

## 4.7 GREENHOUSE GASES

This section describes the existing greenhouse gas conditions, identifies associated regulatory requirements, evaluates potential impacts, and establishes mitigation measures related to implementation of the Cypress Point project (proposed project). The following analysis is based on the Greenhouse Gas Screening Assessment Technical Report prepared for the proposed project by Ldn Consulting, Inc. in January 2021, which is included as Appendix G of this EIR.

### 4.7.1 Existing Conditions

#### 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 (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 (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.

### **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 (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), and nitrogen trifluoride (NF<sub>3</sub>) (see also 14 CCR 15364.5).<sup>1</sup> Some GHGs, such as CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O, are emitted into the atmosphere through natural processes and human activities. Of these gases, CO<sub>2</sub> and CH<sub>4</sub> are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO<sub>2</sub>, include fluorinated gases, such as HFCs, PFCs, and SF<sub>6</sub>, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the most common GHGs and their sources.<sup>2</sup>

**Carbon Dioxide.** CO<sub>2</sub> 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 CO<sub>2</sub> include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO<sub>2</sub> are from the combustion of fuels such as coal, oil, natural gas, and wood and changes in land use.

**Methane.** CH<sub>4</sub> is produced through both natural and human activities. CH<sub>4</sub> 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.** N<sub>2</sub>O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N<sub>2</sub>O. Sources of N<sub>2</sub>O 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

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<sup>1</sup> 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.

<sup>2</sup> 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).

acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N<sub>2</sub>O 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:** SF<sub>6</sub> is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF<sub>6</sub> 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:** NF<sub>3</sub> 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 O<sub>3</sub>.
- **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 O<sub>3</sub>, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O<sub>3</sub>, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O<sub>2</sub>), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O<sub>3</sub>, 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.

### **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 2020). 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 CO<sub>2</sub>; therefore, GWP-weighted emissions are measured in metric tons of CO<sub>2</sub> equivalent (MT CO<sub>2</sub>e).

The current version of the California Emissions Estimator Model (CalEEMod) (Version 2016.3.2) assumes that the GWP for CH<sub>4</sub> is 25 (so emissions of 1 MT of CH<sub>4</sub> are equivalent to emissions of 25 MT of CO<sub>2</sub>), and the GWP for N<sub>2</sub>O 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 Project.

### Contributions to Greenhouse Gas Emissions

Per the 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<sub>2</sub>e in 2018 (EPA 2020). The primary GHG emitted by human activities in the United States was CO<sub>2</sub>, which represented approximately 81.3% of total GHG emissions (5,428.1 MMT CO<sub>2</sub>e). The largest source of CO<sub>2</sub>, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 92.8% of CO<sub>2</sub> emissions in 2018 (5,031.8 MMT CO<sub>2</sub>e). 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<sub>2</sub>e) and overall, net emissions in 2018 were 10.2% below 2005 levels (EPA 2020).

According to California’s 2000–2018 GHG emissions inventory (2020 edition), California emitted 425 MMT CO<sub>2</sub>e in 2018, including emissions resulting from out-of-state electrical generation (CARB 2020a). 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 2018 are presented in Table 4.7-1.

**Table 4.7-1  
Greenhouse Gas Emissions Sources in California**

Source Category	Annual GHG Emissions (MMT CO <sub>2</sub> e)	Percent of Total <sup>a</sup>
Transportation	169.50	40%
Industrial	89.18	21%
Electric Power <sup>b</sup>	63.11	15%
Agriculture	32.57	8%
Residential	25.74	6%
Commercial	13.46	4%
High global-warming potential substances	20.46	5%
Recycling and waste	9.09	2%
<b>Total</b>	<b>425.28</b>	<b>100%</b>

Source: CARB 2020a.

Notes: GHG = greenhouse gas; MMT CO<sub>2</sub>e = million metric tons of carbon dioxide equivalent per year.

Emissions reflect the 2018 California GHG inventory.

<sup>a</sup> Percentage of total has been rounded, and total may not sum due to rounding.

<sup>b</sup> Includes emissions associated with imported electricity, which account for 24.57 MMT CO<sub>2</sub>e annually.

Between 2000 and 2018, per-capita GHG emissions in California have dropped from a peak of 14.0 MT per person in 2001 to 10.7 MT per person in 2018, representing a 24% decrease (CARB

2020b). In 2016, statewide GHG emissions dropped below the 2020 GHG Limit of 431 MMT CO<sub>2</sub>e and have remained below the Limit since that time (CARB 2020b).

Table 4.7-2 presents the City of Oceanside’s 2013 community wide GHG emissions and the percent contribution of each emissions sector (commercial/industrial, residential, solid waste, transportation, and wastewater).

**Table 4.7-2**  
**City of Oceanside Baseline Community-Wide GHG Emissions Inventory (2013)**

Source Category	Annual GHG Emissions (MT CO <sub>2</sub> E)	Percent of Total
Transportation	477,178	48.5%
Electricity	251,524	25.6%
Natural Gas	162,447	16.5%
Solid Waste	40,615	4.1%
Water	27,420	2.8%
Municipal	24,828	2.5%
<b>Totals</b>	<b>984,012</b>	<b>100%</b>

**Source:** City of Oceanside, Oceanside Climate Action Plan, April 2019.

**Notes:** GHG = greenhouse gas; MT CO<sub>2</sub>E = metric tons of carbon dioxide equivalent.

As shown in Table 4.7-2, approximately 49% of the City of Oceanside’s community wide GHG emissions in 2013 were attributed to transportation sources. Energy consumption including electricity and natural gas accounted for approximately 42%, solid waste accounted for 4%, and water accounted for the less than 3% of the City of Oceanside’s community wide GHG emissions.

### 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 discernible 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, which includes the part of San Bernardino County 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 21st 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 21st 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.

## **4.7.2 Regulatory Setting**

### **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—CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>—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—CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, 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 *Massachusetts v. EPA*, 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, 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) (EPA 2010).

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 CO<sub>2</sub> 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 CO<sub>2</sub> 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 to 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 CO<sub>2</sub> 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 CO<sub>2</sub> emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. On January 20, 2021, President Joe Biden issued an Executive Order (EO) on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, which includes review of Part One Rule by April 2021 and review of the Part Two Rule by July 2021 (The White House 2021).

### ***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 CO<sub>2</sub> 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 CO<sub>2</sub> 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.

### **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. The Climate Action Team 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. The bill is referred to as the California Global Warming Solutions Act of 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.

**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 CARB 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 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 million metric tons [MMT] CO<sub>2</sub>e).

**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 (California 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 (17 CCR 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 GWPs identified by the Intergovernmental Panel on Climate Change, from 427 MMT CO<sub>2e</sub> to 431 MMT CO<sub>2e</sub>.

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 SB 32.

In January 2017, CARB released the 2017 Climate Change Scoping Plan Update (2030 Scoping Plan) for public review and comment (CARB 2017). The 2030 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 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), increased stringency of the Low Carbon Fuel Standard, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increased 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<sub>2e</sub> per capita by 2030 and no more than 2 MT CO<sub>2e</sub> per capita by 2050, which are consistent with the state’s long-term goals. These goals are also consistent with the Global Climate Leadership Memorandum of Understanding (Under 2 MOU) (Under 2 2017) and the Paris Agreement, which are developed around the scientifically based levels necessary to limit global warming below 2°C. The 2030 Scoping Plan recognizes the benefits of local government GHG planning (e.g., through climate action plans [CAPs]) and provides 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.<sup>3</sup> The 2030 Scoping Plan was approved by CARB’s Governing Board on December 14, 2017.

The 2030 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 every planning policy or goals to be consistent. A project would be consistent if it would further the objectives and not obstruct their attainment.

**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 Code of Federal Regulations, 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 CO<sub>2e</sub> 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 CO<sub>2e</sub> per year threshold are required to have their GHG emissions report verified by a CARB-accredited third party.

**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 CO<sub>2e</sub>. The EO also

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<sup>3</sup> *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.

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) required CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants (SLCPs) in the state; and SB 1383 (2016) required 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 new statewide goal “to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.” This executive order directs CARB to “work with relevant state agencies to ensure 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 2016 Title 24 building energy efficiency standards became effective January 1, 2017. The 2019 Title 24 Building Energy Efficiency Standards became effective on January 1, 2020, which will further reduce energy used and associated GHG emissions compared to the 2016 Title 24 building energy standards. Residential buildings built to the 2019 standards are anticipated to use an estimated 53% 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. The 2019 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The most significant efficiency improvements to the residential Standards include the introduction of photovoltaic into the prescriptive package, improvements for attics, walls, water heating, and lighting. The Standards are conceptually divided into three basic sets. First, there is a basic set of mandatory requirements that apply to all buildings. Second, there is a set of performance standards the energy budgets - that vary by climate zone (of which there are 16 in California) and building type; thus the Standards are tailored to local conditions, and provide flexibility in how energy efficiency in buildings can be achieved. Finally, the third set constitutes an alternative to the performance standards, which is a set of prescriptive packages that provide a recipe or a checklist compliance approach. (24 CCR Part 11).

The California Public Utilities Commission (CPUC), CEC, and CARB also have a shared, established goal of achieving zero net energy performance for new construction in California. The key policy timelines include (1) all new residential construction in California will be zero net energy by 2020 and (2) all new commercial construction in California will be zero net energy by 2030.<sup>4</sup>

**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; dishwashers; clothes washers and dryers; cooking products; electric motors; low-voltage dry-type distribution transformers; power 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

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<sup>4</sup> See for example, CPUC 2013. It is expected that achievement of the zero net energy goal will occur via revisions to the Title 24 standards.

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) 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. SB 1 added sections to the California Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry. 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. SB 1, also termed “Go Solar California,” was previously titled “Million Solar Roofs.”

**AB 1470 (Solar Water Heating).** This bill established the Solar Water Heating and Efficiency Act of 2007. The bill makes findings and declarations of the legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. The bill defines several terms for purposes of the act. The bill requires the commission to evaluate the data available from a specified pilot program, and, if it makes a specified determination, to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

### ***Renewable Energy and Energy Procurement***

**SB 1078.** SB 1078 (September 2002) established the Renewables Portfolio Standard (RPS) program, which required an annual increase in renewable generation by 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 SB 107, 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 CPUC.

**AB 1109.** Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting and 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, 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) signed by Governor Brown in April 2011.

SB X1-2 expanded the RPS 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.

### ***Supreme Court Ruling in Center for Biological Diversity v. Department of Fish and Wildlife***

In its 2015 decision, *Center for Biological Diversity v. Department of Fish and Wildlife*, S217763 (Newhall),<sup>5</sup> the California Supreme Court evaluated the California Department of Fish and Wildlife’s analysis of potential impacts caused by GHG emissions contained in the environmental impact report (EIR) for the proposed land development called Newhall Ranch. In the EIR, the

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<sup>5</sup> The Newhall decision is available at <https://caselaw.findlaw.com/ca-supreme-court/1719578.html> (accessed November 2018).

California Department of Fish and Wildlife analyzed GHG emissions under AB 32, using the business-as-usual comparison as its sole criterion of significance.

In Newhall, the California Supreme Court concluded that a finding of consistency with meeting statewide emission reduction goals is a legally permissible criterion of significance when analyzing potential impacts of GHG emissions under CEQA. However, the Court found that the EIR’s conclusion that the project’s emissions would be less than significant under that criterion was not supported by substantial evidence and remanded back to the appellate court the narrow issue of whether substantial evidence supported the application of AB 32 statewide GHG reduction goal of 29% to new land use projects.

The Court then identified potential options for lead agencies evaluating cumulative significance of a proposed land use development’s GHG emissions in future CEQA documents:

1. **Business-As-Usual Model:** While the Court cautions that the Scoping Plan may not be appropriate at the project level, the business-as-usual model might be used to determine what level of reduction from business-as-usual a new land use development at the proposed location must contribute in order to comply with statewide goals pursuant to AB 32.
2. **Compliance With Regulatory Programs Designed To Reduce Greenhouse Gas Emissions:** The Court suggests that a lead agency could rely on a showing of compliance with regulatory programs designed to reduce GHG emissions. The Court clarifies that a significance analysis based on compliance with such statewide regulations only goes to impacts within the area governed by the regulations.
3. **Local CAP or Other “Geographically Specific Greenhouse Gas Emission Reduction Plans”:** The Court points out that these plans may provide a basis for the tiering or streamlining of project-level CEQA analysis, so long as the plan is “sufficiently detailed and adequately supported.” 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.
4. **Regional SCS:** The Court also articulates that a lead agency need not additionally analyze GHG emissions from cars and light trucks in CEQA documents for certain residential, mixed-use, and transit priority projects that are consistent with an applicable SCS adopted pursuant to SB 375.
5. **Numerical GHG Significance Thresholds:** The Court noted the use of such thresholds are GHG significance thresholds, which are based on compliance with AB 32, and use a “service population” GHG ratio threshold for land use projects and a 10,000-ton annual GHG emission threshold for industrial projects. The Court remanded for further consideration the application of the 29% overall Scoping Plan metric, which is used by

several air districts and, like the favorably cited Bay Area Air Quality Management District metric, is based on AB 32.

Citing to EOs S-3-05 and B-30-15, the Court cautioned that those EIRs taking a goal-consistency approach to CEQA significance may in the future need to consider the project's effects on meeting emissions reduction targets beyond 2020.

**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.

**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*

**AB 1493.** AB 1493 (July 2002) was enacted in a response to the transportation sector accounting for more than half of California's CO<sub>2</sub> 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. The near-term (2009–2012) standards result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards result in a reduction of about 30%.

**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<sub>x</sub> 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 Low Carbon Fuel Standard for GHG emissions measured in CO<sub>2e</sub> grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard 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.

**SB 375.** SB 375 (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 MPOs to prepare an SCS as part of their Regional Transportation Plan (RTP) that will achieve the GHG reduction targets set by CARB. If an 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 California Government Code Section 65080(b)(2)(K), an SCS does not (1) regulate the use of land; (2) supersede the land use authority of cities and counties; or (3) 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 2010, CARB adopted the SB 375 targets for the regional MPOs. The targets for SANDAG are a 7% reduction in emissions per capita by 2020 and a 13% reduction by 2035.

SANDAG completed and adopted its 2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) in October 2011 (SANDAG 2011). In November 2011, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

After SANDAG's 2050 RTP/SCS was adopted, a lawsuit was filed by the Cleveland National Forest Foundation and others. The case was decided in July 2017, and the court found that the EIR

did not have to use EO S-3-05's 2050 goal of an 80% reduction in GHG emissions from 1990 levels as a threshold because the EIR sufficiently informed the public of the potential impacts.

In 2015, SANDAG adopted the next iteration of its RTP/SCS in accordance with statutorily mandated timelines, and no subsequent litigation challenge was filed. More specifically, in October 2015, SANDAG adopted San Diego Forward: The Regional Plan. Like the 2050 RTP/SCS, this planning document meets CARB's 2020 and 2035 reduction targets for the region (SANDAG 2015). In December 2015, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region. In March 2018, CARB approved updates to the SB 375 GHG emission reduction targets, including a reduction of 15% reduction in emissions per capita by 2020 and a 19% reduction by 2035 for SANDAG.

On February 26, 2021, SANDAG's Board of Directors adopted the final 2021 Regional Transportation Improvement Program (RTIP). The 2021 RTIP covers five fiscal years (FY 2021 through FY 2025) and incrementally implements the SANDAG 2019 Federal Regional Transportation Plan. The 2021 RTIP is designed to implement the region's overall strategy for providing mobility and improving the safety, condition, and efficiency of the transportation system while reducing transportation related air pollution. The 2021 RTIP incrementally implements San Diego Forward: The 2019 Federal Regional Transportation Plan (2019 Federal RTP), the long-range transportation plan for the San Diego region approved by the SANDAG Board of Directors on October 25, 2019.

**Advanced Clean Cars Program and Zero-Emissions Vehicle Program.** The Advanced Clean Cars Program (January 2012) is an 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 2011). 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 Zero-Emission Vehicle Program will act as the focused technology of the Advanced Clean Cars Program by requiring manufacturers to produce increasing numbers of zero-emission vehicles and plug-in hybrid electric vehicles in the 2018 to 2025 model years.

**EO B-16-12.** 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-emission 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.

**AB 1236.** AB 1236 (October 2015) required a city, county, or city and county to approve an application for the installation of electric vehicle 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 electric vehicle 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 electric vehicle 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.

### *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.

### *Solid Waste*

**AB 939 and AB 341.** 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 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 2015).

### *Other State Actions*

**SB 97.** SB 97 (August 2007) directed the Governor's Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, Office of Planning and Research 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. The CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The CEQA Guidelines require a lead agency to consider 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]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions.

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should “make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate” GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a “model or methodology” to quantify the emissions or by relying on “qualitative analysis or other performance based standards” (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency 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).

**2015 State of the State Address.** In January 2015, Governor Brown in his inaugural address and annual report to the legislature established supplementary goals that would further reduce GHG emissions over the next 15 years. These goals include an increase in California’s renewable energy portfolio from 33% to 50%, a reduction in vehicle petroleum use for cars and trucks by up to 50%, doubling the efficiency of existing buildings, and decreasing emissions associated with heating fuels.

**2016 State of the State Address.** In his January 2016 address, Governor Brown established a statewide goal to bring per-capita GHG emissions down to 2 tons per person, which reflects the goal of the Under 2 MOU to limit global warming to less than 2°C by 2050. The Under 2 MOU agreement pursues emission reductions of 80% to 95% below 1990 levels by 2050 and/or reaching a per-capita annual emissions goal of less than 2 MT by 2050. A total of 135 jurisdictions representing 32 countries and 6 continents, including California, have signed or endorsed the Under 2 MOU (Under 2 2017).

## Local

### *City of Oceanside General Plan*

The City of Oceanside’s General Plan Circulation Element includes goals and policies to reduce GHG emissions within the City (City of Oceanside 2002). The City of Oceanside’s General Plan Update includes the Energy and Climate Action Element, which establishes additional goals and policies to reduce GHG emissions (City of Oceanside 2019a). The following goals and policies from the City’s General Plan are relevant to the project.

#### Circulation Element

- **Policy 2.5:** The City will strive to incorporate complete streets throughout the Oceanside transportation network which are designed and constructed to serve all users of streets, roads and highways, regardless of their age or ability, or whether they are driving, walking, bicycling, or using transit.
- **Pedestrian Facilities**
  - **Goal 5:** Support walking as a primary means of transportation that in turn supports transit and bike options. A positive walking environment is essential for supporting smart growth, mixed land uses, transit oriented development, traffic calming and reducing traffic congestion and greenhouse gas emissions.
- **Intelligent Transportation System Technologies**
  - **Policy 4.1:** The City shall encourage the reduction of vehicle miles traveled, reduction of the total number of daily and peak hour vehicle trips, and provide better utilization of the circulation system through development and implementation of transportation demand management (TDM) strategies. These may include, but not limited to, implementation of peak hour trip reduction, encourage staggered work hours, telework programs, increased development of employment centers where transit usage is highly viable, encouragement of ridesharing options in the public and private sector, provision for park-and-ride facilities adjacent to the regional transportation system, and provision for transit subsidies.
- **Transportation Demand Management**
  - **Policy 4.9:** The City shall look for opportunities to incorporate TDM [transportation demand management] programs into their Energy Roadmap that contributes to state and regional goals for saving energy and reducing greenhouse gas emissions.

Land Use Element

- **Air Quality**
  - The City will continue to cooperate with the SDAPCD Board. This will include participation in the development of the Regional Air Quality Strategy (RAQS) through cooperation with the San Diego County Air Quality Planning Team.
- **Bicycle Facilities**
  - **Policy A:** Development shall provide Class II Bikeways (Bike Lanes) on all secondary, major, and prime arterials.
  - **Policy D:** The use of land shall integrate the Bicycle Circulation System with auto, pedestrian, and transit systems:
    1. Development shall provide short-term bicycle parking and long-term bicycle storage facilities such as bicycle racks, pedestal posts, and rental bicycle lockers.
    2. Development shall provide safe and convenient bicycle access to high activity land uses, such as schools, parks, shopping, employment, and entertainment centers.
- **Pedestrian**
  - **Policy A:** The construction of five (5) foot wide sidewalks adjacent to the curb shall be required in all new developments and street improvements.
- **Transit System**
  - **Policy A:** The City shall coordinate and encourage the existing bus system to serve newly developed areas.
- **Energy**
  - **Policy A:** The City shall encourage the design, installation, and use of passive and active solar collection systems.
  - **Policy B:** The City shall encourage the use of energy efficient design, structures, materials, and equipment in all land developments or uses.

Environmental Resource Management Element

- The City will continue to cooperate with the SDAPCD Board. This will include participation in the development of the Regional Air Quality Strategy (RAQS) through cooperation with the San Diego County Air Quality Planning Team.

Energy and Climate Action Element

- **Policy ECAE 1b-4:** The City shall explore opportunities to implement “mobility hub” features within Smart Growth Opportunity Areas and other areas amenable to active transportation and shared mobility option.

- **Policy ECAE 2a-6:** The city shall work with the development community to identify new sources of financing for mixed-use and other forms of urbanized development, including the implementation of the El Corazon Specific Plan.
- **Policy ECAE 2e-4:** Through TDM programs and other means, the City shall encourage employers to participate in regional rideshare programs, including SANDAG’s iCommute.
- **Policy ECAE 2f-2:** The City shall explore incentives for electric vehicle charging facilities in multi-family developments.
- **Policy ECAE 2f-4:** The City shall partnership with the local business community, San Diego Gas & Electric, and other stakeholders, explore ways to reduce the cost of electric and other zero emission vehicles to Oceanside residents, specifically low-income households in proximity to air quality hotspots near I-5 and state highways.
- **Policy ECAE 2f-9:** The City shall consider ways to reduce vehicle idling, particularly in proximity to schools and other sensitive receptors.
- **Policy ECAE 5a-2:** The City shall update the City’s Street Tree Ordinance to require one-to-one replacement of trees removed from the public right-of-way, parkways, and other public spaces.

### *Oceanside Climate Action Plan and Energy and Climate Action Element*

On May 8, 2019, the City Council voted to adopt the Climate Action Pan (CAP) as a part of their General Plan Update, which also includes development of a policy framework to the Energy and Climate Action Element (ECAE). The CAP is intended to proactively support statewide efforts to cut GHG emissions by expanding local renewable energy generation, reducing energy use, promoting recycling and reuse, facilitating active transportation, and encouraging other sustainable practices. The CAP will build upon a variety of City projects that promote energy efficiency, increased renewable energy use, water conservation, and solid waste reduction. In accordance with Section 15183.5 of the California Environmental Quality Act (CEQA), the CAP Checklist provides for streamlined review of projects subject to environmental review, offering an alternative to project-specific analysis of GHG emissions impacts. Consistent with California’s Climate Change Scoping Plan, the City has established a bright line threshold of significance for GHG emissions impacts: 900MT annually, with construction-related emissions amortized over 20 years. Projects that fall under this threshold are not required to conduct analysis of GHG emissions impacts, and thus would not benefit from the Checklist. Projects that don’t meet the bright line threshold of significance are required to meet an efficiency metric threshold of 4.0 MT CO<sub>2e</sub> per service population per year (MT CO<sub>2e</sub>/SP/yr) for year 2020 or an efficiency metric threshold of 3.5 MT CO<sub>2e</sub>/SP/yr for year 2025 (City of Oceanside 2019). Projects that meet these thresholds would be considered consistent with the City’s CAP.

### 4.7.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to greenhouse gases are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to greenhouse gases would occur if the proposed project would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

As stated in CEQA Guidelines Section 15064.4(b)(1)-(3),

a lead agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment: (1) the extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether 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 greenhouse gas emissions.

Section 15064(h)(3) of the CEQA Guidelines also states that “A lead agency may determine that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located.”

The CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific quantitative thresholds of significance, and do not mandate specific mitigation measures. Rather, the 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.

The Office of Planning and Research 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.”

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 quantitative thresholds for assessing whether the GHG emissions of a project, such as the 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 (CAPCOA 2008), GHG emissions impacts must also be evaluated on a project-level under CEQA.

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As the lead agency, the City has the discretion to choose the significance threshold for discretionary projects. The Planning Division Policy Directive 2018-01 provides an interim guidance to assess for GHG emissions impact analysis. Consistent with recent projects certified by the City and the City CAP, the project will utilize a 900 MT CO<sub>2e</sub> per year threshold consistent with the California Air Pollution Control Officers Association interim screening level as discussed below.

The analysis for compliance with regulatory programs only applies to the individual area addressed by the regulatory program. If the project is determined to have GHG emissions less than 900 MT CO<sub>2e</sub> per year, then the project cumulative contribution of GHG emissions would be considered less than significant. Conversely, if the project is determined to exceed the 900 MT CO<sub>2e</sub> per year threshold, then the project would be compared to an efficiency metric of 3.5 MT CO<sub>2e</sub> per service population per year, to evaluate the potential for the project to result in a significant GHG emissions impact

#### **4.7.4 Impacts Analysis**

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

Construction of the project would result in GHG emissions, which are primarily associated with the use of off-road construction equipment, on-road vendor trucks, and worker vehicles. The construction GHG emissions as calculated in CalEEMod are shown in Table 4.7-3 below. Total cumulative or combined construction emissions (from 2023 and 2024) that are generated prior to operations will ultimately contribute to yearly emission levels of the project as a whole. Because of this, it is acceptable to average the total construction emission over a 30-year period which

represents an average lifecycle of a project. GHGs related to construction are shown in Table 4.7-3. Based on this, it is expected that the 30-year average would be 17.18 MT CO<sub>2e</sub> per year.

**Table 4.7-3**  
**Expected Annual Construction CO<sub>2e</sub> Emissions Summary MT/Year**

Year	Bio-CO <sub>2</sub>	NBio- CO <sub>2</sub>	Total CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2e</sub>
2023	0.00	466.87	466.87	0.09	0.00	469.19
2024	0.00	45.88	45.88	0.01	0.00	46.11
<b>Total</b>						<b>515.30</b>
<b>Yearly Average Construction Emissions (MT CO<sub>2e</sub> /year over 30 years)</b>						<b>17.18</b>

Source: Appendix G

Operational GHG emissions generated from area, energy, mobile, solid Waste, and water uses was also calculated using CalEEMod. Operational emissions from the proposed project would also include amortized construction emissions from Table 4.7-3 above. Based on these findings, combined operational and construction GHG emissions would generate approximately 531.48 Metric Tons of CO<sub>2e</sub> each year during a typical operational year. The expected operational emissions for the proposed project are outlined in Table 4.7-4 below.

**Table 4.7-4**  
**Expected Operational Emissions Summary MT/Year**

Emission Source	Bio-CO <sub>2</sub>	NBio-CO <sub>2</sub>	Total CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2e</sub>
Area	0.00	43.19	43.19	0.00	0.00	43.46
Energy	0.00	152.80	152.80	0.00	0.00	153.52
Mobile	0.00	345.94	345.94	0.02	0.00	346.40
Solid waste	12.82	0.00	12.82	0.76	0.00	31.75
Water supply and wastewater	0.89	11.68	12.57	0.09	0.00	15.56
162 KW Rooftop Solar Reduction						-88.70
Total Construction Emissions (Amortized over 30 Years from table above)						17.18
<b>Total Cumulative Operations (Construction + Operations - Solar)</b>						<b>531.48</b>
<b>Service Population (Residential Component) 2.92*54=157.68</b>						<b>157.68</b>
<b>Total GHGs per SP (MT CO<sub>2e</sub> per SP)</b>						<b>3.29</b>

Source: Appendix G

**Notes:** Data is presented in decimal format and may have rounding errors.  
Data includes reductions from natural gas fireplaces instead of wood burning fireplaces.

Based on the findings shown in Table 4.7-4, the project would generate roughly 3.29 MT CO<sub>2e</sub>/SP. Additionally, the project would not exceed the City's 900 MT CO<sub>2e</sub> screening threshold.

Additionally, as outlined in Chapter 3 of this EIR, the project would incorporate sustainability design features to reduce potential energy and water usage, promote pedestrian and bicycle travel,

and reduce potential greenhouse gas emissions. These sustainability features include solar systems for each home within the development, installation of 90% light-emitting diode (LED) lighting or other high-efficiency lightbulbs, energy star or equivalent energy efficient appliances, low-flow water fixtures and appliances, drought-tolerant landscaping and water efficient irrigation systems on-site, and bicycle parking.

For the reasons outlined above, and calculated in Appendix G of this EIR, it is determined that implementation of the project would not generate substantial greenhouse gas emissions that may have a significant impact on the environment, and therefore impacts would be **less than significant**.

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

The proposed project would be consistent with the goals set forth in the City’s General Plan Environmental Resource Management Element, Land Use Element, and Circulation Element that are designed to reduce GHG emissions, reduce energy use in buildings and infrastructure, and promote the use of renewable energy sources, conservation, and other methods of efficiency. Table 4.7-5 below outlines the project’s consistency with applicable General Plan goals related to GHG.

**Table 4.7-5  
City of Oceanside General Plan – Project Consistency Analysis**

General Plan Goal	Consistency Analysis
<i>Environmental Resource Management Element<sup>a</sup></i>	
<i>Air Quality.</i> Cooperate with County, State, and federal agencies in continuing programs of air quality improvement.	<i>Consistent.</i> The project would not impair the City’s ability to work with the County, state, and other local agencies.
<i>Land Use Element<sup>b</sup></i>	
<i>Air Quality.</i> The City shall cooperate with the San Diego County Air Pollution Control Board and participate in the Regional Air Control Strategy (RAQS).	<i>Consistent.</i> The project would not impair the City’s ability to work with the SDAPCD Board or RAQS.
<i>Bicycle Facilities.</i> Policy A: Development shall provide Class II Bikeways (Bike Lanes) on all secondary, major, and prime arterials.	<i>Consistent.</i> The project is a compact residential infill project located in an already urbanized area of the City. There are currently Class II bike lanes in each direction of travel on Pala Road, Mission Avenue, and El Camino Real (south of Mission Avenue) in the vicinity of the project site. The project would maintain access to the San Luis Rey River Trail bike path. The closest public access point to the San Luis Rey River Trail bike path from the project site is located just east, off Cypress Road
<i>Pedestrian.</i> Policy A: The construction of five (5) foot wide sidewalks adjacent to the curb shall be required in all new developments and street improvements.	<i>Consistent.</i> Pedestrian access is provided by existing sidewalks in each direction of travel along Los Arbolitos Boulevard, Pala Road, Fredricks Avenue, El Camino Real, Mission Avenue, and Aspen Street. Sidewalk improvements proposed for Aspen Street would include extending the curb, gutter, and sidewalk on both sides leading into the project site with ADA-accessible corner curbs.

**Table 4.7-5  
City of Oceanside General Plan – Project Consistency Analysis**

General Plan Goal	Consistency Analysis
Transit System. Policy A: The City shall coordinate and encourage the existing bus system to serve newly developed areas.	<i>Consistent.</i> The project would not impair the City's ability to coordinate and encourage the existing bus system to serve newly developed areas. The project is located within an existing developed area of the City. The project area is provided transit service via the North County Transit District (NCTD), which operates the Oceanside Transportation Center located approximately 4.3 miles from the project site. The routes that operate near the project area are routes 303, 309, and 311. Bus stops within a 1-mile radius of the project site include the stops located at Pala Road and Fredricks Avenue, Los Arbolitos Boulevard and Orr Street, and El Camino Real and Mission Avenue.
Energy. Policy A. The City shall encourage the design, installation, and use of passive and active solar collection systems.	<i>Consistent.</i> The project will meet Title 24 requirements for solar energy. The project will include a solar system for every proposed residential unit.
Energy. Policy B. The City shall encourage the use of energy efficient design, structures, materials, and equipment in all land developments or uses.	<i>Consistent.</i> In addition to the project's infill location, the project would include several sustainability design features to reduce potential energy and water usage, promote pedestrian and bicycle travel, and reduce potential greenhouse gas emissions. The proposed sustainability features include, a solar system for each home, installation of 90% light-emitting diode (LED) lighting or other high-efficiency lightbulbs, energy star or equivalent energy efficient appliances, low-flow water fixtures and appliances, drought-tolerant landscaping and water efficient irrigation system, and bicycle parking facilities.
<i>Circulation Element<sup>c</sup></i>	
Policy 2.5. The City will strive to incorporate complete streets throughout Oceanside.	<i>Not applicable.</i> The project would not impair the City's ability to incorporate complete streets throughout the City.
Pedestrian Facilities. Support walking as a primary means of transportation.	<i>Consistent.</i> The project would not impair the City's ability to improve the walkability throughout the City. Pedestrian access is available to/from the project site by existing sidewalks in each direction of travel along Los Arbolitos Boulevard, Pala Road, Fredricks Avenue, El Camino Real, Mission Avenue, and Aspen Street.
Intelligent Transportation System Technologies. Improve air quality and reduce greenhouse gas emissions through traffic signal optimization and the use of advanced signal control technologies.	<i>Not applicable.</i> The project would not impair the City's ability to optimize traffic signals or use advanced signal control technologies.
Transportation Demand Management. The City shall look for opportunities to incorporate Transportation Demand Management (TDM) programs into their Energy Roadmap that contributes to state and regional goals for saving energy and reducing greenhouse gas emissions.	<i>Not applicable.</i> The project would not impair the City's ability to incorporate TDM strategies into their Energy Roadmap.

**Source:**

<sup>a</sup> City of Oceanside 1975; <sup>b</sup> City of Oceanside 1986; <sup>c</sup> City of Oceanside 2002.

As shown in Table 4.7-5, the project would be consistent with applicable and goals and policies of the City’s General Plan to the extent feasible.

### Consistency with the City of Oceanside’s Climate Action Plan

The City prepared a GHG emissions inventory and a CAP, both of which inform the E-CAP (City of Oceanside 2019a). The City’s Final CAP was adopted on May 8, 2019. The CAP demonstrates that, with implementation of applicable General Plan objectives and policies, coupled with state and federal actions and execution of CAP measures and actions, the City will reduce GHG emissions in alignment with state goals established by Senate Bill 32 and maintain a trajectory to meet its proportional share of the 2050 state target identified in Executive Order S-3-05. Since the project would result in total GHG emissions that would not exceed the threshold of significance for GHG emissions impacts (900MT annually) the project would not conflict with the City’s CAP.

### Consistency with SANDAG’S San Diego Forward: The Regional Plan

The project would be developed to support the policy objectives of the RTP and SB 375. The 2021 RTIP incrementally implements San Diego Forward: The 2019 Federal Regional Transportation Plan (2019 Federal RTP), the long-range transportation plan for the San Diego region approved by the SANDAG Board of Directors on October 25, 2019. Table 4.7-6 illustrates the project’s consistency with applicable goals and policies of the San Diego Forward: 2019 Federal RTP.

**Table 4.7-6**  
**San Diego Forward: The Regional Plan Consistency Analysis**

Category	Policy Objective or Strategy	Consistency Analysis
<i>The Regional Plan – Policy Objectives</i>		
Habitat and Open Space Preservation	Focus growth in areas that are already urbanized, allowing the region to set aside and restore more open space in our less developed areas. Protect and restore our region’s urban canyons, coastlines, beaches, and water resources.	<i>Consistent.</i> The project is a compact residential infill project located in an urban area of the City. The project would be consistent with the existing zoning and general plan designation for the project site, and implementation of the project would not impact the designated open space area located to the north and west of the project site.
Regional Economic Prosperity	Invest in transportation projects that provide access for all communities to a variety of jobs with competitive wages. Build infrastructure that makes the movement of freight in our community more efficient and environmentally friendly.	<i>Not applicable.</i> The project would not impair the ability of SANDAG to invest in transportation projects or to build infrastructure that makes the movement of freight in our community more efficient and environmentally friendly.
Environmental Stewardship	Make transportation investments that result in cleaner air, environmental protection, conservation, efficiency, and sustainable living. Support energy programs that promote sustainability.	<i>Not applicable.</i> The project would not impair the ability of SANDAG to make transportation investments that result in cleaner air, environmental protection, conservation, efficiency, and sustainable living. Support energy programs that promote sustainability.

**Table 4.7-6  
San Diego Forward: The Regional Plan Consistency Analysis**

<b>Category</b>	<b>Policy Objective or Strategy</b>	<b>Consistency Analysis</b>
Mobility Choices	Provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play. Take advantage of new technologies to make the transportation system more efficient and accessible	<i>Consistent.</i> The project would be located in an urban area of the City, surrounding by existing infrastructure. The project is located within close proximity to connecting roadways and approximately 0.9 mile north of State Route 76 Highway. Pedestrian, public transportation, and bicycle circulation opportunity is also available in the project vicinity.
Partnerships/Collaboration	Collaborate with Native American tribes, Mexico, military bases, neighboring counties, infrastructure providers, the private sector, and local communities to design a transportation system that connects to the mega-region and national network, works for everyone, and fosters a high quality of life for all. As we plan for our region, recognize the vital economic, environmental, cultural, and community linkages between the San Diego region and Baja California	<i>Not Applicable.</i> The project would not impair the ability of SANDAG to Collaborate with Native American tribes, Mexico, military bases, neighboring counties, infrastructure providers, the private sector, and local communities.
Healthy and Complete Communities	Create great places for everyone to live, work, and play. Connect communities through a variety of transportation choices that promote healthy lifestyles, including walking and biking. Increase the supply and variety of housing types – affordable for people of all ages and income levels in areas with frequent transit service and with access to a variety of services.	<i>Consistent.</i> The project would be located in an urban area of the City, surrounding by existing infrastructure, schools, parks, and commercial centers. Pedestrian, public transportation, and bicycle circulation opportunity is available in the project vicinity. The project would provide new market rate and affordable housing on a site that is consistent with the City's General Plan, Zoning Ordinance, Density Bonus Law, and affordable housing objectives, and to help satisfy the City's current and future demand for housing.
<i>Sustainable Communities Strategy (SCS) – Strategies</i>		
Strategy No. 1	Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit.	<i>Consistent.</i> The project is a compact residential infill project located in an already urbanized area of the City close to public transportation and existing infrastructure.

**Table 4.7-6  
San Diego Forward: The Regional Plan Consistency Analysis**

<b>Category</b>	<b>Policy Objective or Strategy</b>	<b>Consistency Analysis</b>
Strategy No. 2	Protect the environment by preserving sensitive habitat, open space, and farmland	<i>Consistent.</i> The project is located on a site that has been previously disturbed by adjacent development. The designated open space west of the project site would not be impacted by project implementation. A portion in the northwest corner of the project site would be left undeveloped as part of the City's Draft Subarea Plan hardline preserve and to accommodate the existing San Luis Rey Trail located on the property. As outlined in Chapter 4.3 of this EIR, the project would result in significant impacts to biological resources. Lastly, there is no designated farmland within the project area.
Strategy No. 3	Invest in a transportation network that gives people transportation choices and reduces GHG emissions.	<i>Not Applicable.</i> The project would not impair SANDAG's ability to invest in transportation network choices that reduce GHG emissions.
Strategy No. 4	Address the housing needs of all economic segments of the population.	<i>Consistent.</i> The project would develop 54 new residential units. The project would provide new market rate and affordable housing on a site that is consistent with the City's General Plan, Zoning Ordinance, Density Bonus Law, and affordable housing objectives, and to help satisfy the City's current and future demand for housing.
Strategy No. 5	Implement the 2019 Federal RTP through Incentives and Collaboration	<i>Not Applicable.</i> The project would not impair the ability of SANDAG to implement the Regional Transportation Plan through incentives and collaborations.

Source: SANDAG 2021.

As shown in Table 4.7-6, the project is consistent with applicable policy objectives and strategies from the Regional Plan.

### **Consistency with SB 32 and EO S-3-05**

**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.

CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the First Update 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). 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 2030 Scoping Plan (CARB 2017, p. 7).

The project would not interfere with implementation of any of the above-described GHG reduction goals for 2030 or 2050 because the project would not exceed the 900 MT CO<sub>2e</sub> threshold of significance for GHG emissions impacts. The project would not conflict with SB 32 and EO S-3-05.

For the reasons stated above, it is determined that the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases, and therefore impacts would be less than significant.

#### **4.7.5 Mitigation Measures**

Impacts related to greenhouse gas emissions as a result of project implementation are determined to be less than significant, and therefore no mitigation measures are required.

#### **4.7.6 Level of Significance After Mitigation**

No substantial impacts related to greenhouse gas emissions were identified; therefore, no mitigation measures are required. Impacts related to greenhouse gas emissions would be **less than significant**.