

## 5. Environmental Analysis

### 5.7 GREENHOUSE GAS EMISSIONS

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the proposed La Puerta School Site Specific Plan (Specific Plan) to cumulatively contribute to greenhouse gas (GHG) emissions impacts. Because no single project is large enough to result in a measurable increase in global concentrations of GHG, climate change impacts of a project are considered on a cumulative basis.

This evaluation is based on the methodology recommended by the South Coast Air Quality Management District (AQMD). GHG emissions modeling was conducted using the California Emissions Estimator Model (CalEEMod), version 2022.1, and model outputs are included as Appendix B of this DEIR. Transportation-sector impacts are based on trip generation as provided by EPD Solutions (Appendix I). Cumulative impacts related to GHG emissions are based on the regional boundaries of the South Coast Air Basin and California.

#### Terminology

The following are definitions for terms used throughout this section.

- **Greenhouse gases (GHG).** Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.
- **Global warming potential (GWP).** Metric used to describe how much heat a molecule of a greenhouse gas absorbs relative to a molecule of carbon dioxide (CO<sub>2</sub>) over a given period of time (20, 100, and 500 years). CO<sub>2</sub> has a GWP of 1.
- **Carbon dioxide-equivalent (CO<sub>2</sub>e).** The standard unit to measure the amount of greenhouse gases in terms of the amount of CO<sub>2</sub> that would cause the same amount of warming. CO<sub>2</sub>e is based on the GWP ratios between the various GHGs relative to CO<sub>2</sub>.
- **MTCO<sub>2</sub>e.** Metric ton of CO<sub>2</sub>e.
- **MMTCO<sub>2</sub>e.** Million metric tons of CO<sub>2</sub>e.

#### 5.7.1 Environmental Setting

##### 5.7.1.1 GREENHOUSE GASES AND CLIMATE CHANGE

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and ozone (O<sub>3</sub>)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent are nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>),

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hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).<sup>1,2</sup> The major GHGs applicable to the Specific Plan are briefly described.

- **Carbon dioxide (CO<sub>2</sub>)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH<sub>4</sub>)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in landfills and water treatment facilities.
- **Nitrous oxide (N<sub>2</sub>O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have stronger greenhouse effects than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 5.7-1. The GWP is used to convert GHGs to CO<sub>2</sub>-equivalence (CO<sub>2</sub>e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Fifth Assessment Report (AR5) GWP values for CH<sub>4</sub>, a project that generates 10 MT of CH<sub>4</sub> would be equivalent to 280 MT of CO<sub>2</sub>.

**Table 5.7-1 GHG Emissions and Their Relative Global Warming Potential Compared to CO<sub>2</sub>**

GHGs	Second Assessment Report Global Warming Potential Relative to CO <sub>2</sub> <sup>1</sup>	Fourth Assessment Report Global Warming Potential Relative to CO <sub>2</sub> <sup>1</sup>	Fifth Assessment Report Global Warming Potential Relative to CO <sub>2</sub> <sup>1</sup>
Carbon Dioxide (CO <sub>2</sub> )	1	1	1
Methane (CH <sub>4</sub> ) <sup>2</sup>	21	25	28
Nitrous Oxide (N <sub>2</sub> O)	310	298	265

Source: IPCC 1995, 2007, 2013.

Notes: The IPCC published updated GWP values in its Fifth Assessment Report (AR5) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO<sub>2</sub>. However, GWP values identified in AR4 are used by South Coast AQMD to maintain consistency in statewide GHG emissions modeling. In addition, the 2017 Scoping Plan Update was based on the GWP values in AR4.

<sup>1</sup> Based on 100-year time horizon of the GWP of the air pollutant compared to CO<sub>2</sub>.

<sup>2</sup> The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO<sub>2</sub> is not included.

<sup>1</sup> Water vapor (H<sub>2</sub>O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant because it is considered part of the feedback loop rather than a primary cause of change.

<sup>2</sup> Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (CARB 2017a). However, state and national GHG inventories do not include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

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#### Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities. The amount of CO<sub>2</sub> in the atmosphere has increased by more than 35 percent since preindustrial times and has increased at an average rate of 1.4 parts per million per year since 1960, mainly due to the combustion of fossil fuels and deforestation (IPCC 2007). These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (CAT 2006). In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. Human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime (IPCC 2007).

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

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

#### Potential Climate Change Impacts for California

Observed changes over the last several decades across the western United States reveal clear signs of climate change. Statewide, average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada (CCCC 2012). The years from 2014 through 2016 showed unprecedented temperatures, with 2014 being the warmest (OEHHA 2018). By 2050, California is projected to warm by

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approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 5.6 to 8.8°F, depending on emissions levels (CNRA 2019).

In California and western North America, observations of the climate have shown: 1) a trend toward warmer winter and spring temperatures; 2) a smaller fraction of precipitation falling as snow; 3) a decrease in the amount of spring snow accumulation in the lower- and middle-elevation mountain zones; 4) advanced shift in the timing of snowmelt of 5 to 30 days earlier in the spring; and 5) a similar shift (5 to 30 days earlier) in the timing of spring flower blooms (CAT 2006). Overall, California has become drier over time, with five of the eight years of severe to extreme drought occurring between 2007 and 2016, and unprecedented dry years in 2014 and 2015 (OEHHA 2018). Statewide precipitation has become increasingly variable from year to year, with the driest consecutive four years from 2012 to 2015 (OEHHA 2018). According to the California Climate Action Team—a committee of state agency secretaries and the heads of agencies, boards, and departments, led by the California Environmental Protection Agency—even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes (see Table 5.7-1), and the inertia of the Earth’s climate system could produce as much as 0.6°C (1.1°F) of additional warming. Consequently, some impacts from climate change are now considered unavoidable. Global climate change risks to California are shown in Table 5.7-2, and include impacts to public health, water resources, agriculture, coastal sea level, forest and biological resources, and energy.

**Table 5.7-2 Summary of GHG Emissions Risks to California**

Impact Category	Potential Risk
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Fewer extremely cold nights Poor air quality made worse Higher temperatures increase ground-level ozone levels
Water Resources Impacts	Decreasing Sierra Nevada snowpack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure

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**Table 5.7-2 Summary of GHG Emissions Risks to California**

Impact Category	Potential Risk
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pests and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: CEC 2006; CEC 2009; CCCC 2012; CNRA 2014.

Specific climate change impacts that could affect the project include:

- **Water Resources Impacts.** By late this century, all projections show drying, and half of the projections suggest 30-year average precipitation will decline by more than 10 percent below the historical average. This drying trend is caused by an apparent decline in the frequency of rain and snowfall. Even in projections with relatively small or no declines in precipitation, central and southern parts of the state can be expected to be drier from the warming effects alone—the spring snowpack will melt sooner, and the moisture in soils will evaporate during long dry summer months (CCCC 2012).
- **Wildfire Risks.** Earlier snowmelt, higher temperatures, and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. Human activities will continue to be the biggest factor in ignition risk. The number of large fires statewide is estimated to increase from 58 percent to 128 percent above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57 percent to 169 percent, depending on location (CCCC 2012).
- **Health Impacts.** Many of the gravest threats to public health in California stem from the increase of extreme conditions—principally, more frequent, more intense, and longer heat waves. Particular concern centers on the increasing tendency for multiple hot days in succession and simultaneous heat waves in several regions throughout the state. Public health could also be affected by climate change impacts on air quality, food production, the amount and quality of water supplies, energy pricing and availability, and the spread of infectious diseases. Higher temperatures also increase ground-level ozone levels. Wildfires can increase particulate air pollution in the major air basins of California (CCCC 2012).
- **Increase Energy Demand.** Increases in average temperature and higher frequency of extreme heat events combined with new residential development across the state will drive up the demand for cooling in the increasingly hot and longer summer season and decrease demand for heating in the cooler season. Warmer, drier summers also increase system losses at natural gas plants (reduced efficiency in the electricity

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generation process at higher temperatures) and hydropower plants (lower reservoir levels). Transmission of electricity will also be affected by climate change. Transmission lines lose 7 percent to 8 percent of transmitting capacity in high temperatures while needing to transport greater loads. This means that more electricity will need to be produced to make up for both the loss in capacity and the growing demand (CCCC 2012).

#### 5.7.1.2 REGULATORY BACKGROUND

##### Federal

###### *United States Environmental Protection Agency*

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

To regulate GHGs from passenger vehicles, EPA was required to issue an endangerment finding. The finding identified emissions of six key GHGs—CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, hydrofluorocarbons, perfluorocarbons, and SF<sub>6</sub>—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the GHG emissions inventory of development that would be accommodated by the Specific Plan because they constitute the majority of GHG emissions, and according to guidance by the South Coast Air Quality Management District (South Coast AQMD), are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

###### *US Mandatory Reporting Rule for GHGs (2009)*

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 MTCO<sub>2</sub>e or more per year are required to submit an annual report.

###### *Update to Corporate Average Fuel Economy Standards (2021 to 2026)*

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon in 2025. On March 30, 2020, the EPA finalized an updated CAFE and GHG emissions standards for passenger cars and light trucks and established new standards covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021 to 2026. Under SAFE, the fuel economy standards will increase 1.5 percent per year compared to the 5 percent per year under the CAFE standards established in 2012. Overall, SAFE requires a fleet average of 40.4 MPG for model year 2026 vehicles (85 Federal Register 24174 (April 30, 2020)).

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On December 21, 2021, under direction of Executive Order (EO) 13990 issued by President Biden, the National Highway Traffic Safety Administration repealed Safer Affordable Fuel Efficient Vehicles Rule Part One, which had preempted state and local laws related to fuel economy standards. In addition, on March 31, 2022, the National Highway Traffic Safety Administration finalized new fuel standards in response to EO 13990. Fuel efficiency under the standards proposed will increase 8 percent annually for model years 2024 to 2025 and 10 percent annual for model year 2026. Overall, the new CAFE standards require a fleet average of 49 MPG for passenger vehicles and light trucks for model year 2026, which would be a 10 MPG increase relative to model year 2021 (NHTSA 2022).

#### State

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in EO S-03-05 and EO B-30-15, EO B-55-18, Assembly Bill 32 (AB 32), Senate Bill 32 (SB 32), and SB 375.

#### *Executive Order S-03-05*

EO S-03-05 was signed June 1, 2005, and set the following GHG reduction targets for the state:

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

#### *Assembly Bill 32, the Global Warming Solutions Act (2006)*

AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in EO S-03-05. CARB prepared the 2008 Scoping Plan to outline a plan to achieve the GHG emissions reduction targets of AB 32.

#### *Executive Order B-30-15*

EO B-30-15, signed April 29, 2015, set a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. EO B-30-15 also directed CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in EO S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, “Safeguarding California”, in order to ensure climate change is accounted for in state planning and investment decisions.

#### *Senate Bill 32 and Assembly Bill 197*

In September 2016, Governor Brown signed SB 32 and AB 197 into law, making the EO B-30-15 goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

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#### *2017 Climate Change Scoping Plan Update*

EO B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. On December 24, 2017, CARB adopted the 2017 Climate Change Scoping Plan Update, which outlined potential regulations and programs, including strategies consistent with AB 197 requirements, to achieve the 2030 target. The 2017 Scoping Plan established a new emissions limit of 260 MMTCO<sub>2e</sub> for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030 (CARB 2017b).

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

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

In addition to the statewide strategies listed above, the 2017 Climate Change Scoping Plan identified local governments as essential partners in achieving the state's long-term GHG reduction goals and recommended local actions to reduce GHG emissions. Part of the recommended actions are statewide targets of no more than 6 MTCO<sub>2e</sub> or less per capita by 2030 and 2 MTCO<sub>2e</sub> or less per capita by 2050. CARB recommends that local governments evaluate and adopt robust and quantitative locally appropriate goals that align with the state's

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per capita targets and sustainable development objectives and develop plans to achieve the local goals. The statewide per capita goals were developed by applying the percentage reduction necessary to reach the 2030 and 2050 climate goals (i.e., 40 percent and 80 percent, respectively) to the state’s 1990 emissions limit established under AB 32.

For CEQA projects, CARB states that lead agencies have the discretion to develop evidenced-based numeric thresholds (mass emissions, per capita, or per service population—consistent with the Scoping Plan and the state’s long-term GHG goals. To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from VMT, and direct investments in GHG reductions within the project’s region that contribute potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits.

The 2017 Scoping Plan scenario is set against what is called the “business as usual” yardstick—that is, what would the GHG emissions look like if the state did nothing at all beyond the existing policies that are required and already in place to achieve the 2020 limit, as shown in Table 5.7-3. It includes the existing renewables requirements, advanced clean cars, the “10 percent” LCFS, and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. Also shown in the table, the known commitments, which are expected to result in emissions that are 60 MMTCO<sub>2e</sub> above the target in 2030. If the estimated GHG reductions from the known commitments are not realized due to delays in implementation or technology deployment, the post-2020 Cap-and-Trade Program would deliver the additional GHG reductions in the sectors it covers to ensure the 2030 target is achieved.

**Table 5.7-3 2017 Climate Change Scoping Plan Emissions Reductions Gap**

<b>Modeling Scenario</b>	<b>2030 GHG Emissions MMTCO<sub>2e</sub></b>
Reference Scenario (Business-as-Usual)	398
With Known Commitments	320
2030 GHG Target	<b>260</b>
<b>Gap to 2030 Target</b>	<b>60</b>

Source: CARB 2017b.

Table 5.7-4 provides estimated GHG emissions by sector at 1990 levels, and the range of emissions for each sector estimated for 2030. The following sectors would be applicable to the Specific Plan: residential and commercial, electric power, recycling and waste, and transportation.

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**Table 5.7-4 2017 Climate Change Scoping Plan Emissions Change by Sector**

Scoping Plan Sector	1990 MMTCO <sub>2</sub> e	2030 Proposed Plan Ranges MMTCO <sub>2</sub> e	% Change from 1990
Agricultural	26	24-25	-4% to -8%
Residential and Commercial	44	38-40	-9% to -14%
Electric Power	108	30-53	-51% to -72%
High GWP	3	8-11	267% to 367%
Industrial	98	83-90	-8% to -15%
Recycling and Waste	7	8-9	14% to 29%
Transportation (including TCU)	152	103-111	-27% to -32%
Net Sink <sup>1</sup>	-7	TBD	TBD
Sub Total	431	294-339	-21% to -32%
Cap-and-Trade Program	NA	34-79	NA
<b>Total</b>	<b>431</b>	<b>260</b>	<b>-40%</b>

Source: CARB 2017b

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

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

#### *Executive Order B-55-18*

Executive Order B-55-18, signed September 10, 2018, sets a goal “to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.” Executive Order B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO<sub>2</sub>e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

#### *2022 Climate Change Scoping Plan Update*

CARB released the Draft 2022 Scoping Plan on May 10, 2022. The Scoping Plan was updated to address the carbon neutrality goals of EO B-55-18. Previous Scoping Plans focused on specific GHG reduction targets for our industrial, energy, and transportation sectors—to meet 1990 levels by 2020, and then the more aggressive 40 percent below that for the 2030 target. Carbon neutrality takes it one step further by expanding actions to capture and store carbon including through natural and working lands and mechanical technologies, while drastically reducing anthropogenic sources of carbon pollution at the same time. The measures in the Scoping Plan would achieve 80 percent below 1990 levels by 2050. Final adoption of the 2022 Scoping Plan is anticipated in late fall 2022 (CARB 2022).

CARB’s 2022 Scoping Plan identifies strategies that would be most impactful at the local level for ensuring substantial process towards the state’s carbon neutrality goals (see Table 5.7-5).

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**Table 5.7-5 Priority Strategies for Local Government Climate Action Plans**

Priority Area	Priority Strategies
Transportation Electrification	Convert local government fleets to zero-emission vehicles (ZEV).
	Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as permit streamlining, infrastructure siting, consumer education, or preferential parking policies).
VMT Reduction	Reduce or eliminate minimum parking standards in new developments,
	Adopt and implement Complete Streets policies and investments, consistent with general plan circulation element requirements,
	Increase public access to shared clean mobility options (such as planning for and investing in electric shuttles, bike share, car share, transit).
	Implement parking pricing or transportation demand management pricing strategies.
	Amend zoning or development codes to enable mixed-use, walkable, and compact infill development (such as increasing allowable density of the neighborhood).
	Preserve natural and working lands.
Building Decarbonization	Adopt policies and incentive programs to implement energy efficiency retrofits (such as weatherization, lighting upgrades, replacing energy intensive appliances and equipment with more efficient systems, etc.).
	Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings.
	Adopt policies and incentive programs to reduce electrical loads from equipment plugged into outlets (such as purchasing Energy Star equipment for municipal buildings, occupancy sensors, smart power strips, equipment controllers, etc.).
	Facilitate deployment of renewable energy production and distribution and energy storage.

Source: CARB 2022

For CEQA projects for proposed land use developments, CARB recommends demonstrating that they are aligned with state climate goals based on the attributes of land use development that reduce operational GHG emissions while simultaneously advancing fair housing. Attributes that accommodate growth in a manner consistent with the GHG and equity goals of SB 32 have all the following attributes:

- At least 20 percent of the units are affordable to lower-income residents;
- Result in no net loss of existing affordable units;
- Utilize existing infill sites that are surrounded by urban uses, and reuse or redevelop previously developed, underutilized land presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer);
- Include transit-supportive densities (minimum of 20 residential dwelling units/acre), or are in proximity to existing transit (within ½ mile), or satisfy more detailed and stringent criteria specified in the region’s Sustainable Communities Strategy (SCS), for “SCS consistency” that would go further to reduce emissions;
- Do not result in the loss or conversion of the state’s natural and working lands;
- Use all electric appliances, without any natural gas connections, and would not use propane or other fossil fuels for space heating, water heating, or indoor cooking;

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- Provide EV charging infrastructure at least in accordance with the California Green Building Standards Code (CALGreen) Tier 2 standards; and
- Relax parking requirements by:
  - Eliminating parking requirements or including maximum allowable parking ratios.
  - Providing residential parking supply at a ratio of <1 parking space per unit;
  - Unbundling residential parking costs from costs to rent or lease (CARB 2022).

The second approach to project-level alignment with state climate goals is net zero GHG emissions. The third approach to demonstrating project-level alignment with state climate goals is to align with GHG thresholds of significance, which many local air quality management (AQMDs) and air pollution control districts (APCDs) have developed or adopted (CARB 2022).

#### *Senate Bill 375*

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

#### *2017 Update to the SB 375 Targets*

CARB is required to update the targets for the MPOs every eight years. CARB adopted revised SB 375 targets for the MPOs in March 2018. The updated targets became effective in October 2018. All SCSs adopted after October 1, 2018, are subject to these new targets. CARB's updated SB 375 targets for the SCAG region were an 8 percent per capita GHG reduction in 2020 from 2005 levels (unchanged from the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 13 percent) (CARB 2018).

The targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update (for SB 32), while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of “percent per capita” reductions in GHG emissions from automobiles and light trucks relative to 2005; this excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future state strategies, such as statewide road user pricing. The proposed targets call for greater per-capita GHG emission reductions from SB 375 than are currently in place, which for 2035 translate into proposed targets

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that either match or exceed the emission reduction levels in the MPOs' currently adopted SCSs to achieve the SB 375 targets. CARB foresees that the additional GHG emissions reductions in 2035 may be achieved from land use changes, transportation investment, and technology strategies (CARB 2018).

#### *SCAG's 2016-2040 RTP/SCS*

SB 375 requires each MPO to prepare a sustainable communities strategy in its regional transportation plan. For the SCAG region, the 2020-2045 RTP/SCS, *Connect SoCal*, was adopted on September 3, 2020, and is an update to the 2016-2040 RTP/SCS (SCAG 2020). In general, the RTP/SCS outlines a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce VMT from automobiles and light duty trucks and thereby reduce GHG emissions from these sources.

*Connect SoCal* focuses on the continued efforts of the previous RTP/SCSs to integrate transportation and land use strategies in development of the SCAG region through the horizon year 2045 (SCAG 2020). *Connect SoCal* forecasts that the SCAG region will meet its GHG per capita reduction targets of 8 percent by 2020 and 19 percent by 2035. It also forecasts that implementation of the plan will reduce VMT per capita in year 2045 by 4.1 percent compared to baseline conditions for that year. *Connect SoCal* includes a "Core Vision" that centers on maintaining and better managing the transportation network for moving people and goods, while expanding mobility choices by locating housing, jobs, and transit closer together; and increasing investments in transit and complete streets (SCAG 2020).

#### *Transportation Sector Specific Regulations*

##### *Assembly Bill 1493*

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and was anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 light-duty vehicles (see also the discussion on the update to the Corporate Average Fuel Economy standards under *Federal Laws*, above). In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combined the control of smog, soot, and GHGs with requirements for greater numbers of ZE vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent less GHG emissions and 75 percent less smog-forming emissions.

##### *Executive Order S-01-07*

On January 18, 2007, the state set a new LCFS for transportation fuels sold in the state. EO S-01-07 set a declining standard for GHG emissions measured in grams of CO<sub>2e</sub> per unit of fuel energy sold in California. The LCFS required a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applied to refiners, blenders, producers, and

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importers of transportation fuels, and used market-based mechanisms to allow these providers to choose the most economically feasible methods for reducing emissions during the “fuel cycle.”

#### *Executive Order B-16-2012*

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZE vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). EO B-16-2012 also directed the number of ZE vehicles in California’s state vehicle fleet to increase through the normal course of fleet replacement, so that at least 10 percent of fleet purchases of light-duty vehicles are ZE by 2015 and at least 25 percent by 2020. The EO also established a target for the transportation sector of reducing GHG emissions to 80 percent below 1990 levels.

#### *Executive Order N-79-20*

On September 23, 2020, Governor Newsom signed EO N-79-20 whose goal is that 100 percent of in-state sales of new passenger cars and trucks will be ZE by 2035. Additionally, the fleet goals for truck are that 100 percent of drayage trucks are ZE by 2035 and 100 percent of medium- and heavy-duty vehicles in the state are ZE by 2045, where feasible. The EO’s identifies a goal for the state to transition to 100 percent ZE off-road vehicles and equipment by 2035, where feasible.

#### *Renewables Portfolio: Carbon Neutrality Regulations*

##### *Senate Bills 1078, 107, and X1-2, and Executive Order S-14-08*

A major component of California’s Renewable Energy Program is the renewable portfolio standard (RPS) established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. EO S-14-08 was signed in November 2008, which expanded the state’s RPS to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production decreases indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

##### *Senate Bill 350*

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

##### *Senate Bill 100*

On September 10, 2018, Governor Brown signed SB 100. Under SB 100, the RPS for public-owned facilities and retail sellers consists of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026. SB 100 establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity

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to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

#### *Energy Efficiency Regulations*

##### *California Building Code: Building Energy Efficiency Standards*

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018, and went into effect on January 1, 2020.

The 2019 standards move toward cutting energy use in new homes by more than 50 percent and require installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018b). Under the 2019 standards, nonresidential buildings are generally 30 percent more energy efficient than under the 2016 standards, and single-family homes are generally 7 percent more energy efficient (CEC 2018a). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would generally use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018a).

On August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which were subsequently approved by the California Building Standards Commission in December 2021. The 2022 standards become effective and replace the existing 2019 standards on January 1, 2023. The 2022 standards would require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers (CEC 2021).

##### *California Building Code: CALGreen*

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.<sup>3</sup> The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2019. The 2019 CALGreen

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<sup>3</sup> The green building standards became mandatory in the 2010 edition of the code.

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standards became effective January 1, 2020. In 2021, the CEC approved the 2022 CALGreen, which become effective on January 1, 2023.

#### *2006 Appliance Efficiency Regulations*

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

#### *Solid Waste Diversion Regulations*

##### *AB 939: Integrated Waste Management Act of 1989*

California’s Integrated Waste Management Act of 1989 (AB 939, Public Resources Code secs. 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act required that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

##### *AB 341*

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

##### *AB 1327*

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

##### *AB 1826*

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

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### *Water Efficiency Regulations*

#### ***SBX7-7***

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

#### ***AB 1881: Water Conservation in Landscaping Act***

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

### *Short-Lived Climate Pollutant Reduction Strategy*

#### ***Senate Bill 1383***

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and CH<sub>4</sub>. Black carbon is the light-absorbing component of fine particulate matter produced during the incomplete combustion of fuels. SB 1383 required the state board, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also established targets for reducing organic waste in landfills. On March 14, 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy, which identifies the state’s approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use (CARB 2017a). In-use on-road rules were expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020. South Coast AQMD is one of the air districts that requires air pollution control technologies for chain-driven broilers, which reduces particulate emissions from these char broilers by over 80 percent (CARB 2017a). Additionally, South Coast AQMD Rule 445 limits installation of new fireplaces in the South Coast Air Basin.

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#### Local

##### *City of Claremont Sustainable City Plan*

The City of Claremont adopted its Sustainable City Plan (SCP) in 2008 and most recently updated it in 2021. The SCP establishes a framework in which the Claremont community can achieve its vision of becoming a sustainable city and enable all who live and work in Claremont to live in ways that allow them to meet their needs while preserving the ability of future generations to do the same (Claremont 2021). The SCP identifies principles, goals, programs, and actions as well as reduction targets over seven goal areas defined by the City: resource conservation, environmental public health and local agriculture, transportation, sustainably built environment, open space and biodiversity, housing and economic development, and public outreach and education.

#### 5.7.1.3 EXISTING CONDITIONS

##### California's GHG Sources and Relative Contribution

In 2021, the statewide GHG emissions inventory was updated for 2000 to 2019 emissions using the GWPs in IPCC's AR4 (IPCC 2013). Based on these GWPs, California produced 418.2 MMTCO<sub>2e</sub> GHG emissions in 2019. California's transportation sector was the single largest generator of GHG emissions, producing 39.7 percent of the state's total emissions. Industrial sector emissions made up 21.1 percent, and electric power generation made up 14.1 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (10.5 percent), agriculture and forestry (7.6 percent), high GWP (4.9 percent), and recycling and waste (2.1 percent) (CARB 2021).

Since the peak level in 2004, California's GHG emissions have generally followed a decreasing trend. In 2016, California statewide GHG emissions dropped below the AB 32 target for year 2020 of 431 MMTCO<sub>2e</sub> and have remained below this target since then. In 2019, emissions from routine GHG-emitting activities statewide were almost 13 MMTCO<sub>2e</sub> lower than the AB 32 target for year 2020. Per-capita GHG emissions in California have dropped from a 2001 peak of 14.0 MTCO<sub>2e</sub> per person to 10.5 MTCO<sub>2e</sub> per person in 2019, a 25 percent decrease.

Transportation emissions continued to decline in 2019 statewide as they had done in 2018, with even more substantial reductions due to a significant increase in renewable diesel. Since 2008, California's electricity sector has followed an overall downward trend in emissions. In 2019, solar power generation continued its rapid growth since 2013. Emissions from high-GWP gases comprised 4.9 percent of California's emissions in 2019. This continues the increasing trend as the gases replace ozone-depleting substances being phased out under the 1987 Montreal Protocol. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product) has declined 45 percent since the 2001 peak, though the state's gross domestic product grew 63 percent during this period (CARB 2021).

#### Project Area

The Project Area is currently vacant and does not generate GHG emissions.

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#### 5.7.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

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

##### 5.7.2.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

South Coast AQMD adopted a significance threshold of 10,000 MTCO<sub>2e</sub> per year for permitted (stationary) sources of GHG emissions for which South Coast AQMD is the designated lead agency. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, South Coast AQMD convened a GHG CEQA Significance Threshold Working Group. Based on the last Working Group meeting in September 2010 (Meeting No. 15), the South Coast AQMD Working Group identified a tiered approach for evaluating GHG emissions for development projects where South Coast AQMD is not the lead agency (South Coast AQMD 2010a). The following tiered approach has not been formally adopted by South Coast AQMD.

- **Tier 1.** If a project is exempt from CEQA, project-level and contribution to significant cumulative GHG emissions are less than significant.
- **Tier 2.** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (e.g., city or county), project-level and contribution to significant cumulative GHG emissions are less than significant.
- **Tier 3.** If GHG emissions are less than the screening-level criterion, project-level and contribution to significant cumulative GHG emissions are less than significant.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, South Coast AQMD Working Group requires an assessment of GHG emissions. Project-related GHG emissions include on-road transportation, energy use, water use, wastewater generation, solid waste disposal, area sources, off-road emissions, and construction activities. The South Coast AQMD Working Group decided that because construction activities would result in a "one-time" net increase in GHG emissions, construction activities should be amortized into the operational phase GHG emissions inventory based on the service life of a building. For buildings in general, it is reasonable to look at a 30-year time frame, since this is a typical interval before a new building requires the first major renovation. South Coast AQMD Working Group identified a screening-level threshold of 3,000 MTCO<sub>2e</sub> annually for all land use types. The bright-line screening-level criteria are based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds. Therefore, projects that do not exceed the bright-line

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threshold would have a nominal and less than cumulatively considerable impact on GHG emissions. South Coast AQMD Working Group recommends use of the 3,000 MTCO<sub>2e</sub> interim bright-line screening-level criterion for all project types (South Coast AQMD 2010b).

- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.

The South Coast AQMD Working Group's bright-line screening-level criterion of 3,000 MTCO<sub>2e</sub> per year is used as the significance threshold for the Specific Plan. If the project operation-phase emissions exceed this criterion, GHG emissions would be considered potentially significant without mitigation measures.

#### 5.7.2.2 MASS EMISSIONS AND HEALTH EFFECTS

On December 24, 2018, in *Sierra Club et al. v. County of Fresno et al.* (Friant Ranch), the California Supreme Court determined that the EIR for the proposed Friant Ranch project failed to adequately analyze the project's air quality impacts on human health. The EIR prepared for the project, which involved a master planned retirement community in Fresno County, showed that project-related mass emissions would exceed the San Joaquin Valley Air Pollution Control District's regional significance thresholds. In its findings, the California Supreme Court affirmed the holding of the Court of Appeal that EIRs for projects must not only identify impacts to human health, but also provide an "analysis of the correlation between the project's emissions and human health impacts" related to each criterion air pollutant that exceeds the regional significance thresholds or explain why it could not make such a connection. In general, the ruling focuses on the correlation of emissions of toxic air contaminants and criteria air pollutants and their impact to human health.

In 2009, EPA issued an endangerment finding for six GHGs (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>) in order to regulate GHG emissions from passenger vehicles. The endangerment finding is based on evidence that shows an increase in mortality and morbidity associated with increases in average temperatures, which increase the likelihood of heatwaves and ozone levels. The effects of climate change are identified in Table 5.7-2. Though identified effects such as sea level rise and increased extreme weather can indirectly impact human health, neither EPA nor CARB has established ambient air quality standards for GHG emissions. The state's GHG reduction strategy outlines a path to avoid the most catastrophic effects of climate change. Yet the state's GHG reduction goals and strategies are based on the state's path toward reducing statewide cumulative GHGs as outlined in AB 32, SB 32, and EO S-03-05.

As mentioned above, the two significance thresholds that the County uses to analyze GHG impacts are based on achieving the statewide GHG reduction goals based on a no net increase in GHG emissions (GHG-1) and consistency with policies or plans adopted to reduce GHG emissions (GHG-2). Further, because no single project is large enough to result in a measurable increase in global concentration of GHG emissions, climate change impacts of a project are considered on a cumulative basis. Without federal ambient air quality standards for GHG emissions and given the cumulative nature of GHG emissions and the County's significance thresholds, which are tied to reducing the state's cumulative GHG emissions, it is not feasible at this time to connect the project's specific GHG emissions to the potential health impacts of climate change.

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### 5.7.3 Environmental Impacts

#### 5.7.3.1 METHODOLOGY

This GHG evaluation was prepared in accordance with the requirements of CEQA to determine if significant GHG impacts are likely in conjunction with implementation of the Specific Plan. South Coast AQMD has published guidelines that are intended to provide local governments with guidance for analyzing and mitigating environmental impacts, and they were used in this analysis. The analysis in this section is based on buildout of the Specific Plan as modeled using CalEEMod, version 2022.1.0, for the following sectors:

#### Construction Phase

Construction of development accommodated by the Specific Plan would entail asphalt demolition and debris haul, rough grading and soil haul, fine grading, utilities trenching, building construction, paving, architectural coating, and finishing and landscaping on the Plan Area. Buildout of the Specific Plan was modeled over a construction period of 15 months, from June 2023 to August 2025. Annual construction emissions were amortized over 30 years and included in the emissions inventory to account for one-time GHG emissions from the construction phase of development accommodated by the Specific Plan.

#### Operational Phase

- **Transportation.** The primary source of mobile greenhouse gas emissions is from the combustion of fuel (i.e., gasoline and diesel). Development accommodated by the Specific Plan would generate a 612 average weekday trips, 596 Saturday trips, and 531 Sunday trips from the residential uses (Appendix I). Where information was not provided, CalEEMod default trip lengths were used. Project-related on-road greenhouse gas emissions are based on year 2025 emission rates for the Specific Plan's buildout year.
- **Area Sources.** Area sources generated from use of consumer products and cleaning supplies are based on CalEEMod default emission rates and on the assumed building and land use square footages.
- **Energy.** CalEEMod default energy rates, which are based on the CEC's 2018-2030 Uncalibrated Commercial Sector Forecast and the 2019 Residential Appliance Saturation Survey (RASS), are used to quantify GHG emissions from energy use (i.e., natural gas and electricity). Use of the CalEEMod default energy rates results in conservative estimates compared to the recently adopted 2022 Building Energy Efficiency Standards because the 2019 RASS accounted for energy data for homes built between 1935 to 2015 with an average construction year of 1974. It is anticipated new buildings under the 2022 Standards would generally result in lower electricity use. The carbon intensity factor is based on the CO<sub>2</sub>e intensity factor of 452 pounds per megawatt hour (lbs/MWh) as reported in Southern California Edison's 2021 Sustainability Report (SCE 2022). Overall, using the AR4 GWPs and the default CalEEMod intensity factors of 0.033 lb/MWh for CH<sub>4</sub> and 0.004 lb/MWh for N<sub>2</sub>O, the adjusted intensity factor for CO<sub>2</sub> is 449.98 lbs/MWh.
- **Solid Waste Disposal.** Indirect emissions from waste generation are based on a total daily solid waste generation of 580 pounds per day (see Section 5.19, *Utilities and Service Systems*, for further details).

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- **Water/Wastewater.** Water use and wastewater generation is based on Water Supply and Demand Analysis and may be found in Section 5.19, *Utilities and Service Systems*. Wastewater generation is estimated to be 15,080 gallons per day or 5,504,200 gallons per year while outdoor water use is estimated to be 6,444 gallons per day or 2,352,060 gallons per year.

Life cycle emissions are not included in the GHG analysis, consistent with California Resources Agency directives.<sup>4</sup> Black carbon emissions are not included in the GHG analysis because CARB does not include this pollutant in the state's AB 32 inventory but treats this short-lived climate pollutant separately.<sup>5</sup> Additionally, while not anticipated, industrial sources of emissions that require a permit from South Coast AQMD (permitted sources) are not included in the Specific Plan's community inventory since they have separate emission reduction requirements. GHG modeling is included in Appendix B of this DEIR.

#### 5.7.3.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Notice of Preparation disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

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**Impact 5.7-1: Development accommodated by the Specific Plan would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. [Threshold GHG-1]**

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**Impact Analysis:** Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough greenhouse gas emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact.

Implementation of the Specific Plan would accommodate development of up to 58 new single-family homes with accessory dwelling units. Operation of development accommodated by the Specific Plan would generate 612 new weekday vehicle trips compared to existing conditions.

Operation of development accommodated by the Specific Plan would result in an increase in water demand, wastewater and solid waste generation, area sources (e.g., consumer cleaning products), refrigerants, and energy use. Annual average construction emissions were amortized over 30 years and included in the emissions

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<sup>4</sup> Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analyses was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction of development accommodated by the Specific Plan is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (OPR 2008).

<sup>5</sup> Particulate matter emissions, which include black carbon, are analyzed in Section 5.3, *Air Quality*. Black carbon emissions have sharply declined due to efforts to reduce on-road and off-road vehicle emissions, especially diesel particulate matter. The State's existing air quality policies will virtually eliminate black carbon emissions from on-road diesel engines within 10 years (CARB 2017a).

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inventory to account for one-time GHG emissions from the construction phase of development accommodated by the Specific Plan.

The proposed construction- and operation-related emissions of development accommodated by the Specific Plan are quantified and shown in Table 5.7-6. As demonstrated in the table, development and operation associated with the Specific Plan would not generate annual emissions that exceed the South Coast AQMD bright-line threshold of 3,000 metric tons of carbon dioxide equivalent (MTCO<sub>2e</sub>) per year (South Coast AQMD 2010). Therefore, the cumulative contribution to GHG emissions as a result of implementation of the Specific Plan would be less than significant.

**Table 5.7-6 Project-Related GHG Emissions**

Source	GHG Emissions <sup>1</sup>	
	MTCO <sub>2e</sub> Per Year	Percent Proportion
Mobile	1,481	84%
Area	1	<1%
Energy	200	11%
Water	15	1%
Solid Waste	11	1%
Refrigeration	<1	<1%
Amortized Construction Emissions <sup>1</sup>	45	3%
<b>Total</b>	1,753	100%
South Coast AQMD Bright-Line Threshold	3,000 MTCO <sub>2e</sub> /Yr	NA
<b>Exceeds Bright-Line Threshold?</b>	<b>No</b>	NA

Source: CalEEMod, Version 2022.1.0.

Notes: MTons = metric tons; MTCO<sub>2e</sub> = metric ton of carbon dioxide equivalent

<sup>1</sup> Total construction emission are amortized over 30 years per South Coast AQMD methodology (South Coast AQMD 2009).

**Impact 5.7-2: Implementation of the Specific Plan would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. [Threshold GHG-2])**

**Impact Analysis:** Applicable plans adopted for the purpose of reducing GHG emissions include CARB’s Scoping Plan, SCAG’s RTP/SCS, and the City of Claremont Sustainable City Plan. A consistency analysis with these plans is presented below.

### CARB Scoping Plan

The CARB Scoping Plan is applicable to state agencies but is not directly applicable to cities/counties and individual projects (i.e., the Scoping Plan does not require the City to adopt policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the state agencies outlined in the Scoping Plan result in GHG emissions reductions at the local level. As a result, local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that affect a local jurisdiction’s emissions inventory from the top down. Statewide strategies

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to reduce GHG emissions include the LCFS and changes in the corporate average fuel economy standards (e.g., Pavley I and Pavley California Advanced Clean Cars program).

Development accommodated by the Specific Plan would adhere to the programs and regulations identified by the Scoping Plan and implemented by state, regional, and local agencies to achieve the statewide GHG reduction goals of AB 32 and SB 32. For example, new buildings associated with the Specific Plan would be required to meet the current CALGreen and Building Energy Efficiency standards at the time they are constructed. GHG emissions associated with development accommodated by the Specific Plan, as shown in Table 5.7-6, include reductions associated with statewide strategies that have been adopted since AB 32 and SB 32. Therefore, development accommodated by the Specific Plan would generate GHG emissions consistent with the reduction goals of AB 32 and SB 32, and no impact would occur.

#### **SCAG's Regional Transportation Plan / Sustainable Communities Strategy**

SCAG adopted the 2020-2045 RTP/SCS (Connect SoCal) in September 2020. Connect SoCal finds that land use strategies that focus on new housing and job growth in areas rich with destinations and mobility options would be consistent with a land use development pattern that supports and complements the proposed transportation network. The overarching strategy in Connect SoCal is to plan for the southern California region to grow in more compact communities in transit priority areas and priority growth areas; provide neighborhoods with efficient and plentiful public transit; establish abundant and safe opportunities to walk, bike, and pursue other forms of active transportation; and preserve more of the region's remaining natural lands and farmlands (SCAG 2020). Connect SoCal's transportation projects help more efficiently distribute population, housing, and employment growth, and forecast development is generally consistent with regional-level general plan data to promote active transportation and reduce GHG emissions. The projected regional development, when integrated with the proposed regional transportation network in Connect SoCal, would reduce per-capita GHG emissions related to vehicular travel and achieve the GHG reduction per capita targets for the SCAG region.

The Connect SoCal Plan does not require that local general plans, specific plans, or zoning be consistent with the SCS, but provides incentives for consistency to governments and developers. The Specific Plan would accommodate residential development, which would provide new single family on an infill site, which in turn would contribute to reducing the vehicle miles traveled between residential and service needs. In addition, development accommodated by the Specific Plan would include design features such as connection of public sidewalks to internal private streets and Thompson Creek Trail. These features would promote active transportation within the community, thereby minimizing VMT. Therefore, implementation of the Specific Plan would not interfere with SCAG's ability to implement the regional strategies in Connect SoCal, and no impact would occur.

#### **City of Claremont Sustainable City Plan**

Adopted by the City of Claremont in 2008 and most recently updated in 2021, the SCP establishes a framework in which the Claremont community can achieve its vision of becoming a sustainable city and enable all who live and work in Claremont to live in ways that allow them to meet their needs while preserving the ability of future generations to do the same (Claremont 2021). The City aims to integrate the principles, goals, programs,

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and actions of the SCP, including reduction targets for greenhouse gases, into its permanent organizational structure and decision-making processes and provides actions and implementation plans for seven goal areas defined by the City: resource conservation, environmental public health and local agriculture, transportation, sustainably built environment, open space and biodiversity, housing and economic development, and public outreach and education.

While most of the measures under each goal area within the SCP apply specifically to municipal operations and city infrastructure improvements, implementation of the Specific Plan is consistent with the broad strategies outlined in the SCP. For instance, implementation of the Specific Plan would be required to comply with the latest Building Energy Efficiency Standards and CALGreen requirements and would include installation of photovoltaic (PV) systems and electric vehicle capable infrastructure for each single-family unit. As shown in Chapter 3, *Project Description*, development accommodated by the Specific Plan would include low-flow water fixtures, tankless water heaters, high-performance Energy Star appliances, and other energy efficient appliances and materials. Landscaping would also be climate appropriate and designed for low water consumption, and smart technology for irrigation controls. In addition, because development accommodated by the Specific Plan would be constructed in compliance with CALGreen, it would require recycling a minimum of 65 percent of the nonhazardous construction and demolition debris. Development accommodated by the Specific Plan also would encourage clean mobility by including electric vehicle capable infrastructure in every residential unit. Therefore, implementation of the Specific Plan would not interfere with implementation of the City's SCP, and no impact would occur.

### 5.7.4 Cumulative Impacts

Project-related GHG emissions are not confined to a particular air basin but are dispersed worldwide. Therefore, Impact 5.7-1 is not a project-specific impact, but the Specific Plan's contribution to a cumulative impact. Implementation of the Specific Plan would not result in annual emissions that would exceed South Coast AQMD's bright-line threshold. Therefore, project-related GHG emissions and their contribution to global climate change would not be cumulatively considerable, and GHG emissions impacts would be less than significant.

### 5.7.5 Level of Significance Before Mitigation

Upon implementation of regulatory requirements, the following impacts would be less than significant: 5.7-1 and 5.7-2.

### 5.7.6 Mitigation Measures

No significant adverse impacts related to GHG were identified and no mitigation measures are necessary.

### 5.7.7 Level of Significance After Mitigation

No significant adverse impacts related to GHG were identified.

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### GREENHOUSE GAS EMISSIONS

#### 5.7.8 References

- California Air Pollution Control Officers Association (CAPCOA). 2022. California Emissions Estimator Model (CalEEMod). Version 2022.1.0. Prepared by: ICF in collaboration with Sacramento Metropolitan Air Quality Management District.
- California Air Resources Board. 2008, October. Climate Change Proposed Scoping Plan: A Framework for Change.
- . 2014, May 15. First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006. <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>.
- . 2017a, March. Short-Lived Climate Pollutant Reduction Strategy. <https://www.arb.ca.gov/cc/shortlived/shortlived.htm>.
- . 2017b, November. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. [https://www.arb.ca.gov/cc/scopingplan/2030sp\\_pp\\_final.pdf](https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf).
- . 2018, February. Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets. [https://www.arb.ca.gov/cc/sb375/sb375\\_target\\_update\\_final\\_staff\\_report\\_feb2018.pdf](https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf).
- . 2019. California and Major Automakers Reach Groundbreaking Framework Agreement on Clean Emission Standards. Press release. Accessed September 5, 2019. <https://ww2.arb.ca.gov/news/california-and-major-automakers-reach-groundbreaking-framework-agreement-clean-emission>.
- . 2021, July 28. California Greenhouse Gas 2000-2019 Emissions Trends and Indicators Report. [https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000\\_2019/ghg\\_inventory\\_trends\\_00-19.pdf](https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf).
- . 2022, May 2 (accessed). 2022 Scoping Plan Update - Scenario Concepts Technical Workshop Presentations. <https://ww2.arb.ca.gov/resources/documents/2022-scoping-plan-update-scenario-concepts-technical-workshop-presentations>.
- California Climate Action Team (CAT). 2006, March. Climate Action Team Report to Governor Schwarzenegger and the Legislature.
- California Climate Change Center (CCCC). 2012, July. Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California.
- California Energy Commission (CEC). 2006. Our Changing Climate: Assessing the Risks to California. 2006 Biennial Report. CEC-500-2006-077. California Climate Change Center.
- . 2009, May. The Future Is Now: An Update on Climate Change Science, Impacts, and Response Options for California. CEC-500-2008-0077.

## 5. Environmental Analysis GREENHOUSE GAS EMISSIONS

- . 2018a, March. 2019 Building Energy and Efficiency Standards Frequently Asked Questions. [https://www.energy.ca.gov/sites/default/files/2020-03/Title\\_24\\_2019\\_Building\\_Standards\\_FAQ\\_ada.pdf](https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf).
- . 2018b, May 9. Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation. News Release. <https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first>.
- . 2021, May 19. Amendments to the Building Energy Efficiency Standards (2022 Energy Code) Draft Environmental Report. CEC-400-2021-077-D.
- California Natural Resources Agency (CNRA). 2014, July. Safeguarding California: Reducing Climate Risk: An Update to the 2009 California Climate Adaptation Strategy. [https://resources.ca.gov/CNRALegacyFiles/docs/climate/Final\\_Safeguarding\\_CA\\_Plan\\_July\\_31\\_2014.pdf](https://resources.ca.gov/CNRALegacyFiles/docs/climate/Final_Safeguarding_CA_Plan_July_31_2014.pdf).
- . 2019, January 16. California's Fourth Climate Change Assessment: Statewide Summary Report. [https://www.energy.ca.gov/sites/default/files/2019-11/Statewide\\_Reports-SUM-CCCA4-2018-013\\_Statewide\\_Summary\\_Report\\_ADA.pdf](https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf).
- Claremont, City of. 2021, April. Sustainable City Plan. <https://www.ci.claremont.ca.us/home/showpublisheddocument/16287/637540783026300000>.
- Governor's Office of Planning and Research (OPR). 2008, June. CEQA and Climate Change: Addressing Climate Change through CEQA Review. Technical Advisory. <https://opr.ca.gov/docs/june08-ceqa.pdf>.
- Intergovernmental Panel on Climate Change (IPCC). 1995. Second Assessment Report: Climate Change 1995.
- . 2001. Third Assessment Report: Climate Change 2001. New York: Cambridge University Press.
- . 2007. Fourth Assessment Report: Climate Change 2007. New York: Cambridge University Press.
- . 2013. Fifth Assessment Report: Climate Change 2013. New York: Cambridge University Press.
- International Energy Agency. 2008. Energy Efficiency Requirements in Building Codes, Energy Efficiency Policies for New Buildings, March. [https://iea.blob.core.windows.net/assets/3783f5e8-b14c-4c18-b04c-aab7c59d6e92/Building\\_Codes.pdf](https://iea.blob.core.windows.net/assets/3783f5e8-b14c-4c18-b04c-aab7c59d6e92/Building_Codes.pdf).
- National Highway Traffic Safety Administration. 2022, April 1. USDOT Announces New Vehicle Fuel Economy Standards for Model year 2024-2026. <https://www.nhtsa.gov/press-releases/usdot-announces-new-vehicle-fuel-economy-standards-model-year-2024-2026>, accessed on July 27, 2022.
- Office of Environmental Health Hazards Assessment (OEHHA). 2018, May. Indicators of Climate Change in California. <https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf>.

## 5. Environmental Analysis

### GREENHOUSE GAS EMISSIONS

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

South Coast Air Quality Management District (South Coast AQMD). 2009, November 19. GHG Meeting 14 Main Presentation. Greenhouse Gases (GHG) CEQA Significance Threshold Working Group. [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-14/ghg-meeting-14-main-presentation.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-14/ghg-meeting-14-main-presentation.pdf?sfvrsn=2).

———. 2010a, September 28. Agenda for Meeting 15. Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group. [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-main-presentation.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-main-presentation.pdf?sfvrsn=2).

———. 2010b, September 28. Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15. [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf).

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

Southern California Edison (SCE). 2020. 2020 Sustainability Report. <https://www.edison.com/content/dam/eix/documents/sustainability/eix-2020-sustainability-report.pdf>.

US Environmental Protection Agency (USEPA). 2009, December. EPA: Greenhouse Gases Threaten Public Health and the Environment: Science overwhelmingly shows greenhouse gas concentrations at unprecedented levels due to human activity. [https://archive.epa.gov/epapages/newsroom\\_archive/newsreleases/08d11a451131bca585257685005bf252.html](https://archive.epa.gov/epapages/newsroom_archive/newsreleases/08d11a451131bca585257685005bf252.html).

———. 2022, February 11 (accessed). Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act. <https://www.epa.gov/climate-change/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a>.