

## **4.7 GREENHOUSE GAS EMISSIONS**

This chapter describes the regulatory framework and existing conditions of the City of San Mateo Environmental Impact Report (EIR) Study Area and evaluates the potential greenhouse gas (GHG) emissions impacts from adopting and implementing the proposed General Plan 2040 and proposed Climate Action Plan (CAP) update, and from future development and activities that could occur under the proposed project. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of potential impacts and cumulative impacts from implementation of the proposed project.

### **4.7.1 ENVIRONMENTAL SETTING**

#### **4.7.1.1 TERMINOLOGY**

The following are definitions for terms used throughout this chapter:

- **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 GHG absorbs relative to a molecule of carbon dioxide (CO<sub>2</sub>) over a given period (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 GHGs 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.

#### **4.7.1.2 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

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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>), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.<sup>1,2</sup>

The major GHGs are briefly described below.

- **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 (i.e., 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 a stronger greenhouse effect than others. These are referred to as high GWP gases. The GWP of applicable GHG emissions are shown in Table 4.7-1, *Greenhouse Gas Emissions and Their Relative Global Warming Potential Compared to CO<sub>2</sub>*. 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 methane (CH<sub>4</sub>), a project that generates 10 metric tons (MT) of CH<sub>4</sub> would be equivalent to 280 MT of CO<sub>2</sub>.

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<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, but 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. The share of black carbon emissions from transportation is dropping rapidly and is expected to continue to do so between now and 2030 as a result of California's air quality programs. The remaining black carbon emissions will come largely from woodstoves/fireplaces, off-road applications, and industrial/commercial combustion. 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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**TABLE 4.7-1 GREENHOUSE GAS EMISSIONS AND THEIR RELATIVE GLOBAL WARMING POTENTIAL COMPARED TO CO<sub>2</sub>**

GHGs	Fifth Assessment Report (AR5) Global Warming Potential Relative to CO <sub>2</sub> <sup>a</sup>	Sixth Assessment Report (AR6) Global Warming Potential Relative to CO <sub>2</sub> <sup>a</sup>
Carbon Dioxide (CO <sub>2</sub> )	1	1
Methane (CH <sub>4</sub> ) <sup>b</sup>	28	30
Nitrous Oxide (N <sub>2</sub> O)	265	273

Notes: The IPCC published updated GWP values in its Sixth Assessment Report (AR6) that reflect latest information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO<sub>2</sub>. However, GWP values identified in AR5 are used by the 2022 Scoping Plan for long-term emissions forecasting. Therefore, this analysis utilizes AR5 GWP values consistent with the current Scoping Plan.

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

b. 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.

Sources: Intergovernmental Panel on Climate Change, 2013, Fifth Assessment Report: Climate Change 2013, <https://www.ipcc.ch/report/ar5/wg1/>; IPCC 2021, Sixth Assessment Report: Climate Change 2022, <https://www.ipcc.ch/assessment-report/ar6/>.

**Human Influence on Climate Change**

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth’s atmosphere that is attributable to human activities.

The recent Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC) summarizes the latest scientific consensus on climate change. It finds that atmospheric concentrations of CO<sub>2</sub> have increased by 50 percent since the industrial revolution and continue to increase at a rate of two parts per million each year. By the 2030s, and no later than 2040, the world will exceed 1.5 degrees Celsius (°C) warming.<sup>3</sup> 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.<sup>4</sup> 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.<sup>5</sup>

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.

<sup>3</sup> California Air Resources Board, Draft 2022 Scoping Plan, <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents>, accessed May 23, 2023.

<sup>4</sup> California Environmental Protection Agency, Climate Action Team, March 2006, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, <http://s3-us-west-2.amazonaws.com/ucldc-nuxeo-ref-media/0bdec21c-ca2b-4f4d-9e11-35935ac4cf5f>, accessed May 23, 2023.

<sup>5</sup> Intergovernmental Panel on Climate Change, 2007, *Fourth Assessment Report: Climate Change 2007, Impacts, Adaptation and Vulnerability*, [https://www.ipcc.ch/site/assets/uploads/2018/03/ar4\\_wg2\\_full\\_report.pdf](https://www.ipcc.ch/site/assets/uploads/2018/03/ar4_wg2_full_report.pdf), accessed May 23, 2023.

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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, on the magnitude of the trends for:

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

### Potential Climate Change Impacts for California

There is at least a greater than 50 percent likelihood that global warming will reach or exceed 1.5°C in the near-term, even for the very low GHG emissions scenario.<sup>6</sup> Climate change is already impacting California and will continue to affect it for the foreseeable future. For example, the average temperature in most areas of California is already 1°F higher than historical levels, and some areas have seen average increases in excess of 2°F.<sup>7</sup> The California Fourth Climate Change Assessment identifies the following climate change impacts under a business-as-usual scenario:

- Annual average daily high temperatures in California are expected to rise by 2.7°F by 2040, 5.8°F by 2070, and 8.8°F by 2100 compared to observed and modeled historical conditions. These changes are statewide averages. Heat waves are projected to become longer, more intense, and more frequent.
- Warming temperatures are expected to increase soil moisture loss and lead to drier seasonal conditions. Summer dryness may become prolonged, with soil drying beginning earlier in the spring and lasting longer into the fall and winter rainy season.
- High heat increases the risk of death from cardiovascular, respiratory, cerebrovascular, and other diseases.
- Droughts are likely to become more frequent and persistent.
- Climate change is projected to increase the strength of the most intense precipitation and storm events affecting California.

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<sup>6</sup> Intergovernmental Panel on Climate Change (IPCC). 2021. Sixth Assessment Report: Climate Change 2022. The Physical Science Basis. [https://report.ipcc.ch/ar6/wg1/IPCC\\_AR6\\_WGI\\_FullReport.pdf](https://report.ipcc.ch/ar6/wg1/IPCC_AR6_WGI_FullReport.pdf)

<sup>7</sup> California Office of Emergency Services (CalOES). 2020, June. California Adaptation Planning Guide. <https://www.caloes.ca.gov/HazardMitigationSite/Documents/CA-Adaptation-Planning-Guide-FINAL-June-2020-Accessible.pdf>.

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- Mountain ranges in California are already seeing a reduction in the percentage of precipitation falling as snow. Snowpack levels are projected to decline significantly by 2100 due to reduced snowfall and faster snowmelt. California’s water storage system is designed with the expectation that snow will stay frozen for many months, and that as it melts, it will be stored in a series of reservoirs and dams, many of which are used to generate electricity. Changing waterfall patterns therefore impact both water supply and electricity supply.
- Marine layer clouds are projected to decrease, though more research is needed to better understand their sensitivity to climate change.
- Extreme wildfires (i.e., fires larger than 10,000 hectares or 24,710 acres) would occur 50 percent more frequently. The maximum area burned statewide may increase 178 percent by the end of the century. Drought and reduced water supplies can increase wildfire risk.
- Exposure to wildfire smoke is linked to increased incidence of respiratory illness.
- Sea level rise is expected to continue to increase erosion of beaches, cliffs, and bluffs.<sup>8</sup>

Table 4.7-2, *Summary of Greenhouse Gas Emissions Risk to California*, shows the global climate change risks to California which include impacts public health, water resources, agriculture, coastal sea level, forest and biological resources, and energy.

**TABLE 4.7-2 SUMMARY OF GREENHOUSE GAS EMISSIONS RISK TO CALIFORNIA**

<b>Impact Category</b>	<b>Potential Risks</b>
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Poor air quality made worse Higher temperatures increase ground-level ozone (i.e., smog) levels
Water Resource Impacts	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure

<sup>8</sup> California Office of Emergency Services (CalOES). 2020, June. California Adaptation Planning Guide. <https://www.caloes.ca.gov/HazardMitigationSite/Documents/CA-Adaptation-Planning-Guide-FINAL-June-2020-Accessible.pdf>.

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**TABLE 4.7-2 SUMMARY OF GREENHOUSE GAS EMISSIONS RISK TO CALIFORNIA**

Impact Category	Potential Risks
Forest and Biological Resource Impacts	<ul style="list-style-type: none"> <li>Increased risk and severity of wildfires</li> <li>Lengthening of the wildfire season</li> <li>Movement of forest areas</li> <li>Conversion of forest to grassland</li> <li>Declining forest productivity</li> <li>Increasing threats from pest and pathogens</li> <li>Shifting vegetation and species distribution</li> <li>Altered timing of migration and mating habits</li> <li>Loss of sensitive or slow-moving species</li> </ul>
Energy Demand Impacts	<ul style="list-style-type: none"> <li>Potential reduction in hydropower</li> <li>Increased energy demand</li> </ul>

Sources: California Climate Change Center (CCCC), July 2012, *Our Changing Climate 2012, Vulnerability and Adaptation to the Increasing Risks from Climate Change in California*; Climate Change Center (CCC), July 2006, *Our Changing Climate, Assessing the Risks to California*; Climate Change Center (CCC), May 2009, *The Future Is Now: An Update on Climate Change Science, Impacts, and Response Options for California*; California Natural Resources Agency, July 2014, *Safeguarding California: Reducing Climate Risk, An Update to the 2009 California Climate Adaptation Strategy*; California Office of Emergency Services (CalOES). 2020, June. *California Adaptation Planning Guide*. <https://www.caloes.ca.gov/HazardMitigationSite/Documents/CA-Adaptation-Planning-Guide-FINAL-June-2020-Accessible.pdf>.

- **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. Even in projections with relatively little or no decline in precipitation, central and southern parts of the state are expected to be drier from the warming effects alone because the spring snowpack will melt sooner, and the moisture in soils will evaporate during long dry summer months.<sup>9</sup>
- **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 by 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.<sup>10</sup>
- **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

<sup>9</sup> California Council on Science and Technology, September 2012, *California's Energy Future: Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Targets*, <https://ccst.us/wp-content/uploads/2012ghg.pdf>, accessed May 23, 2023.

<sup>10</sup> California Council on Science and Technology, September 2012, *California's Energy Future: Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Targets*, <https://ccst.us/wp-content/uploads/2012ghg.pdf>, accessed May 23, 2023.

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ground-level ozone levels. Furthermore, wildfires can increase particulate air pollution in the major air basins of California.<sup>11</sup>

- **Increase Energy Demand.** Increases in average temperature and higher frequency of extreme heat events combined with new residential development across the state will drive up the demand for cooling in the increasingly hot and longer summer season and decrease demand for heating in the cooler season. Warmer, drier summers also increase system losses at natural gas plants (reduced efficiency in the electricity generation process at higher temperatures) and hydropower plants (lower reservoir levels). Transmission of electricity will also be affected by climate change. Transmission lines lose 7 percent to 8 percent of transmitting capacity in high temperatures while needing to transport greater loads. This means that more electricity needs to be produced to make up for the loss in capacity and the growing demand.<sup>12</sup>

### 4.7.1.3 REGULATORY FRAMEWORK

This section summarizes key federal, State, regional, and local regulations and programs related to GHG emissions resulting from the proposed project.

#### Federal Regulations

The US Environmental Protection Agency (USEPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The 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.<sup>13</sup>

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 project's GHG emissions inventory because they constitute the majority of GHG emissions and, according to guidance by the BAAQMD, are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

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<sup>11</sup> California Council on Science and Technology, September 2012, *California's Energy Future: Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Targets*, <https://ccst.us/wp-content/uploads/2012ghg.pdf>, accessed May 23, 2023.

<sup>12</sup> California Council on Science and Technology, September 2012, *California's Energy Future: Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Targets*, <https://ccst.us/wp-content/uploads/2012ghg.pdf>, accessed May 23, 2023.

<sup>13</sup> US Environmental Protection Agency, December 2009, 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).

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### *US Mandatory Report 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 MT or more of CO<sub>2</sub>e per year are required to submit an annual report.

### *Update to Corporate Average Fuel Economy Standards (2017 to 2026)*

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon (MPG) in 2025. However, 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)).

On December 21, 2021, under the direction of Executive Order (EO) 13990 issued by President Biden, the National Highway Traffic Safety Administration (NHTSA) repealed SAFE Vehicles Rule Part One, which had preempted state and local laws related to fuel economy standards. In addition, the National Highway Traffic Safety Administration (NHTSA) announced new proposed fuel standards on March 31, 2022. Fuel efficiency under the new 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.<sup>14</sup>

## State Regulations

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in EO S-03-05, EO B-30-15, EO B-55-18, Assembly Bill (AB) 3 , AB 1279, Senate Bill (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

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<sup>14</sup> National Highway Traffic Safety Administration, April 1, 2022, 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 May 23, 2023.



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### *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 in the state to 40 percent of 1990 levels by year 2030. Executive Order 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 executive order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

### *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 adopted the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) on December 15, 2022, which lays out a path to achieve carbon neutrality by 2045 or earlier and to reduce the State’s anthropogenic GHG emissions.<sup>15</sup> The Scoping Plan was updated to address the carbon neutrality goals of EO B-55-18 (discussed below) and the ambitious GHG reduction target as directed by AB 1279. 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

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<sup>15</sup> California Air Resources Board, December 2022, 2022 Scoping Plan for Achieving Carbon Neutrality, <https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf>, accessed May 23, 2023.

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target. This plan expands upon earlier Scoping Plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045. 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 path forward was informed by the recent Sixth Assessment Report (AR6) of the IPCC and the measures would achieve 85 percent below 1990 levels by 2045 in accordance AB 1279. CARB’s 2022 Scoping Plan identifies strategies as shown in Table 4.7-3, *Priority Strategies for Local Government Climate Action Plans*, that would be most impactful at the local level for ensuring substantial process towards the State’s carbon neutrality goals.

**TABLE 4.7-3 PRIORITY STRATEGIES FOR LOCAL GOVERNMENT CLIMATE ACTION PLANS**

Priority Area	Priority Strategies
Transportation Electrification	Convert local government fleets to zero-emission vehicles (ZEV) and provide EV charging at public sites.
	Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as building standards that exceed state building codes, permit streamlining, infrastructure siting, consumer education, preferential parking policies, and ZEV readiness plans).
	Reduce or eliminate minimum parking standards.
VMT Reduction	Implement Complete Streets policies and investments, consistent with general plan circulation element requirements.
	Increase access to public transit by increasing density of development near transit, improving transit service by increasing service frequency, creating bus priority lanes, reducing or eliminating fares, microtransit, etc.
	Increase public access to clean mobility options by planning for and investing in electric shuttles, bike share, car share, and walking.
	Implement parking pricing or transportation demand management pricing strategies.
	Amend zoning or development codes to enable mixed-use, walkable, transit-oriented, and compact infill development (such as increasing allowable density of the neighborhood).
Building Decarbonization	Preserve natural and working lands by implementing land use policies that guide development toward infill areas and do not convert “greenfield” land to urban uses (e.g., green belts, strategic conservation easements)
	Adopt all-electric new construction reach codes for residential and commercial uses.
	Adopt policies and incentive programs to implement energy efficiency retrofits for existing buildings, such as weatherization, lighting upgrades, and replacing energy-intensive appliances and equipment with more efficient systems (such as Energy Star-rated equipment and equipment controllers).
	Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings such as appliance rebates, existing building reach codes, or time of sale electrification ordinances.
	Facilitate deployment of renewable energy production and distribution and energy storage on privately owned land uses (e.g., permit streamlining, information sharing)
	Deploy renewable energy production and energy storage directly in new public projects and on existing public facilities (e.g., solar photovoltaic systems on rooftops of municipal buildings and on canopies in public parking lots, battery storage systems in municipal buildings).

Source: California Air Resources Board, 2022, Draft 2022 Scoping Plan, <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents>, accessed May 23, 2023.

For residential and mixed-use development projects, CARB recommends this first approach to demonstrate that these land use development projects are aligned with State climate goals based on the attributes of land use development that reduce operational GHG emissions while simultaneously

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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:

### Transportation Electrification

- Provide EV charging infrastructure that, at a minimum, meets the most ambitious voluntary standards in the California Green Building Standards Code at the time of project approval.

### VMT Reduction

- Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).
- Does not result in the loss or conversion of the State's natural and working lands;
- Consists of transit-supportive densities (minimum of 20 residential dwelling units/acre), or is in proximity to existing transit stops (within a half mile), or satisfies more detailed and stringent criteria specified in the region's Sustainable Communities Strategy (SCS);
- Reduces parking requirements by:
  - Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or
  - Providing residential parking supply at a ratio of <1 parking space per dwelling unit; or
  - For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.
- At least 20 percent of the units are affordable to lower-income residents;
- Result in no net loss of existing affordable units.

### Building Decarbonization

- Use all electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking.

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.<sup>16</sup>

### *Assembly Bill 1279*

Assembly Bill 1279, signed by Governor Newsom in September 2022, codified the carbon neutrality targets of EO B-55-18 for year 2045 and sets a new legislative target for year 2045 of 85 percent below

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<sup>16</sup> California Air Resources Board (CARB). 2022, December. 2022 Scoping Plan for Achieving Carbon Neutrality, <https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf>, accessed May 23, 2023.

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1990 levels for anthropogenic GHG emissions. CARB will be required to update the scoping plan to identify and recommend measures to achieve the net-zero and GHG emissions-reduction goals.

### *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 vehicle miles traveled (VMT) and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPO). Metropolitan Transportation Commission (MTC) is the MPO for the Bay region, which includes Napa, Marin, San Francisco, and Contra Costa 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. In June 2017, CARB released updated targets and technical methodology and recently released another update in February 2018, which became effective in October 2018. CARB adopted the updated targets and methodology on March 22, 2018. All SCSs adopted after October 1, 2018, are subject to these new targets. The updated targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update, while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks compared 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 translates into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted sustainable communities strategies (SCS). As proposed, CARB staff's proposed targets would result in an additional reduction of over 8 MMTCO<sub>2</sub>e in 2035 compared to the current targets.<sup>17</sup>

### *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 is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to

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<sup>17</sup> California Air Resources Board (CARB). 2018, February. Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets. [https://ww2.arb.ca.gov/sites/default/files/2020-06/SB375\\_Updated\\_Final\\_Target\\_Staff\\_Report\\_2018.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-06/SB375_Updated_Final_Target_Staff_Report_2018.pdf).

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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 previous discussion in federal regulations under “Update to Corporate Average Fuel Economy Standards [2017 to 2026].”)

In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines 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.

### Advanced Clean Fleets and Advanced Clean Trucks

In April 2023, CARB adopted the Advanced Clean Cars II rule (AC II), which requires all new passenger vehicles, trucks, and SUVs sold in California to be zero emissions by 2035. The regulation amends the Zero-emission Vehicle Regulation to require an increasing number of zero-emission vehicles to support Governor Newsom’s 2020 EO N-79-20 and amends the Low-emission Vehicle Regulations to include increasingly stringent standards for gasoline cars and heavier passenger trucks to continue to reduce smog-forming emissions. This rule will substantially reduce air pollutants that threaten public health and would further develop the zero-emission vehicle market starting with the 2026 model year.

In April 2023, CARB approved the Advanced Clean Fleets, which requires a phased-in transition toward zero-emission medium-and-heavy duty vehicles. Under the new rule, fleet owners operating vehicles for private services (such as Postal Service, state and local government fleets) will begin their transition toward zero-emission vehicles starting in 2024. The rule also requires an end to combustion truck sales in 2036 and follows the 2020 adoption of the Advanced Clean Trucks rule, which put in place a requirement for manufacturers to increase the sale of zero-emission trucks.

### 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 CO<sub>2</sub>e gram 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 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 (EV) charging stations). EO B 16-2012 also directed the number of ZE vehicles in California’s state vehicle fleet to

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increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are ZE by 2015 and at least 25 percent by 2020. The executive order also 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 trucks 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 goal for the state is 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 renewables portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. EO S-14-08, signed in November 2008, expanded the state's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). 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. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

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### Senate Bill 1020

SB 1020 was signed into law on September 16, 2022. SB 1020 provides interim RPS targets (90 percent renewable energy by 2035 and 95 percent renewable energy by 2040) and requires renewable energy and zero-carbon resources to reach 100 percent clean electricity by 2045.

### *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 the consideration and possible incorporation of new energy efficiency technologies and methods.

The 2022 Building Energy Efficiency Standards were adopted on August 11, 2021, and went into effect on January 1, 2023. The 2022 standards encourage efficient electric heat pumps, establish electric-ready requirements for new homes, expand solar photovoltaic and battery storage standards, strengthen ventilation standards, and more. The 2022 standards require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the 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.<sup>18</sup>

#### 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. The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2022. The 2022 CALGreen standards became effective on January 1, 2023.

### 2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR Sections 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.

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<sup>18</sup> California Energy Commission (CEC). 2021, May 19. Amendments to the Building Energy Efficiency Standards (2022 Energy Code) Draft Environmental Report. CEC-400-2021-077-D.

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### *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 Section 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 requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

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

#### AB 1826

In October of 2014, Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings 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.

### *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 requirement (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management



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plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 required urban water providers to adopt a water conservation target of a 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 requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves, to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

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

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and methane. 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.

## Regional Regulations

### *Plan Bay Area: Strategy for a Sustainable Region*

MTC and Association of Bay Area Governments (ABAG) adopted Plan Bay Area 2050 on October 21, 2021.<sup>19</sup> Plan Bay Area 2050 provides transportation and environmental strategies to continue to meet the regional transportation-related GHG reduction goals of SB 375. Under the Plan Bay Area 2050 strategies, just under half of all Bay Area households would live within one half-mile of frequent transit by 2050, with this share increasing to over 70 percent for households with low incomes. Transportation and environmental strategies that support active and shared modes, combined with a transit-supportive land use pattern, are forecasted to lower the share of Bay Area residents that drive to work alone from over 50 percent in 2015 to 36 percent in 2050. GHG emissions from transportation would decrease

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<sup>19</sup> Association of Bay Area Governments/Metropolitan Transportation Commission, 2021, October. Plan Bay Area 2050. [/https://www.planbayarea.org/sites/default/files/documents/Plan\\_Bay\\_Area\\_2050\\_October\\_2021.pdf](https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf), accessed May 23, 2023.

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significantly as a result of these transportation and land use changes, and the Bay Area would meet the state mandate of a 19-percent reduction in per-capita emissions by 2035 — but only if all strategies are implemented.<sup>20</sup>

To achieve MTC's/ABAG's sustainable vision for the Bay Area, the Plan Bay Area land use concept plan for the region concentrates the majority of new population and employment growth in the region in Priority Development Areas (PDAs). PDAs are transit-oriented, infill development opportunity areas within existing communities. An overarching goal of the regional plan is to concentrate development in areas where there are existing services and infrastructure rather than allocate new growth to outlying areas where substantial transportation investments would be necessary to achieve the per capita passenger vehicle, VMT, and associated GHG emissions reductions. Parts of the City of San Mateo lies within identified PDAs.<sup>21</sup>

### *Bay Area Clean Air Plan*

BAAQMD adopted the 2017 Clean Air Plan, Spare the Air, Cool the Climate on April 19, 2017. The 2017 Clean Air Plan also lays the groundwork for reducing GHG emissions in the Bay Area to meet the state's 2030 GHG reduction target and 2050 GHG reduction goal. It also includes a vision for the Bay Area in a post-carbon year 2050 that encompasses the following:

- Construct buildings that are energy efficient and powered by renewable energy.
- Walk, bicycle, and use public transit for the majority of trips and use electric-powered autonomous public transit fleets.
- Incubate and produce clean energy technologies.
- Live a low-carbon lifestyle by purchasing low-carbon foods and goods in addition to recycling and putting organic waste to productive use.<sup>22</sup>

A comprehensive multipollutant control strategy has been developed to be implemented in the next 3 to 5 years to address public health and climate change and to set a pathway to achieve the 2050 vision. The control strategy includes 85 control measures to reduce emissions of ozone, particulate matter, toxic air contaminants, and GHG from a full range of emission sources. These control measures cover the following sectors: 1) stationary (industrial) sources; 2) transportation; 3) energy; 4) agriculture; 5) natural and working lands; 6) waste management; 7) water; and 8) super-GHG pollutants. Overall, the proposed control strategy is based on the following key priorities:

- Reduce emissions of criteria air pollutants and toxic air contaminants from all key sources.
- Reduce emissions of “super-GHGs” such as methane, black carbon, and fluorinated gases.

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<sup>20</sup> Association of Bay Area Governments/Metropolitan Transportation Commission, 2021, October. Plan Bay Area 2050. [https://www.planbayarea.org/sites/default/files/documents/Plan\\_Bay\\_Area\\_2050\\_October\\_2021.pdf](https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf), accessed May 23, 2023.

<sup>21</sup> Association of Bay Area Governments/Metropolitan Transportation Commission, 2023, May (updated). Priority Development Areas (PDAs). <https://opendata-mtc.opendata.arcgis.com/datasets/4df9cb38d77346a289252ced4ffa0ca0/explore?location=37.892240%2C-122.289021%2C9.00>.

<sup>22</sup> Bay Area Air Quality Management District, 2017, Spare the Air: Cool the Climate, Final 2017 Clean Air Plan, [https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a\\_-proposed-final-cap-vol-1-pdf.pdf?la=en](https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en), accessed May 23, 2023.

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- Decrease demand for fossil fuels (gasoline, diesel, and natural gas).
  - Increase efficiency of the energy and transportation systems.
  - Reduce demand for vehicle travel, and high-carbon goods and services.
- Decarbonize the energy system.
  - Make the electricity supply carbon-free.
  - Electrify the transportation and building sectors.

### *Bay Area Commuter Benefits Program*

Under Air District Regulation 14, Model Source Emissions Reduction Measures, Rule 1, Bay Area Commuter Benefits Program, employers with 50 or more full-time employees within the BAAQMD are required to register and offer commuter benefits to employees. In partnership with the BAAQMD and the MTC, the rule's purpose is to improve air quality, reduce GHG emissions, and decrease the Bay Area's traffic congestion by encouraging employees to use alternative commute modes, such as transit, vanpool, carpool, bicycling, and walking. The benefits program allows employees to choose from one of four commuter benefit options including a pre-tax benefit, employer-provided subsidy, employer-provided transit, and alternative commute benefit.

## Local Regulations

### *San Mateo General Plan 2030*

The City of San Mateo General Plan 2030 goals, policies, and actions that are relevant to greenhouse gas emissions are primarily in the Land Use Element. As part of the proposed project, some existing General Plan goals, policies, and actions would be amended, substantially changed, or new policies would be added. Applicable goals, policies, and actions are identified and assessed for their effectiveness and potential to result in an adverse physical impact later in this chapter under Section 4.7.3, *Impact Discussion*.

### *2020 Climate Action Plan*

Adopted in April 2020, the current San Mateo CAP is a comprehensive strategy to reduce GHG emissions and streamline the environmental review of GHG emissions of future development projects in the city.<sup>23</sup> The CAP allows City decision-makers and the community to understand the sources and magnitude of local GHG emissions and identifies a strategy, reduction measures, and implementation actions the City will use to achieve targets consistent with State recommendations of 15 percent below 2005 emissions levels by 2020, 4.3 metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e) per person by 2030, and 1.2 MTCO<sub>2</sub>e per person by 2050. The CAP, adopted in 2020, updated and expanded the City's goals, measures, and actions to address GHG emissions from the energy, water, transportation, solid waste, and off-road equipment sectors. It also revises San Mateo's implementation program and framework to monitor and report progress. A technical update to the CAP with updated inventories and forecasts has been conducted as part of the proposed project.

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<sup>23</sup> City of San Mateo, April 2020, *2020 Climate Action Plan*, [cityofsanmateo.org/DocumentCenter/View/80652/2020-Climate-Action-Plan?bidId=](http://cityofsanmateo.org/DocumentCenter/View/80652/2020-Climate-Action-Plan?bidId=), accessed May 25, 2023.

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### *City of San Mateo Municipal Code*

The San Mateo Municipal Code (SMMC) includes various directives pertaining to air quality. The SMMC is organized by title, chapter, and section, and in some cases, articles. Most provisions related to air quality impacts are included in Title 7, *Health, Sanitation and Public Nuisance*, Title 13, *Parks and Recreation*, Title 23, *Buildings and Construction*, Title 24, *Transportation System Management (TSM)*, and Title 27, *Zoning*.

- Chapter 7.35, *Mandatory Organic Waste Disposal Reduction Ordinance*, list requirements for organic waste generators, in compliance with state recycling laws, state organic recycling laws, and the Short-Lived Climate Pollutant Reduction Act of 2016.
- Chapter 13.40, *Protected Trees*, protects, preserves, and replenishes healthy and valuable trees in the City for the health and welfare of residents and in order to counteract air pollutants and maintain climatic balances, among reasons.
- Chapter 23.24, *Energy Code*, adopts the 2022 edition of the California Energy Code and includes local amendments. Section 23.24.030, *Local Amendment Regarding Mandatory Solar Installations*, require new residential buildings four stories or more and new non-residential buildings with less than 10,000 square feet of gross floor area to provide a minimum of 3-kilowatt photovoltaic system. New residential buildings with greater than or equal to 10,000 square feet of gross floor area need to provide a minimum of 5-kilowatt photovoltaic system. Section 23.24.040, *Local Amendment Regarding All-Electric Requirements for Residential Buildings and Buildings with Office Use*, requires all newly constructed office and residential buildings to be designed, constructed, and equipped as all-electric buildings. Section 23.24.050, *Local Amendment Regarding All-Electric or Energy Efficiency Standards for High-Rise Multifamily Residential Buildings with 100% Affordable Units*, and Section 23.26.040, *Local Amendment Regarding All-Electric Buildings or Energy Efficiency Standards for Low-Rise Residential Buildings with 100% Affordable Units*, outlines the standards for low-rise and high-rise residential buildings with 100% affordable units.
- Chapter 23.44, *Electric Vehicle Charging Stations*, outlines the requirements and submittal process of an EV charging permit application.
- Chapter 23.46, *Small Residential Rooftop Solar Energy Systems*, provides an expedited, streamlined solar energy system permitting process that complies with state laws. This chapter encourages the use of solar energy systems by removing unreasonable barriers, minimizing costs to property owners and the City, and expanding the ability of property owners to install solar energy systems while protecting the public health and safety.
- Chapter 23.70, *Green Building Code*, adopts the 2022 edition of the California Green Building Standards Code, and includes local amendments regarding EV charging and space design for different types of new constructions.
- Chapter 24.01, *Transportation System Management*, encourages participation in an inter-city authority that works in partnership with employers to promote programs and services that help employers achieve their trip reduction goals in an effort to improve air quality and reduce traffic congestion in the region; facilitation of the achievement of vehicle to employee ratio standards by public and private employers subject to Regulation 13, Rule 1; and encouragement and facilitation of

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participation by employers with 25-99 employees in promoting commute alternatives to their employees.

- Chapter 27.90, *TOD District – Transit Oriented Development*, implements the San Mateo Corridor Transit Oriented Development Plan in the Transit Oriented Development (TOD) district to encourage more insensitive development within walking distance of transit stops. TOD is intended to provide for an integrated mix of land uses that support transit use through site design that enhances accessibility to stations and is supportive of pedestrian and bicycle use.

### 4.7.1.4 EXISTING CONDITIONS

This GHG evaluation was prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) to determine if significant GHG impacts are likely to occur in conjunction with future development that would be accommodated by the proposed project.

The EIR Study Area’s GHG emissions inventory conducted for the proposed CAP update includes the following sectors:

- **On-Road Transportation:** on-road vehicle trips on local roads and State highways within the city limits.
- **Energy:** electricity and natural gas used in nonresidential (e.g., industrial, commercial) and residential settings, including direct access electricity.
- **Off-road Equipment:** the use of portable equipment and vehicles that do not travel on roads (e.g., construction or lawn and garden equipment).
- **Solid Waste generation:** material produced by the community that is deposited in landfills which decompose and produce methane.
- **Landfills:** emissions that occur in the inventory year as a result of waste-in-place at a landfill that is within the community boundary or operated by the City.
- **Rail:** emissions resulting from Caltrain trips generated by passengers at three stations: San Mateo, Hayward Park, and Hillsdale, as well as emissions from freight trains.
- **Water and Wastewater:** energy used to treat and pump water used and wastewater created, along with emissions from the processing of wastewater.
- **Land use and sequestration:** emissions resulting from development of previously undeveloped land and sinks (negative emissions) from carbon sequestration of open space and urban trees.
- **Point sources:** stationary source emissions resulting from fossil fuel combustion within the county as reported by the BAAQMD. These emissions are included as an informational item and are not counted as part of the City’s total emissions based on guidance from BAAQMD as they are not under the jurisdiction of the City.

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Industrial sources of emissions that require a permit to operate from BAAQMD are not included in the community inventory. However, due to the 15/15 Rule,<sup>24</sup> natural gas and electricity use data for industrial land uses may also be aggregated with the nonresidential land uses in the data provided by PG&E and PCE. Life-cycle emissions are not included in this analysis because not enough information is available for the proposed project, and therefore, would be speculative. Black carbon emissions are not included in the GHG analysis because CARB does not include this pollutant in the state’s GHG emissions inventory and treats this short-lived climate pollutant separately.

### Community Emissions

Land uses in the EIR Study Area generate GHG emissions from natural gas used for energy, heating, and cooking; electricity usage; vehicle trips; and area sources such as landscaping and consumer cleaning products. Emissions associated with the EIR Study Area are shown in Table 4.7-4, *Existing 2019 Greenhouse Gas Emissions Inventory*.

**TABLE 4.7-4 EXISTING 2019 GREENHOUSE GAS EMISSIONS INVENTORY**

Emissions Sector	Existing MTCO <sub>2</sub> e			% of Total
	City	SOI	Total	
Residential Built Environment	114,620	3,700	118,320	22%
Commercial/Industrial Built Environment	83,660	1,480	85,140	16%
On-road Transportation	276,560	7,720	284,280	53%
Off-road Equipment	14,400	180	14,580	3%
Rail	4,440	110	4,550	1%
Solid Waste Generation	21,910	610	22,520	4%
Landfill	4,180	0	4,180	1%
Water and Wastewater	1,660	50	1,710	<1%
Land Use and Sequestration	-1,050	-270	-1,320	<1%
<b>Total Community Emissions (with Existing Actions and CAP measures)</b>	<b>520,380</b>	<b>13,580</b>	<b>533,960</b>	<b>100%</b>
Service Population (SP)	165,830	4,630	170,460	NA
MTCO <sub>2</sub> e/SP	3.1	2.9	3.1	NA

Source: Based on the emissions inventory and forecast being conducted for the San Mateo Climate Action Plan, 2023.

<sup>24</sup> The 15/15 Rule was adopted by the California Public Utility Commission in the Direct Access Proceeding (CPUC Decision 97-10-031) to protect customer confidentiality. The 15/15 Rule requires that any aggregated information provided by the utilities must be made up of at least 15 customers (100 for residential sectors) and a single customer’s load must be less than 15 percent of an assigned category.

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### 4.7.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant greenhouse gas emissions impact if it 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.
3. In combination with past, present, and reasonably foreseeable projects, result in cumulative greenhouse gas emission impacts in the area.

BAAQMD's *CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans* (2022) contains instructions on how to evaluate, measure, and mitigate GHG impacts generated from land use development projects and plans. For purposes of this analysis, the City of San Mateo is using BAAQMD's current GHG plan-level significance thresholds to evaluate the proposed project's potential impacts related to GHG emissions.

#### Greenhouse Gas Emission Impacts

BAAQMD, in its *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans* (2022) (GHG Justification Report), recommends the use of one of two plan-level criteria to determine the GHG emission impact resulting from a proposed plan. If a proposed plan cannot demonstrate consistency with the BAAQMD-recommended Criterion A or Criterion B, that plan would result in a potentially significant impact related to GHG emissions.

- A. The Plan must be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b); or
- B. The Plan must meet the State's goals to reduce emissions to 40 percent below 1990 levels by 2030 and carbon neutrality by 2045.

The City's current CAP stands as the City's local reduction strategy; however, the City's current CAP does not demonstrate consistency with the latest legislative reduction target established by AB 1279. In addition, while the proposed project includes an update to the City's CAP that demonstrates consistency with the AB 1279 reduction targets, as is discussed further under impact discussion GHG-1, the proposed CAP update must first be adopted through a public process following an environmental review (this Draft EIR) to meet the criteria set forth under CEQA Guidelines Section 15183.5(b) and be used for a streamlined GHG analysis (Criterion A). Therefore, Criterion B is used herein to determine the proposed General Plan's GHG emissions impacts.

#### San Mateo Climate Action Plan

CEQA Guidelines Section 15183.5(b), *Tiering and Streamlining the Analysis of Greenhouse Gas Emissions*, allows for lead agencies to analyze and mitigate the significant effects of GHG emissions at a programmatic level. Pursuant to CEQA Guidelines Section 15183.5(b), later project specific

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environmental documents may tier from and/or incorporate by reference the GHG reduction plan so long as it includes the following plan elements:

- Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
- Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;
- Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;
- Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
- Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels;
- Be adopted in a public process following environmental review.

The current San Mateo CAP was adopted by the City Council in April of 2020 and was a direct update to the City's 2015 CAP.<sup>25</sup> The current CAP provides an updated baseline emissions inventory and forecast, which aligns the City's GHG reduction efforts with State-recommended targets. Should the proposed General Plan and CAP update demonstrate consistency with BAAQMD's significance criteria of meeting the State's goals to reduce emissions to 40 percent below 1990 levels by 2030 and carbon neutrality by 2045, and meet all of the criteria listed above from CEQA Guidelines Section 15183.5(b), the proposed CAP update may be used for streamlined GHG analyses for future individual development projects, consistent with the provisions contained in CEQA Guidelines Section 15183.5.

### Greenhouse Gas Plan Consistency

To determine whether the proposed project is consistent with the applicable plan or policy adopted for the purpose of reducing GHG emissions, the proposed project is analyzed for consistency with applicable policies contained in the City's current CAP, the State's Scoping Plan, and ABAG/MTC's Plan Bay Area. It should be noted that the proposed project, which includes a technical update to the City's CAP, builds on the existing CAP's emission reduction strategies and updates the emissions inventory and forecast to align with current legislative reduction targets established by SB 32 and AB 1279. Therefore, only the proposed General Plan is analyzed in impact discussion GHG-2 for its consistency with the City's existing CAP.

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<sup>25</sup> San Mateo, City of. 2020, April. San Mateo 2020: Climate Action Plan, <https://www.cityofsanmateo.org/DocumentCenter/View/80652/2020-Climate-Action-Plan?bidId=>, accessed May 23, 2023.



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**4.7.3 IMPACT DISCUSSION**

**GHG-1**      **The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.**

A project does not generate enough GHG emissions on its own to influence global climate change; therefore, this section measures the proposed project’s contribution to the cumulative environmental impact associated with GHG emissions. The proposed General Plan and CAP update builds on the current CAP and provides an updated emissions inventory and forecast that demonstrates consistency with BAAQMD’s significance criteria of meeting the State’s goals to reduce emissions to 40 percent below 1990 levels by 2030 and carbon neutrality by 2045.

As shown in Table 4.7-5, *City of San Mateo GHG Emissions Forecast*, the proposed project would result in a reduction in community-wide GHG emissions of 49 percent by 2030 and 87 percent by 2045 when compared to 2005 community-wide emission levels, consistent with the reduction goals established by SB 32 and AB 1279.

**TABLE 4.7-5      CITY OF SAN MATEO GHG EMISSIONS FORECAST**

Emissions Sector	Existing GHG Emissions (MTCO <sub>2</sub> e/Year)					
	Baseline	Percentage	Year 2030	Percentage	Year 2045	Percentage
On-Road Transportation	282,370	42%	308,930	51%	375,310	50%
Commercial/industrial built environment	169,000	25%	93,710	15%	109,610	15%
Residential built environment	163,770	25%	141,960	23%	190,110	25%
Solid Waste generation	22,180	3%	23,770	4%	30,360	4%
Off-road equipment	15,900	2%	26,240	4%	33,650	4%
Landfill	7,370	1%	4,470	1%	3,310	0%
Rail	4,350	1%	5,220	1%	6,560	1%
Water and Wastewater	2,520	0%	1,990	0%	2,540	0%
Land use and sequestration	-1,050	-1%	-1,050	0%	-1,050	0%
<b>Total Community Emissions (BAU)</b>	<b>666,410</b>	<b>100%</b>	<b>605,240</b>	<b>100%</b>	<b>750,400</b>	<b>100%</b>
<b>Total Community Emissions (with Existing State Actions and CAP GHG Measures)</b>	—	—	<b>311,990</b>	—	<b>80,550</b>	—
SB 32 and AB 1279 Target for Year 2030 and 2045	—	—	339,880	-49%	84,970	-87%
Target achieved?	—	—	Yes	—	Yes	
Service Population (SP)	—	—	198,610	—	254,680	—
MTCO <sub>2</sub> e/SP	—	—	1.6	—	0.3	—

Notes: BAU = business as usual; estimates do not incorporate any emission reductions from statewide or CAP reduction measures.  
Source: Based on the emissions inventory and forecast being conducted for the San Mateo Climate Action Plan, 2023.

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As identified in Table 4.7-5, the proposed project would be consistent with the current long-term legislative reduction targets under SB 32 and AB 1279, which is attributable to both Statewide emission reduction strategies such as CARB's Advanced Clean Cars II and Advanced Clean Fleets Regulations as well as various goals and policies contained in the proposed General Plan and CAP update.

The Circulation (C) and Land Use (LU) Elements of the proposed General Plan contain goals, policies, and actions that require local planning and development decisions to consider GHG emissions. The following General Plan 2040 goals, policies, and actions would serve to minimize GHG emissions and mobile-source emissions:

- **Goal C-1:** Design and implement a multimodal transportation system that prioritizes walking, bicycling, and transit, and is sustainable, safe, and accessible for all users; connects the community using all modes of transportation; and reduces vehicle miles traveled (VMT) per capita.
  - **Policy C 1.1: Sustainable Transportation.** Reduce greenhouse gas (GHG) emissions from transportation by increasing mode share options for sustainable travel modes, such as walking, bicycling, and public transit.
  - **Policy C 1.2: Complete Streets.** Apply complete streets design standards to future projects in the public right-of-way and on private property. Complete streets are streets designed to facilitate safe, comfortable, and efficient travel for all users regardless of age or ability or whether they are walking, bicycling, taking transit, or driving, and should include landscaping and shade trees as well as green streets stormwater infrastructure to reduce runoff and pollution.
  - **Policy C 1.4: Prioritize Pedestrian and Bicycle Mobility Needs.** Prioritize local pedestrian and bicycle projects that enhance mobility, connectivity, and safety when designing roadway and intersection improvements.
  - **Policy C 1.6: Transit-Oriented Development.** Increase access to transit and sustainable transportation options by encouraging high-density, mixed-use transit-oriented development near the City's Caltrain stations and transit corridors.
  - **Action C 1.14: Transit-Oriented Development Pedestrian Access Plan.** Coordinate with interagency partners and community stakeholders to seek funding opportunities to design, construct, and build the priority projects identified in the Transit-Oriented Development Pedestrian Access Plan.
- **Goal C-2:** Use transportation demand management (TDM) to reduce the number and length of single-occupancy vehicle trips through policy, zoning strategies, and targeted programs and incentives.
  - **Policy C 2.1: TDM Requirements.** Require new or existing developments that meet specific size, capacity, and/or context conditions to implement TDM strategies.
  - **Action C 2.2: Implement TDM Ordinance.** Develop and implement a citywide TDM ordinance for new developments with tiered trip reduction and VMT reduction targets and monitoring that are consistent with the targets in their relevant area plans. Reduce parking requirements for projects that include TDM measures.

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- **Action C 2.7: New Development Shuttle Services.** Encourage new developments to provide shuttle services as an option to fulfill TDM requirements. Shuttles should serve activity centers, such as the College of San Mateo, Caltrain stations, downtown, the Hillsdale Shopping Center, or other areas and should accommodate the needs and schedules of all riders, including service workers.
- **Goal C-3:** Build and maintain a safe, connected, and equitable pedestrian network that provides access to community destinations, such as employment centers, transit, schools, shopping, and recreation.
  - **Policy C 3.1: Pedestrian Network.** Create and maintain a safe, walkable environment in San Mateo to increase the number of pedestrians. Maintain an updated recommended pedestrian network for implementation. Encourage “superblock” or similar design in certain nodes of the city, such as the downtown, that allows vehicle access at the periphery and limits cut-through vehicles to create pedestrian-focused, car-light spaces.
  - **Policy C 3.2: Pedestrian Enhancements with New Development.** Require new development projects to provide sidewalks and pedestrian ramps and to repair or replace damaged sidewalks, in addition to right-of-way improvements identified in adopted City master plans. Encourage new developments to include pedestrian-oriented design to facilitate pedestrian path of travel.
  - **Action C 3.7: Pedestrian Connectivity.** Incorporate design for pedestrian connectivity across intersections in transportation projects to improve visibility at crosswalks for pedestrians and provide safe interaction with other modes. Design improvements should focus on increasing sight lines and removing conflicts at crosswalks.
- **Goal C-4:** Build and maintain a safe, connected, and equitable bicycle and micromobility network that provides access to community destinations, such as employment centers, transit, schools, shopping, and recreation.
  - **Policy C 4.1: Bicycle Network.** Create and maintain a bicycle-friendly environment in San Mateo and increase the number of people who choose to bicycle.
  - **Policy C 4.3: First- and Last-Mile Connections.** Encourage and facilitate provision of bicycle parking and shared mobility options at transit centers and other community destinations to provide first- and last-mile connections.
  - **Policy C 4.6: Bicycle Improvements.** Require new developments to construct or contribute to improvements that enhance the cyclist experience, including bicycle lanes.
  - **Action C 4.9: Bicycle Master Plan Implementation.** Implement the Bicycle Master Plan’s recommended programs and projects to create and maintain a fully connected, safe, and logical bikeway network and coordinate with the countywide system. Update the Bicycle Master Plan and related adopted City plans to reflect future bicycle and micromobility facility needs to support the City’s circulation network.
- **Goal LU-1:** Plan carefully for balanced growth that provides ample housing that is affordable at all levels and job opportunities for all community members; maximizes efficient use of infrastructure; limits adverse impacts to the environment; and improves social, economic, environmental, and health equity.

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- **Policy LU 1.4: Mixed-Use.** Encourage mixed-use developments to include increased residential components to provide greater proximity between jobs and housing, promote pedestrian activity, and reduce traffic congestion and vehicle miles traveled (VMT).
- **Goal LU-3:** Provide a wide range of land uses, including housing, parks, open space, recreation, retail, commercial services, office, and industrial to adequately meet the full spectrum of needs in the community.
  - **Policy LU 3.7: Visitor Economy.** Collaborate with other Peninsula cities and the San Mateo County/Silicon Valley Convention and Visitors Bureau to support the continued development of the visitor economy of both the city and the region, including lodging, entertainment, recreation, retail, and local events; encourage uses that attract visitors. Incentivize through fee reduction and visitor perks, sustainable modes of travel to and from the city to reduce both the use of air travel and gas-powered vehicles.
  - **Policy LU 3.8: Workplaces.** Develop office buildings and business parks to facilitate transit, pedestrian, and bicycle commutes. Provide compact development, mixed uses, and connectivity to transit to reduce vehicle miles traveled (VMT).
- **Goal LU-10:** Make San Mateo strong and resilient by acting to significantly reduce greenhouse gas emissions and adapt to a changing climate.
  - **Action LU 10.10: Clean Fuel Infrastructure.** Support efforts to build electric vehicle charging stations and clean fuel stations in San Mateo, including hydrogen and sustainably sourced biofuels, as supported by market conditions.

The following GHG reduction measures in the proposed CAP update (which are carried forward from the City's current CAP, with minor wording changes) also provide mandates with a mix of education and outreach programs to encourage GHG reduction efforts:

- Building Electrification BE 1 through BE 2 and Land Use Element Goal LU-10, would promote all-electric buildings for new construction and redevelopment projects.
- Renewable Energy RE 1 through RE 3, would increase the amount of energy in the community from renewable sources to further reduce GHG emissions and reduce the cost of electricity for residents.
- Energy Efficiency EE 1 and EE 2, seeks to provide opportunities for businesses and residents to conserve energy and maximize efficiency with incorporation of green building standards in the local and State building codes.
- Municipal Energy Efficiency and Electrification ME 1 through ME 3, serves to construct new and retrofit existing City-owned facilities to receive most or all of their energy from electricity to be more energy efficient.
- Clean Transportation Fuels CF 2 through CF 4, promotes clean transportation fuels, such as electricity or hydrogen, in the municipal fleet and EV charging stations within the community.
- Sustainable Transportation Fuels ST 1 through ST 7, promotes equity and reduce GHG emissions by providing safe, reliable alternative transit options.

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- Solid Waste SW 1 through SW 3, promotes minimizing waste generation through expanded recycling services and encouraging source reduction through innovative programs.
- Water and Wastewater WW 1 through WW 3, increases the efficiency of water usage in existing buildings, new construction, and landscaping.

Individual development projects facilitated by the proposed project would experience emission reductions from implementation of State measures and strategies to reduce Statewide GHG emissions, such as the LCFS mandate or RPS requirements. The proposed General Plan goals, policies, and actions above, and the strategies that would be maintained from the City's CAP under the proposed technical update to the CAP, would serve to further support potential GHG reductions for individual development projects facilitated by the proposed project. Furthermore, should the proposed CAP update be adopted and be used for future streamlined GHG analysis for individual development projects, those individual projects would be required to implement all the measures in the CAP Consistency Checklist during the planning entitlement phase to ensure that project's emissions are consistent with the communitywide emissions forecast contained herein. Therefore, this impact would be *less than significant*.

**Significance without Mitigation:** Less than significant.

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**GHG-2            The proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.**

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In addition to a consistency analysis with the City's CAP, the following section discusses consistency with other applicable plans adopted for the purpose of reducing GHG emissions, which include CARB's Scoping Plan and MTC/ABAG's *Plan Bay Area 2050*.

### San Mateo 2020 Climate Action Plan

As mentioned prior, the City's current CAP was developed and adopted by City Council in April 2020 as a direct update to the 2015 CAP.<sup>26</sup> The current CAP provides community-wide emissions forecasts for 2030 and 2050. The current CAP also establishes per-capita GHG emissions targets for years 2030 and 2050 based on the State's recommended per-capita targets for local efforts, which are consistent with SB 32 and EO S-03-05. The current CAP identifies State and local measures to reduce GHG emissions and quantified GHG reductions associated with these measures.

The proposed project, which includes a technical update to the City's CAP, builds on the existing CAP's emission reduction strategies and updates the emissions inventory and forecast to align with current legislative reduction targets established by SB 32 and AB 1279. The proposed project is considered consistent with the City's CAP. Nonetheless, the proposed General Plan portion of the proposed project's consistency with the applicable CAP measures found in Appendix 3 of the CAP, *Standards for CAP*

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<sup>26</sup> City of San Mateo, April 2020, *San Mateo 2020: Climate Action Plan*, <https://www.cityofsanmateo.org/DocumentCenter/View/80652/2020-Climate-Action-Plan?bidId=>, accessed May 23, 2023.

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*Consistency – New Development*, is shown in Table 4.7-6, *Consistency Analysis with the City of San Mateo Climate Action Plan*.<sup>27</sup>

**TABLE 4.7-6 CONSISTENCY ANALYSIS WITH THE CITY OF SAN MATEO CLIMATE ACTION PLAN**

Reduction Measure and Applicable Standard	Consistency Analysis
<b>Transportation &amp; Land Use</b>	
BE 1. All new development: The project does not have natural gas connections, and does not have any natural gas appliances or other equipment installed	<b>Consistent.</b> Future development under the proposed project would be required to be constructed in accordance with current State and City building codes in existence at the time. This includes the City’s local amendment to the State Building Code Title 24 to require all-electric buildings for any new buildings, including commercial properties, and enhanced EV charging infrastructure beyond state requirements.
RE 2. All new developments with residential units: The project includes an on-site renewable energy system that meets or exceeds the minimum requirements of the California State Building Code	<b>Consistent.</b> Future residential development under the proposed project would be required to be constructed in accordance with current State and City building codes in existence at the time, which include requirements related to on-site renewable energy systems. For example, Chapter 23.46, <i>Small Residential Rooftop Solar Energy Systems</i> , in the City’s Municipal Code provides a streamlined solar energy system permitting process that complies with the Solar Rights Act and AB 2188 for cost-effective solar energy systems installations.
RE 2. All new developments with residential units: The project includes an on-site energy storage system, such as a battery.	<b>Consistent.</b> Future residential development under the proposed project would be required to be constructed in accordance with current State and City building codes in existence at the time, which include requirements related to on-site energy storage systems. For example, Chapter 23.46, <i>Small Residential Rooftop Solar Energy Systems</i> , in the City’s Municipal Code provides a streamlined solar energy system permitting process that complies with the Solar Rights Act and AB 2188 for cost-effective solar energy systems installations.
RE 3. All new developments with nonresidential space: The project includes an on-site renewable energy system that meets or exceeds the minimum requirements of the California State Building Code	<b>Consistent.</b> Future nonresidential development under the proposed project would be required to be constructed in accordance with current State and City building codes in existence at the time, which include requirements related to on-site renewable energy systems.
RE 3. All new developments with nonresidential space: The project includes an on-site energy storage system, such as a battery.	<b>Consistent.</b> Future nonresidential development that could occur under the proposed project would be required to be constructed in accordance with current State and City building codes in existence at the time, which include requirements related to on-site energy storage systems. The City’s new reach codes require enhanced EV charging infrastructure for new construction projects above the State requirements.
EE 3. All new developments with residential units: The project includes trees that provide shade to residences.	<b>Consistent.</b> The City would review implementing trees to provide shade for future residential development to be consistent with this policy. As mentioned in Section 3.4, <i>Project Objectives</i> , one of the primary purposes of the proposed project is to protect natural resources, such as trees and open spaces for public health and safety.

<sup>27</sup> City of San Mateo, April 2020, *San Mateo 2020: Climate Action Plan: Appendix 3*, <https://www.cityofsanmateo.org/DocumentCenter/View/80652/2020-Climate-Action-Plan?bidId=>, accessed May 23, 2023.

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**TABLE 4.7-6 CONSISTENCY ANALYSIS WITH THE CITY OF SAN MATEO CLIMATE ACTION PLAN**

<p>CF 1. All new development with dedicated offstreet parking: The project includes parking spaces with installed EV chargers or are pre-wired for EV chargers, consistent with state and any local regulations.</p>	<p><b>Consistent.</b> Future development under the proposed project would be required to be constructed in accordance with current State and City building codes in existence at the time. This includes the CALGreen EV Charging and EV supply equipment requirements for residential and nonresidential development. The City’s new reach codes require enhanced EV charging infrastructure for new construction projects above the State requirements.</p>
<p>CF 1. All new development with dedicated offstreet parking: The project includes parking spaces with installed EV chargers that are accessible by members of the public beyond those who live and/or work at the project.</p>	<p><b>Consistent.</b> Future development under the proposed project would be required to be constructed in accordance with current State and City building codes in existence at the time. This includes the CALGreen EV Charging and EV supply equipment requirements for residential and nonresidential development. The City’s new reach codes require enhanced EV charging infrastructure for new construction projects above the State requirements.</p>
<p>ST 6. New developments of at least six multifamily units and/or 10,000 square feet of nonresidential space: Implement TDM strategies to comply with the appropriate trip reduction target identified in applicable area plans and San Mateo Citywide TDM Plan.</p>	<p><b>Consistent.</b> Future development under the proposed project would be required to be constructed in accordance with current applicable area plans and San Mateo Citywide Transit Demand Management (TDM) plan. This includes the City’s Municipal Code Section 27.09.060, <i>Transportation Demand Management</i>, which requires all projects with a net increase of 100 PM peak hours trips to include a trip reduction and parking management plan.</p>
<p>ST 6. Projects of at least 20 multi-family units and/or 50,000 square feet of nonresidential space undergoing additions or alterations (as defined in San Mateo Municipal Code Section 23.06.012): Implement TDM strategies consistent with the targets in relevant area plans and the San Mateo Citywide TDM Plan.</p>	<p><b>Consistent.</b> Future development under the proposed project would be required to be constructed in accordance with current applicable area plans and San Mateo Citywide Transit Demand Management (TDM) plan. This includes the City’s Municipal Code Section 27.09.060, <i>Transportation Demand Management</i>, which requires all projects with a net increase of 100 PM peak hours trips to include a trip reduction and parking management plan.</p>
<p>ST 7. All new development: Be located along El Camino Real, within one-half mile of any Caltrain station, or in the Rail Corridor Transit Oriented Development or Hillsdale Station Area Plan areas.</p>	<p><b>Consistent.</b> The proposed project includes proposed General Plan policies which would encourage new development in designated Priority Development Areas (PDAs) and Transit Priority Areas (TPAs) throughout the EIR Study Area.</p>
<p>SW 1. All developments with multifamily units or nonresidential space: Provide an area of sufficient space to store and allow access to a compost bin.</p>	<p><b>Consistent.</b> Future development under the proposed project would be subject to the County’s waste requirements and Cal Recycle SB 1383 to reduce statewide disposal of organic waste (including paper, cardboard, yard materials, food scraps, and food-soiled paper).</p>
<p>WW 3. All new development: Include a greywater system.</p>	<p><b>Consistent.</b> Future development under the proposed project would be required to be constructed in accordance with current State and County water codes in existence at the time. This includes California Water Code, California’s Model Water Efficient Landscape Ordinance standards, and the City’s Municipal Code Chapter 23.72, <i>Water Conservation in Landscaping</i>, to implement greywater systems.</p>

Source: City of San Mateo, April 2020, San Mateo 2020: Equitable Climate Action Plan, <https://www.cityofsanmateo.org/DocumentCenter/View/80652/2020-Climate-Action-Plan?bidId=>, accessed May 23, 2023.

As identified in Table 4.7-6, the proposed General Plan would be consistent with the strategies in the City’s CAP. In addition, the proposed project includes a technical update to the current CAP to update the

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emissions inventories and forecasts and build on the existing emission reduction strategies to demonstrate the City's consistency with long-term emissions reduction targets established under SB 32 and AB 1279. Moreover, while growth in the City would cumulatively contribute to GHG emissions impacts, the proposed General Plan goals, policies, and actions listed in impact discussion GHG-1 would require local planning and development decisions to consider impacts from emissions and to reduce those emissions.

### 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 local jurisdictions to adopt its policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the State agencies from the Scoping Plan result in GHG emissions reductions at the local level. So 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 to reduce GHG emissions include the LCFS mandate and changes in the corporate average fuel economy standards.

Development projects under the proposed project would be required to 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, SB 32, and AB 1279. Future development projects would be required to comply with these state GHG emissions reduction measures because they are statewide strategies. For example, new buildings under the proposed project would be required to meet the CALGreen and Building Energy Efficiency Standards in effect at the time when applying for building permits. Furthermore, the proposed project includes proposed General Plan goals, policies, and actions (listed in impact discussion GHG-1) and continues the GHG reduction measures in the City's current CAP to minimize GHG emissions and therefore help achieve GHG reduction goals. Implementation of the proposed project would not obstruct implementation of the CARB Scoping Plan, and impacts would be *less than significant*.

### Plan Bay Area

*Plan Bay Area 2050* is the Bay Area's Regional Transportation Plan/Sustainable Community Strategy that identifies the sustainable vision for the Bay Area.<sup>28</sup> In addition to significant transit and roadway performance investments to encourage focused growth, *Plan Bay Area 2050* directs funding to neighborhood active transportation and complete streets projects, climate initiatives, lifeline transportation and access initiatives, safety programs, and PDA planning.

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<sup>28</sup> Association of Bay Area Governments and the Metropolitan Transportation Commission, October 2021, *Plan Bay Area 2050*, [https://www.planbayarea.org/sites/default/files/documents/Plan\\_Bay\\_Area\\_2050\\_October\\_2021.pdf](https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf), accessed May 24, 2023.



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The EIR Study Area contains a number of PDAs.<sup>29</sup> As discussed in Chapter 3, *Project Description*, of this Draft EIR, future development in the EIR Study Area is projected to occur primarily in ten General Plan Land Use Study Areas, which include areas where current buildings are aging, vacant, or not maintained and areas where property owners have expressed interest to redevelop. Given that future growth would be concentrated in areas currently served by public services and infrastructure, implementation of the proposed project would require less investment in infrastructure than if development was to occur on “greenfield” sites. Furthermore, the proposed General Plan itself would not introduce a substantial number of unplanned population growth in the EIR Study Area, as described in Chapter 4.13, *Population and Housing*, of this Draft EIR.

Thus, the proposed project would be consistent with the overall goals of *Plan Bay Area 2050* in concentrating new development in locations where there is existing infrastructure and transit. Therefore, the proposed project would not conflict with the land use concept plan in *Plan Bay Area 2050* and impacts would be *less than significant*.

**Significance without Mitigation:** Less than significant.

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<b>GHG-3</b>	<b>The proposed project would not, in combination with past, present, and reasonably foreseeable projects, result in cumulative greenhouse gas emission impacts in the area.</b>
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Project-related GHG emissions are not confined to a particular air basin but are dispersed worldwide. Therefore, impacts under impact discussions GHG-1 and GHG-2 are not project-specific impacts to global warming, but the proposed project’s contribution to this cumulative impact. As discussed under impact discussions GHG-1 and GHG-2, the proposed project does not involve a stationary source and implementation would meet the legislative reduction targets established by SB 32 and AB 1279 and be consistent with applicable plans adopted for the purpose of reducing GHG emissions. Therefore, as described in impact discussions GHG-1 and GHG-2, GHG emissions generated by the proposed project and their contribution to global climate change would not be cumulatively considerable, and cumulative impacts would not be significant. These *less-than-significant* impacts are identified in impact discussions GHG-1 and GHG-2.

**Significance without Mitigation:** Less than significant.

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<sup>29</sup> Metropolitan Transportation Commission, updated July 2020, Priority Development Areas (Plan Bay Area 2050), <https://opendata.mtc.ca.gov/datasets/priority-development-areas-plan-bay-area-2050>, accessed May 24, 2023.

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