per capita for the Proposed Project is estimated to be 24.8% lower than the regional estimate (LSA 2020). The Proposed Project would not exceed the regional (City) VMT per capita estimates; therefore, the Proposed Project is anticipated to be consistent with 2016 RTP/SCS strategies focused on VMT.

2. Increased Use of Alternative Fueled Vehicles Policy Initiative

The second goal of the 2016 RTP/SCS, with regard to individual development projects such as the Proposed Project, is to increase alternative fueled vehicles to reduce per capita GHG emissions. This 2016 RTP/SCS policy initiative focuses on accelerating fleet conversion to electric or other near zero-emission technologies. The GCSP requires electric vehicle charging stations for all new development in the plan area. At least 3% of the total parking spaces, but not less than one, shall be capable of supporting future electric vehicle supply equipment. As such, the Proposed Project would be consistent with the 2016 RTP/SCS strategies focused on alternative fueled vehicles.

3. Energy Efficiency Strategies and Policies

The third important focus within the 2016 RTP/SCS, for individual developments such as the Proposed Project, involves improving energy efficiency (e.g., reducing energy consumption) to reduce GHG emissions. The 2016 RTP/SCS goal is to actively encourage and create incentives for energy efficiency, where possible. Chapter 6 of the GCSP (Design Guidelines) contains a guideline in the General Industrial district, which occupies the majority of parcels west of Cherry Avenue and south of the I-405, to incorporate sustainable surface parking lot design through use of solar shade structures for vehicles, permeable paving, abundant and interlaced linear landscaping, incorporation of habitable parklets, and incorporation of tree canopies that establish shade and reduce the heat island effect. Compliance with low-impact development and the Model Water Efficient Landscape Ordinance standards will also be required district-wide, which would also reduce energy use associated with water consumption. In addition, the Proposed Project

would be required to comply with the 2019 Title 24 Building Energy Efficiency Standards at a minimum. Therefore, the Proposed Project would be consistent with the 2016 RTP/SCS strategies focused on energy efficiency.

Based on the analysis above, the Proposed Project would be consistent with the strategies contained in the SCAG 2016 RTP/SCS.

On May 7, 2020, SCAG’s Regional Council adopted Connect SoCal (2020 - 2045 Regional Transportation Plan/Sustainable Communities Strategy) for federal transportation conformity purposes only. In light of the COVID-19 pandemic, the Regional Council will consider approval of Connect SoCal in its entirety and for all other purposes within 120 days from May 7, 2020.

Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. It charts a path toward a more mobile, sustainable and prosperous region by making connections between transportation networks, between planning strategies and between the people whose collaboration can improve the quality of life for Southern Californians. Because the Project is not growth inducing, this type of consistency analysis does not apply. However, the major goals of the Connect SoCal are outlined in Table 3.4-7, Project Consistency with the SCAG Connect SoCal RTP/SCS, along with the Project’s consistency with them.

**Table 3.4-7
Project Consistency with the SCAG Connect SoCal RTP/SCS**

RTP/SCS Measure	Proposed Project Potential to Conflict
Encourage regional economic prosperity and global competitiveness.	<i>Not applicable.</i> The Proposed Project would not inhibit SCAG from encouraging regional economic prosperity and global competitiveness.
Improve mobility, accessibility, reliability, and travel safety for people and goods.	<i>Not applicable.</i> The Proposed Project would not inhibit SCAG from strengthening the regional transportation network for goods movement.
Enhance the preservation, security, and resilience of the regional transportation system.	<i>Not applicable.</i> The Proposed Project would not inhibit SCAG from enhancing the resilience of the regional transportation system.
Increase person and goods movement and travel choices within the transportation system.	<i>Not applicable.</i> The Proposed Project would not inhibit SCAG from increasing person and goods movement and travel choices within the transportation system.
Reduce greenhouse gas emissions and improve air quality.	<i>Potential Conflict.</i> The Proposed Project would result in criteria air pollutant and GHG emissions during construction and operation. The net change in GHG emissions between the Proposed Project and Existing Scenario would exceed the applied numeric thresholds presented in Impact GHG-1. In addition, as presented in Section 3.2, the Proposed Project would not exceed the SCAQMD mass daily significance thresholds for some pollutant during construction and operation.

**Table 3.4-7
Project Consistency with the SCAG Connect SoCal RTP/SCS**

RTP/SCS Measure	Proposed Project Potential to Conflict
Support healthy and equitable communities.	<i>No conflict.</i> The GCSP is designed to achieve a walkable, multi-modal, green and healthy workforce environment through the integration of human-scale blocks that creates a walkable grid of streets and pedestrian connectors flanked by usable open space, fostering an accessible and amenable 21st century employment district.
Adapt to a changing climate and support an integrated regional development pattern and transportation network.	<i>No conflict.</i> The GCSP supports an integrated regional development pattern by creating a high-quality regional job center that is adaptive to changing market conditions, and is immediately accessible by a regional transportation network.
Leverage new transportation technologies and data-driven solutions that result in more efficient travel.	<i>Not applicable.</i> The Proposed Project would not inhibit SCAG from leveraging technology for the transportation system. However, industrial development under the GCSP would take advantage of new transportation technologies as they are developed.
Encourage development of diverse housing types in areas that are supported by multiple transportation options.	<i>Not applicable.</i> The Proposed Project does not include housing and would not inhibit SCAG from encouraging development of diverse housing types.
Promote conservation of natural and agricultural lands and restoration of habitats.	<i>No conflict.</i> The Proposed Project would not impact natural lands during construction or operation.

Source: SCAG 2020.

As shown in Table 3.4-7, the project would be consistent with all applicable measures within the SCAG Connect SoCal RTP/SCS.

Consistency with CARB’s Scoping Plan

The Scoping Plan (approved by CARB in 2008 and updated in 2014 and 2017) provides a framework for actions to reduce California’s GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. The Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations.¹⁰ Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be

¹⁰ The Final Statement of Reasons for the amendments to the State CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that “[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan” (CNRA 2009).

adopted to reduce California’s GHG emissions. Table 3.4-8, Proposed Project Consistency with 2008 Scoping Plan GHG Emission Reduction Strategies, highlights measures that have been, or will be, developed under the 2008 Scoping Plan and presents the Proposed Project’s consistency with Scoping Plan measures. The Proposed Project would comply with all regulations adopted in furtherance of the Scoping Plan to the extent required by law and to the extent that they are applicable to the Proposed Project.

**Table 3.4-8
Proposed Project Consistency with 2008 Scoping Plan GHG Emission Reduction Strategies**

Scoping Plan Measure	Measure Number	Proposed Project Potential to Conflict
<i>Transportation Sector</i>		
Advanced Clean Cars	T-1	<i>No conflict.</i> The Proposed Project’s employees and customers would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
Low Carbon Fuel Standard	T-2	<i>Not applicable.</i> This is a statewide measure that cannot be implemented by a project applicant or lead agency. Nonetheless, this standard would be applicable to the fuel used by vehicles that would access the Plan Area (i.e., motor vehicles driven by the Proposed Project’s employees and customers and heavy-duty trucks would use compliant fuels).
Regional Transportation-Related GHG Targets	T-3	<i>Not applicable.</i> The Proposed Project is not related to developing GHG emission reduction targets. To meet the goals of SB 375, the 2016-2040 RTP/SCS is applicable to the Proposed Project. The Proposed Project would not preclude the implementation of this strategy.
Advanced Clean Transit	N/A	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure. Nonetheless, Chapter 5 of the GCSP contains Transportation and Parking Demand Management measures to encourage the use of public transit. The GCSP lists measures that employers could take to reduce parking and enhance transit ridership, including offering monthly employee credit for car-hailing services and/or transit passes as a means to travel to/from work.
Last-Mile Delivery	N/A	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
Reduction in VMT	N/A	<i>No conflict.</i> The Proposed Project would not prevent CARB from implementing this measure. In addition, as explained above, per the VMT analysis prepared for the Proposed Project, the existing regional average VMT per employee is 18.5 and the average VMT per employee for the Proposed Project in horizon year 2040 is 13.9 (LSA 2020). As such, the VMT per capita for the Proposed Project is estimated to be 24.8% lower than the regional estimate (LSA 2020).
Vehicle Efficiency Measures 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low-Friction Oil	T-4	<i>No conflict.</i> These standards would be applicable to the light-duty vehicles that would access the Plan Area. Motor vehicles driven by the Proposed Project’s employees and customers would maintain proper tire pressure when their vehicles are

**Table 3.4-8
Proposed Project Consistency with 2008 Scoping Plan GHG Emission Reduction Strategies**

Scoping Plan Measure	Measure Number	Proposed Project Potential to Conflict
4. Solar-Reflective Automotive Paint and Window Glazing		serviced. The Proposed Project's employees and customers would replace tires in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase. Motor vehicles driven by the Proposed Project's employees and customers would use low-friction oils when their vehicles are serviced. The Proposed Project's employees and customers would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase. In addition, the Proposed Project would not prevent CARB from implementing this measure.
Ship Electrification at Ports (Shore Power)	T-5	<i>Not applicable.</i> The Proposed Project is not within a Port District and the Proposed Project would not prevent CARB from implementing this measure.
Goods Movement Efficiency Measures <ol style="list-style-type: none"> 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification 4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction 	T-6	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
Heavy-Duty Vehicle GHG Emission Reduction <ul style="list-style-type: none"> • Tractor-Trailer GHG Regulation • Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I) 	T-7	<i>No conflict.</i> Heavy-duty vehicles would be required to comply with CARB GHG reduction measures. In addition, the Proposed Project would not prevent CARB from implementing this measure.
Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive Proposed Project	T-8	<i>No conflict.</i> The Proposed Project medium- and heavy-duty vehicles (e.g., delivery trucks) could take advantage of the vehicle hybridization action, which would reduce GHG emissions through increased fuel efficiency. In addition, the Proposed Project would not prevent CARB from implementing this measure.
Medium and Heavy-Duty GHG Phase 2	N/A	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
High-Speed Rail	T-9	<i>Not applicable.</i> The Proposed Project does not include rail and would not prevent CARB from implementing this measure.
<i>Electricity and Natural Gas Sector</i>		
Energy Efficiency Measures (Electricity)	E-1	<i>No conflict.</i> The Proposed Project would comply with the current Title 24 Building Energy Efficiency Standards. Chapter 6 of the GCSP (Design Guidelines) contains a guideline in the General Industrial district, which occupies the majority of parcels west of Cherry Avenue and south of the I-405, to incorporate

**Table 3.4-8
Proposed Project Consistency with 2008 Scoping Plan GHG Emission Reduction Strategies**

Scoping Plan Measure	Measure Number	Proposed Project Potential to Conflict
		sustainable surface parking lot design through use of solar shade structures for vehicles. In addition, the Proposed Project would not prevent CARB from implementing this measure.
Energy Efficiency (Natural Gas)	CR-1	<i>No conflict.</i> The Proposed Project would comply with the current Title 24 Building Energy Efficiency Standards. In addition, the Proposed Project would not prevent CARB from implementing this measure.
Solar Water Heating (California Solar Initiative Thermal Program)	CR-2	<i>No conflict.</i> The Proposed Project would include solar water heating where feasible.
Combined Heat and Power	E-2	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
Renewables Portfolio Standard (33% by 2020)	E-3	<i>No conflict.</i> The electricity used by the Proposed Project would benefit from reduced GHG emissions resulting from increased use of renewable energy sources.
Renewables Portfolio Standard (50% by 2050)	N/A	<i>No conflict.</i> The electricity used by the Proposed Project would benefit from reduced GHG emissions resulting from increased use of renewable energy sources.
SB 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs	E-4	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
<i>Water Sector</i>		
Water Use Efficiency	W-1	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure. The Proposed Project would encourage outdoor water use efficiency through the requirement of native and drought-tolerant plants for landscaping. Compliance with the Model Water Efficient Landscape Ordinance standards is required by the GCSP.
Water Recycling	W-2	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure. The GCSP requires low-impact development, which manages stormwater runoff as part of green infrastructure.
Water System Energy Efficiency	W-3	<i>Not applicable.</i> This is applicable for the transmission and treatment of water, but it is not applicable for the Proposed Project. The Proposed Project would not prevent CARB from implementing this measure.
Reuse Urban Runoff	W-4	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure. As noted above, the GCSP requires low-impact development.
Renewable Energy Production	W-5	<i>Not applicable.</i> Applicable for wastewater treatment systems. In addition, the Proposed Project would not prevent CARB from implementing this measure.

Table 3.4-8
Proposed Project Consistency with 2008 Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Potential to Conflict
<i>Green Buildings</i>		
State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings)	GB-1	<i>No conflict.</i> The Proposed Project would be required to be constructed in compliance with state or local green building standards in effect at the time of building construction.
Green Building Standards Code (Greening New Public Schools, Residential and Commercial Buildings)	GB-1	<i>No conflict.</i> The Proposed Project's buildings would meet green building standards that are in effect at the time of design and construction.
Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential and Commercial Buildings)	GB-1	<i>No conflict.</i> The Proposed Project's buildings would meet green building standards that are in effect at the time of design and construction.
Greening Existing Buildings (Greening Existing Homes and Commercial Buildings)	GB-1	<i>No conflict.</i> This is applicable for existing buildings only; it is not applicable for portions of the Proposed Project except as future standards may become applicable to existing buildings. For Proposed Project building that would be retrofitted, the buildings would meet current applicable building standards at the time of design and construction.
<i>Industry Sector</i>		
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	I-1	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
Oil and Gas Extraction GHG Emission Reduction	I-2	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
Reduce GHG Emissions by 20% in Oil Refinery Sector	N/A	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
GHG Emissions Reduction from Natural Gas Transmission and Distribution	I-3	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
Refinery Flare Recovery Process Improvements	I-4	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
Work with the Local Air Districts to Evaluate Amendments to Their Existing Leak Detection and Repair Rules for Industrial Facilities to Include Methane Leaks	I-5	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
<i>Recycling and Waste Management Sector</i>		
Landfill Methane Control Measure	RW-1	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
Increasing the Efficiency of Landfill Methane Capture	RW-2	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
Mandatory Commercial Recycling	RW-3	<i>No conflict.</i> During both construction and operation of the Proposed Project, the Proposed Project would comply with all state regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended.
Increase Production and Markets for Compost and Other Organics	RW-3	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.

Table 3.4-8
Proposed Project Consistency with 2008 Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Potential to Conflict
Anaerobic/Aerobic Digestion	RW-3	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
Extended Producer Responsibility	RW-3	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
Environmentally Preferable Purchasing	RW-3	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
<i>Forests Sector</i>		
Sustainable Forest Target	F-1	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
<i>High GWP Gases Sector</i>		
Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing	H-1	<i>No conflict.</i> The Proposed Project's employees would be prohibited from performing air conditioning repairs and would be required to use professional servicing.
SF ₆ Limits in Non-Utility and Non-Semiconductor Applications	H-2	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
Reduction of Perfluorocarbons (PFCs) in Semiconductor Manufacturing	H-3	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
Limit High GWP Use in Consumer Products	H-4	<i>No conflict.</i> The Proposed Project's employees would use consumer products that would comply with the regulations that are in effect at the time of manufacture.
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	<i>No conflict.</i> Motor vehicles driven by the Proposed Project's employees and customers would comply with the leak test requirements during smog checks.
Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program	H-6	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration	H-6	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
SF ₆ Leak Reduction Gas Insulated Switchgear	H-6	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
40% Reduction in Methane and Hydrofluorocarbon (HFC) Emissions	N/A	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
50% Reduction in Black Carbon Emissions	N/A	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.
<i>Agriculture Sector</i>		
Methane Capture at Large Dairies	A-1	<i>Not applicable.</i> The Proposed Project would not prevent CARB from implementing this measure.

Notes: GHG = greenhouse gas; CARB = California Air Resources Board; VMT = vehicle miles traveled; SB = Senate Bill; N/A = not applicable; SF₆ = sulfur hexafluoride.

Based on the analysis in Table 3.4-8, the Proposed Project would not conflict with the applicable strategies and measures in the 2008 Scoping Plan.

The 2017 Scoping Plan Update reflects the 2030 target of a 40% reduction below 1990 levels codified by SB 32. Table 3.4-9, Project Consistency with 2017 Scoping Plan Climate Change Policies and Measures, evaluates the project’s potential to conflict with the 2017 Scoping Plan recommended actions.

**Table 3.4-9
Project Consistency with 2017 Scoping Plan Climate Change Policies and Measures**

Recommend Action Summary	Lead Agencies	Proposed Project Potential to Conflict
Implement SB 350 by 2030 <ul style="list-style-type: none"> • Increase Renewable Portfolio Standard • Establish annual targets for statewide energy efficiency • Reduce GHG emissions in the electricity sector 	CPUC, CEC, CARB	<i>No conflict.</i> This action is directed towards policymakers and would not be directly applicable to the Proposed Project. Nonetheless, the project would improve energy efficiency and reduce electricity-related GHG emissions when replacing older buildings and systems with newer, more efficient buildings and systems.
Implement Mobile Source Strategy (Cleaner Technology and Fuels) <ul style="list-style-type: none"> • Increase zero emission and plug-in hybrid electric vehicles • Increase GHG stringency on light-duty vehicles beyond Advanced Clean Cars • Medium- and heavy-duty GHG Phase 2 • Innovative Clean Transit • Last Mile Delivery • Further reduce VMT through SB 375 and regional Sustainable Communities Strategy 	CARB, CalSTA, SGC, CalTrans CEC, OPR, Local agencies	<i>No conflict.</i> The GCSP requires electric vehicle charging stations for all new development in the plan area. At least 3% of the total parking spaces, but not less than one, shall be capable of supporting future electric vehicle supply equipment. Per the VMT analysis prepared for the Proposed Project, the existing regional average VMT per employee is 18.5 and the average VMT per employee for the Proposed Project in horizon year 2040 is 13.9 (LSA 2020). As such, the VMT per capita for the Proposed Project is estimated to be 24.8% lower than the regional estimate (LSA 2020).
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets)	CARB	<i>No conflict.</i> This action is directed towards policymakers and would not be directly applicable to the Proposed Project.
Adjust performance measures used to select and design transportation facilities by 2019	CalSTA and SGC, OPR, CARB, GoBiz, IBank, DOF, CTC, Caltrans	<i>No conflict.</i> The action is directed towards CARB and Caltrans and the Proposed Project would not impede implementation.
Develop pricing policies to support low-GHG transportation (e.g., low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts) by 2019	CalSTA, Caltrans, CTC, OPR/SGC, CARB	<i>No conflict.</i> This action is directed towards policymakers and would not be directly applicable to the Proposed Project.
Implement California Sustainable Freight Action Plan	CalSTA, CalEPA, CNRA, CARB, CalTrans, CEC, GoBiz	<i>No conflict.</i> The Sustainable Freight Action Plan provides a recommendation on a high-level vision and broad direction to the Governor to consider for State agencies to utilize when developing specific investments, policies, and programs related to the freight transport system that serves our State’s transportation, environmental, and economic interests. Heavy-duty trucks associated with Proposed Project operation would comply with the

**Table 3.4-9
Project Consistency with 2017 Scoping Plan Climate Change Policies and Measures**

Recommend Action Summary	Lead Agencies	Proposed Project Potential to Conflict
		Sustainable Freight Action Plan as applicable once recommendations become rules, regulations, or policies.
Adopt a Low Carbon Fuel Standard with a carbon intensity reduction of 18%	CARB	<i>No conflict.</i> This action is directed towards CARB and would not be directly applicable to the Proposed Project. However, emissions associated with Proposed Project vehicle travel would benefit from reductions associated with the Low Carbon Fuel Standard.
Implement the Short-Lived Climate Pollutant Strategy by 2030	CARB, CalRecycle, CDFA, SWRCB, Local air districts	<i>No conflict.</i> The Proposed Project would be required to comply with the Short-Lived Climate Pollutant Strategy to the extent it is applicable.
Develop regulations and programs to support organic waste landfill reduction goals in the Short-Lived Climate Pollutant Strategy and SB 1383 by 2019	CARB, CalRecycle, CDFA, SWRCB, Local air districts	<i>No conflict.</i> This action is not within the purview of this Proposed Project.
Implement the post-2020 Cap-and-Trade Program with declining annual caps	CARB	<i>No conflict.</i> The Proposed Project, which is a Specific Plan, is not subject to the California Cap-and-Trade Program. In addition, no facilities developed under the GCSP are anticipated to be subject to the Cap-and-Trade Program.
Develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink by 2018	CNRA and departments within, CDFA, CalEPA, CARB	<i>No conflict.</i> This action is not within the purview of this Proposed Project. In addition, the Proposed Project involves redevelopment of an existing urban, developed area and implementation of development under the GCSP would not be anticipated to result in land use conversion that would reduce carbon storage.
Establish a carbon accounting framework for natural and working lands as described in SB 859 by 2018	CARB	<i>No conflict.</i> This action is not within the purview of this Proposed Project.
Implement Forest Carbon Plan	CNRA, CAL FIRE, CalEPA and departments within	<i>No conflict.</i> This action is not within the purview of the Proposed Project. In addition, the Proposed Project includes redevelopment of an existing developed urban area and would not affect forested areas.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	<i>No conflict.</i> This action is not within the purview of the Proposed Project.

Source: CARB 2017.

Notes: CalEPA = California Environmental Protection Agency; CAL FIRE = California Department of Forestry and Fire Protection; CalRecycle = California Department of Resources Recycling and Recovery; CalSTA = California State Transportation Agency; CalTrans = California Department of Transportation; CARB = California Air Resources Board; CDFA = California Department of Food and Agriculture; CEC = California Energy Commission; CNRA = California Natural Resources Agency; CPUC = California Public Utilities Commission; CTC = California Transportation Commission; DOF = Department of Finance; GHG = greenhouse gas; GoBiz = Governor's Office of Business and Economic Development; IBank = California Infrastructure Economic Development Bank; OPR = Governor's Office of Planning and Research; SB = Senate Bill; SGC = Strategic Growth Council; I- = Interstate.

Based on the analysis in Table 3.4-9, the Proposed Project would not conflict with the applicable climate change policies and measures in the 2017 Scoping Plan.

Consistency with EO S-3-05 and SB 32

- **EO S-3-05.** This EO establishes the following goals: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050.
- **SB 32.** This bill establishes for a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions, shall ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by December 31, 2030.

This section evaluates whether the GHG emissions trajectory after Proposed Project completion would impede the attainment of the 2030 and 2050 GHG reduction goals identified in EOs B-30-15 and S-3-05.

To begin, CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the First Update to the Climate Change Scoping Plan that “California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32” (CARB 2014, p. ES2). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, the First Update to the Climate Change Scoping Plan states the following (CARB 2014, p. 34):

This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80% below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, EO B-30-15, and EO S-3-05. This is confirmed in the 2017 Scoping Plan, which states (CARB 2017):

The Scoping Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while identifying new, technologically feasible and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and

rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities.

As discussed in Section 3.4.4, total net Proposed Project emissions (after subtracting emissions associated with the existing land uses), including operation and amortized construction, would be approximately 64,166 MT CO₂e per year, resulting in 5.74 MT CO₂e/SP/year (64,166 MT CO₂e/year ÷ 11,170 SP), which would exceed the applied efficiency metric threshold 1.92 MT CO₂e/SP/year for 2040. As such, the Proposed Project (without mitigation) would generate GHG emissions that may interfere with the implementation of GHG reduction goals for 2030 and 2050.

CEQA Impact Determination

Based on the above evaluations, the Proposed Project would potentially conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions, and as such, impacts are considered potentially significant. As discussed previously, implementation of mitigation measures **MM-AQ-1** (Construction Equipment Emissions Reductions), **MM-AQ-4** (Vehicle Miles Traveled Reduction Strategies), **MM-AQ-5** (Encourage Electric Vehicles), **MM-AQ-6** (Idling Restriction), **MM-AQ-7** (Energy Conservation), **MM-AQ-9** (Electric Forklifts), **MM-AQ-10** (TRU Plug-Ins), **MM-GHG-1** (Water Conservation), and **MM-GHG-2** (Solid Waste Reduction) would reduce Proposed Project-generated GHG emissions and associated impacts related to the potential to conflict with applicable GHG emissions reduction plans, policies, or regulations. In addition to the various mitigation measures required, as discussed previously, the City is in the process of developing a CAAP to ensure that the City continues on a trajectory that aligns with the short-term, interim, and long-term State GHG reduction goals. Once the CAAP is formally adopted, future project under the GCSP would be required to include a project-level analysis demonstrating consistency with the goals, policies, and standards established under the CAAP. Implementation of the CAAP would contribute to reducing GHG emissions resulting from Proposed Project implementation to the extent applicable to non-residential land use development. However, even with the implementation of mitigation, impacts would remain **significant and unavoidable** under CEQA.

NEPA Impact Determination

As discussed above, the Proposed Project would potentially conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions, and as such, effects are considered potentially adverse. As discussed previously, implementation of mitigation measures **MM-AQ-1** (Construction Equipment Emissions Reductions), **MM-AQ-4**

(Vehicle Miles Traveled Reduction Strategies), **MM-AQ-5** (Encourage Electric Vehicles), **MM-AQ-6** (Idling Restriction), **MM-AQ-7** (Energy Conservation), **MM-AQ-8** (Low-VOC-Green Cleaning Product Education Program), **MM-AQ-9** (Electric Forklifts), **MM-AQ-10** (TRU Plug-Ins), **MM-GHG-1** (Water Conservation), and **MM-GHG-2** (Solid Waste Reduction) would reduce Proposed Project-generated GHG emissions and associated effects related to the potential to conflict with applicable GHG emissions reduction plans, policies, or regulations. However, even with the implementation of mitigation, effects would remain **significant and adverse** under NEPA.

3.4.5 Cumulative Impacts

As previously discussed in Section 3.4.1, Existing Conditions, GHG emissions inherently contribute to cumulative impacts, and thus, any additional GHG emissions would result in a cumulative impact. As shown in Tables 3.4-2 and 3.4-3, the Proposed Project would result in GHG emissions that exceed the applied threshold. Therefore, the Proposed Project would result in a cumulatively considerable impact. As such, cumulative impacts are considered **significant and unavoidable**.

3.4.6 Mitigation Measures

As presented in Section 3.2, Air Quality, implementation of mitigation measure **MM-AQ-1** (Construction Equipment Emissions Reductions) would also reduce construction-related GHG emissions. Furthermore, implementation of the following mitigation measures identified to reduce potential air quality impacts (in Section 3.2 in this PEIR/PEIS), would also reduce operation-related GHG emissions: **MM-AQ-4** (Vehicle Miles Traveled Reduction Strategies), **MM-AQ-5** (Encourage Electric Vehicles), **MM-AQ-6** (Idling Restriction), **MM-AQ-7** (Energy Conservation), **MM-AQ-8** (Low-VOC-Green Cleaning Product Education Program), **MM-AQ-9** (Electric Forklifts), and **MM-AQ-10** (TRU Plug-Ins).

In addition, mitigation measures **MM-GHG-1** (Water Conservation) and **MM-GHG-2** (Solid Waste Reduction) shall be implemented to reduce GHG emissions generated during operation of the Proposed Project:

MM-GHG-1 Water Conservation. Prior to the issuance of building permits for projects under the GCSP, the project applicant shall provide building plans that include the following water conservation measures:

- a) Install low-water use appliances and fixtures
- b) Restrict the use of water for cleaning outdoor surfaces and prohibit systems that apply water to non-vegetated surfaces
- c) Implement water-sensitive urban design practices in new construction

- d) Install rainwater collection systems where feasible.

MM-GHG-2 Solid Waste Reduction. Prior to the issuance of building permits for projects under the GCSP, the project applicant shall provide building plans that include the following solid waste reduction measures:

- a) Provide storage areas for recyclables and green waste in new construction, and food waste storage, if a pick-up service is available.
- b) Evaluate the potential for on-site composting.

3.4.7 Significance After Mitigation

Implementation of mitigation measures **MM-AQ-1** (Construction Equipment Emissions Reductions), **MM-AQ-4** (Vehicle Miles Traveled Reduction Strategies), **MM-AQ-5** (Encourage Electric Vehicles), **MM-AQ-6** (Idling Restriction), **MM-AQ-7** (Energy Conservation), **MM-AQ-8** (Low-VOC-Green Cleaning Product Education Program), **MM-AQ-9** (Electric Forklifts), **MM-AQ-10** (TRU Plug-Ins), **MM-GHG-1** (Water Conservation), and **MM-GHG-2** (Solid Waste Reduction) would reduce construction and operational GHG emissions; however, due to the lack of project-specific information, the effectiveness in reducing construction and operational GHG emissions cannot be accurately quantified. Nonetheless, the potential for future development under the Proposed Project to generate GHG emissions that may have a significant impact on the environment and conflict with an applicable GHG-reduction plan, policy, or regulation is considered **significant and unavoidable** during both construction and operation.

3.4.8 References

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