4.6 Energy, Greenhouse Gases, and Climate Change

4.6.1 Environmental Setting

PHYSICAL SETTING

Energy

Energy usage is typically quantified using the British thermal unit (BTU).[1] California has a diverse portfolio of energy resources. The State ranked fourth in the nation in 2015 in conventional hydroelectric generation and third in the nation for crude oil production and oil refining capacity. The State is ranked first as a producer of electricity from biomass, geothermal, and solar energy. Other energy sources in the State include natural gas, nuclear, and biofuels (U.S. Energy Information Administration 2016).

Energy efficiency efforts have dramatically reduced statewide per capita energy consumption relative to historical averages. According to the U.S. Energy Information Administration (2016), California consumed approximately 7,573 trillion BTUs of energy in 2014. Per capita energy consumption (i.e., total energy consumption divided by the population) in California is amongst the lowest in the country, with 196 million BTU in 2014, which ranked 49th among all states in the country. Natural gas accounted for the majority of energy consumption (32 percent), followed by motor gasoline (22 percent), distillate and jet fuel (15 percent), interstate electricity (11 percent), nuclear and hydroelectric power (4 percent), and a variety of other sources (U.S. Energy Information Administration 2016). The transportation sector consumed the highest quantity of energy (39 percent), followed by the industrial and commercial sectors (U.S. Energy Information Administration 2016).

California's per capita energy consumption, in general, is declining due to improvements in energy efficiency and design. However, despite this reduction in per capita energy use, the State's overall (i.e., non-per capita energy consumption) energy consumption is expected to increase over the next several decades due to growth in population, jobs, and demand for vehicle travel. Electricity usage is anticipated to grow about 13 percent over the next 25 years (2015-2040), and diesel fuel and natural gas consumption may increase by 5 percent and 25 percent, respectively,

[1] A British thermal unit is a standard unit of energy measure, which is the quantity of heat required to raise the temperature of 1 pound of water 1 degree Fahrenheit at or near 39.2 degrees Fahrenheit. A therm is a unit of heat equivalent to 100,000 BTUs.

over the same time period. Gasoline usage, however, is expected to decrease by 20 percent.[2] This decrease would largely be a result of high fuel prices, efficiency gains, and competing fuel technologies (U.S. Energy Information Administration 2017).

Regionally, Pacific Gas & Electric (PG&E), the provider for electricity and natural gas in the Planning Area, has a diverse power production portfolio, which consists of a variety of renewable and non-renewable sources. Energy production typically varies by season and by year depending on hydrologic conditions. Regional electricity loads also tend to be higher in the summer because the higher summer temperatures drive increased demand for air-conditioning. In contrast, natural gas loads are higher in the winter because the colder temperatures drive increased demand for natural gas heating.

At the local level, San Mateo County consumes a small amount of energy relative to the State. Electricity and natural gas usage are individually about 2 percent of the statewide total (California Energy Commission 2016a). Gasoline is about 2 percent of statewide usage, whereas diesel fuel usage is about 1 percent of the statewide total (California Air Resources Board 2015). For reference, San Mateo County is home to about 2 percent of California residents. As a whole, San Mateo County consumed 4,447 gigawatt-hour (GWh) of electricity and 194 million therms of natural gas. Table 4.6-1 provides a summary of total and per-capita San Mateo County energy consumption in 2015.

Table 4.6-1. San Mateo County Total and Per Capita Energy Consumption (2015)

	Consumption		*Per Capita BTUs*
Energy	*Mass*	*Million BTUs*	
Electricity	4,447 GWh	14,806,518	19,351,511
Natural Gas	194 million therm	19,337,144	25,272,853
Gasoline	28 million gallons	3,426,192	4,477,892
Diesel	3 million gallons	415,470	543,002

Notes: 3,414: BTU/kWh.
99,976: BTU/Therm.
122,364: BTU/gallon gasoline (average of 120,388–124,340).
138,490: BTU/gallon diesel.
765,135: San Mateo County 2015 Population.
BTU = British thermal unit.
kWh = Kilowatt-hours.
GWh = Gigawatt-hours.

Sources: California Energy Commission, 2016a; California Air Resources Board 2015, U.S. Department of Energy 2014.

[2] Note that future energy consumption may be lower than projected as a result of recent statewide legislation designed to reduce GHG emissions (e.g., Senate Bill 32, which is discussed further below).

Greenhouse Gases

Greenhouse Effect and Climate Change

The phenomenon known as the *greenhouse effect* keeps the atmosphere near Earth's surface warm enough for the successful habitation of humans and other life forms. The greenhouse effect is created by sunlight that passes through the atmosphere. Some of the sunlight striking Earth is absorbed and converted to heat, which warms the surface. The surface emits a portion of this heat as infrared radiation, some of which is re-emitted toward the surface by greenhouse gases (GHGs). GHGs increase the amount of infrared radiation absorbed by the atmosphere, thus enhancing the greenhouse effect and amplifying the warming of Earth (Center for Climate and Energy Solutions 2016). Human activities generate GHGs.

Increases in fossil fuel combustion and deforestation have exponentially increased concentrations of GHGs in the atmosphere since the Industrial Revolution. Rising atmospheric concentrations of GHGs in excess of natural levels result in increasing global surface temperatures—a phenomenon commonly referred to as *global warming*. Higher global surface temperatures, in turn, result in changes to Earth's climate system, including increased ocean temperature and acidity, reduced sea ice, variable precipitation, and increased frequency and intensity of extreme weather events (Intergovernmental Panel on Climate Change 2007). Large-scale changes to Earth's system are collectively referred to as *climate change*.

The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC estimates that the average global temperature will rise by 0.3–4.8°C (0.5–8.6°F) during the twenty-first century (Intergovernmental Panel on Climate Change 2013). Large increases in global temperatures could have substantial adverse effects on the natural and human environments worldwide and in California.

Greenhouse Gases

The principle anthropogenic (human-made) GHGs contributing to global warming are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated compounds, including sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorinated carbons (PFCs). Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic sources. Principal characteristics surrounding the principle anthropogenic GHGs are discussed below.

CO_2 enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products; respiration; and as a result of other chemical reactions (e.g., manufacture of cement). CO_2 is also removed from the atmosphere (or *sequestered*) when it is absorbed by plants as part of the biological carbon cycle.

CH_4 is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.

N_2O is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.

SF_6, an anthropogenic chemical, is used as an electrical insulating fluid for power distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer chemical for the study of oceanic and atmospheric processes.

HFCs are anthropogenic chemicals used in commercial, industrial, and consumer products and have high global warming potential (GWP). HFCs are generally used as substitutes for ozone-depleting substances in automobile air conditioners and refrigerants.

PFCs are typically emitted as byproducts of industrial and manufacturing processes. They were originally introduced as alternatives to ozone-depleting substances.

Methods have been set forth to describe emissions of GHGs in terms of a single gas to simplify reporting and analysis. The most commonly accepted method to compare GHG emissions is the GWP methodology defined in the IPCC reference documents. The IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalent (CO_2e), which compares the gas in question to that of the same mass of CO_2 (CO_2 has a global warming potential of 1 by definition).

Table 4.6-2 lists the global warming potential of relevant GHGs, their lifetimes, and abundances in the atmosphere.

Table 4.6-2. Atmospheric Lifetimes and Global Warming Potentials of Key Greenhouse Gases

Greenhouse Gases	*GWP (100 years)*[1]	*Lifetime (years)*	*2014 Atmospheric Abundance*
CO_2	1	50–200	400 ppm
CH_4	25	9–15	1,834 ppb
N_2O	298	121	328 ppb
HFC-23	14,800	222	18 ppt
HFC-134a	1,430	13.4	84 ppt
HFC-152a	124	1.5	3.9 ppt
SF_6	22,800	3,200	8.6 ppt

Sources: Myhre et al. 2013; Blasing 2016; Intergovernmental Panel on Climate Change 2007.

Notes:

CH_4 = methane.
CO_2 = carbon dioxide.
N_2O = nitrous oxide.
ppb = parts per billion.
ppm = parts per million.

1. The GWPs listed above and included in this analysis are from the IPCC's Forth Assessment Report (AR4). The IPCC has released slightly revised GWPs as part of their Fifth Assessment Report (AR5). However, the AR4 GWP values are used by California for statewide emissions planning, and have been incorporated into both the 2014 California GHG inventory and Draft 2017 Scoping Plan Update. The City's GHG emissions inventory is also based on the AR4 GWPs.

Sources: Myhre et al., 2013; Blasing, 2016; Intergovernmental Panel on Climate Change, 2007.

Greenhouse Gas Emissions Inventories

A GHG inventory is a quantification of all GHG emissions and sinks within a selected physical or economic boundary. GHG inventories can be performed on a large scale (e.g., for global and national entities) or on a small scale (e.g., for a particular building or person). Although many processes are difficult to evaluate, several agencies have developed tools to quantify emissions from certain sources.

Table 4.6-3 outlines the most recent global, national, statewide, and regional GHG inventories.

Table 4.6-3. Global, National, and State GHG Emissions Inventories

Emissions Inventory	*CO_2e (metric tons)*
2010 IPCC Global GHG Emissions Inventory	52,000,000,000
2014 EPA National GHG Emissions Inventory	6,870,000,000
2015 ARB State GHG Emissions Inventory	440,400,000
2011 BAAQMD GHG Emissions Inventory	86,600,000

Table 4.6-3. Global, National, and State GHG Emissions Inventories

Emissions Inventory	*CO_2e (metric tons)*

Sources: Intergovernmental Panel on Climate Change, 2014; U.S. Environmental Protection Agency, 2016a; California Air Resources Board, 2017a.

The City has quantified GHGs generated by the community in 2005 and 2013 to identify existing emissions sources and the magnitude of their emissions (Table 4.6-4). The inventory indicates that in 2005, Belmont residents and businesses generated approximately 167,648 metric tons CO_2e. Emissions decreased slightly by 2013, with 159,051 metric tons CO_2e generated by the community. The decrease is attributable to State and local GHG reduction policies and sustainability actions. The transportation sector represented the largest source of community emissions in 2005 and 2013 (between 60 percent and 61 percent).

Table 4.6-4. City of Belmont 2005 and 2013 Community Greenhouse Gas Emissions Inventories (metric tons CO_2e)

	2005 Inventory		*2013 Inventory*	
Emission Sector	*Metric Tons CO_2e*	*Percent*	*Metric Tons CO_2e*	*Percent*
Residential	42,134	25%	38,778	24%
Commercial/Industrial	21,052	13%	19,730	12%
Transportation	100,554	60%	97,490	61%
Waste and Wastewater	3,908	2%	2,742	2%
Water	0	0%	311	0%
Total	**167,648**	**100%**	**159,051**	**100%**

Source: City of Belmont Climate Action Plan, 2017.

Climate Change

Even with the efforts of municipalities throughout the State, a certain amount of climate change is inevitable because of existing and unavoidable future GHG emissions. With respect to the San Francisco Bay Area Air Basin (SFBAAB), including Belmont, climate change effects are expected to result in the following conditions.

- Sea level rise, with present projections estimating 14 inches by 2050 and between 40 and 55 inches by 2100. According to a 2009 study by the California Energy Commissions (CEC), the Pacific Institute, and others, 110,000 people live in areas of San Mateo County that are vulnerable to a 100-year flood event with a 1.4 meter (~55 inch) rise in sea level. (Draft CAP.)
- A hotter and drier climate, with average annual temperatures increasing by approximately 5°F in San Mateo County by 2099, relative to baseline conditions (1961–1990) (California Energy Commission 2016b).
- Increased frequency and intensity of winter storm events that could affect peak stream flows and increase flooding as large amounts of runoff move over pavement and other im-

permeable surfaces. Although modeling results can vary, climate scientists predict an increase in warmer temperatures and months (California Energy Commission 2012). Changes in precipitation patterns may amplify the existing flood risk in the Planning Area.

- Changes in growing season conditions and species distribution (PRBO Conservation Science 2011).
- Increased heat and decreased air quality, with the result that public health will be placed at risk, and native plant and animal species may be lost (PRBO Conservation Science 2011).

REGULATORY SETTING

Federal Regulations

The Energy Policy Act of 2005 establishes a comprehensive, long-term federal energy policy and is implemented by the U.S. Department of Energy. The Energy Policy Act addresses energy production in the United States, including oil, gas, coal, and alternative forms of energy and energy efficiency and tax incentives. Energy efficiency and tax incentive programs include credits for the construction of new energy efficient homes, production or purchase of energy efficient appliances, and loan guarantees for entities that develop or use innovative technologies that avoid the production of GHGs. The federal government has also adopted the Energy and Independence Security Act of 2007 (EISA), which sets energy management requirements in several areas.

There is no federal overarching law specifically related to climate change or the reduction of GHGs. Under the Obama Administration, the EPA was developing regulations under the Clean Air Act (CAA) pursuant to the EPA's authority under the CAA. In *Coalition for Responsible Regulation, Inc., et al. v. EPA*, the United States Court of Appeals upheld the EPA's authority to regulate GHG emissions under the CAA. Foremost among recent developments have been the settlement agreements between the EPA, several states, and nongovernmental organizations (NGOs) to address GHG emissions from electric generating units and refineries; the U.S. Supreme Court's decision in *Massachusetts v. EPA*; and the EPA's "Endangerment Finding," "Cause or Contribute Finding," Mandatory Reporting Rule, light-duty and heavy-duty vehicle fuel economy standards, and EPA's Clean Power Plan Final Rule. Under the Clean Power Plan, EPA issued regulations to control CO_2 emissions from new and existing coal-fired power plants. However, on February 9, 2016 the Supreme Court issued a stay of these regulations pending litigation. The fate of the proposed regulations is uncertain given the change in federal administrations and the pending deliberations in federal courts.

State Regulations

California has adopted statewide legislation addressing various aspects of energy consumption, GHG emissions reduction, and climate change. The legislation establishes a broad framework for the State's long-term energy and GHG reduction program. The Governor of California has also issued several executive orders related to the State's evolving climate change policy. Summaries of key policies, regulations, and legislation at the State levels that are relevant to the Proposed Project are provided below in chronological order.

Assembly Bill 2076, Reducing Dependence on Petroleum (2000)

The California Energy Commission (CEC) and California Air Resources Board (ARB) are directed by Assembly Bill (AB) 2076 to develop and adopt recommendations for reducing dependence on petroleum. A performance-based goal is to reduce petroleum demand to 15 percent less than 2003 demand by 2020.

Senate Bill 1389 (2002) and California Integrated Energy Policy Report

Senate Bill (SB) 1389 requires the CEC to develop an integrated energy plan for electricity, natural gas, and transportation fuels. The energy plan is to be updated biannually and support improvements to the California energy system that reduce air pollution, congestion, and wasteful energy use. The current Integrated Energy Policy Report (IEPR) was updated in 2016 and covers a broad range of topics, including, but not limited to, environmental performance of the electricity generation system, landscape-scale planning, transportation fuel supply reliability, climate adaptation activities, and climate and sea level rise scenarios.

Executive Order S-3-05 (2005)

California Executive Order (EO) S-3-05 sets forth a series of target dates by which statewide emissions of GHGs need to be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels (approximately 457 million metric tons of carbon dioxide equivalent [CO_2e]); by 2020, reduce emissions to 1990 levels (approximately 427 million metric tons CO_2e); and by 2050, reduce emissions to 80 percent below 1990 levels (approximately 85 million metric tons CO_2e). Executive orders are binding only on State agencies. Accordingly, California EO S-03-05 will guide State agencies' efforts to control and regulate GHG emissions, but will have no direct binding effect on local government or private actions. The Secretary of the California Environmental Protection Agency (Cal/EPA) is required to report to the Governor and State legislature biannually on the impacts of global warming on California, mitigation and adaptation plans, and progress made toward reducing GHG emissions to meet the targets established in this executive order.

Assembly Bill 1493, Pavley Rules (2002, amendments 2009)/Advanced Clean Cars (2011)

Known as "Pavley I," AB 1493 outlines the nation's first GHG standards for automobiles. Additional strengthening of the Pavley standards (referred to previously as "Pavley II," and now referred to as the "Advanced Clean Cars" measure) has been proposed for vehicle model years 2017–2020. Together, the two standards are expected to increase average fuel economy to roughly 43 miles per gallon by 2020 and reduce GHG emissions from the transportation sector in California by approximately 14 percent. EPA and ARB have also adopted joint rulemaking to establish GHG emissions standards for 2017-2025 model year passenger vehicles.

Assembly Bill 32 (2006) and California Climate Change Scoping Plan (2008/2014)

In 2006, the California legislature passed AB 32 (California Health and Safety Code Division 25.5, Sections 38500 et seq., or AB 32), also known as the California Global Warming Solutions Act. AB 32 requires ARB to implement emission limits, regulations, and other feasible and cost-effective measures such that statewide GHG emissions are reduced to 1990 levels by 2020.

Pursuant to AB 32, ARB adopted the Climate Change Scoping Plan (Scoping Plan) in December 2008, which outlines measures for meeting the 2020 GHG emissions reduction limits. The Scoping Plan must be updated every 5 years to evaluate AB 32 policies and ensure that California is on track to achieve the 2020 GHG emissions reduction goal. In 2014, ARB released the First Update to the Climate Change Scoping Plan (First Update), which builds upon the initial scoping plan with new strategies and recommendations. The First Update identifies opportunities to leverage existing and new funds and drive GHG emissions reductions through strategic planning and targeted low-carbon investments. This update defines ARB's climate change priorities for the next 5 years and sets the groundwork for reaching the long-term goals set forth in California EO S-3-05. The First Update highlights California's progress toward meeting the near-term 2020 GHG emissions reduction goals in the initial scoping plan. It also evaluates actions to align the State's longer-term GHG emissions reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use.

The ARB is currently working on the Second Update to the AB 32 Scoping Plan, which will outline policies and actions for the State's 2030 GHG emission target, as outlined under SB 32 (discussed below). The Second Update to the AB 32 Scoping Plan, the 2030 Draft Scoping Plan, was released on January 20, 2017 for public comment.

Executive Order S-01-07, Low Carbon Fuel Standard (2007)

California EO S-01-07 mandates (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020, and (2) that a low-carbon fuel standard for transportation fuels be established in California. The executive order initiates a research and regulatory process at ARB.

Senate Bill 375 (Steinberg) (2008)

SB 375 provides for a new planning process that coordinates land use planning, regional transportation plans (RTPs), and funding priorities to help California meet the GHG reduction goals established in AB 32. SB 375 requires regional transportation plans, developed by metropolitan planning organizations (MPOs), to incorporate a *sustainable communities strategy* (SCS). The goal of the SCS is to reduce regional vehicle miles traveled (VMT) through land use planning and consequent transportation patterns. ARB released the regional targets in September 2010.

The Metropolitan Transportation Commission (MTC) is the MPO for the nine counties that comprise the San Francisco Bay Area and the SFBAAB, which includes the City of Belmont. The per-capita GHG emissions reduction targets for the SFBAAB are 7 percent by 2020 and 15 percent by 2035 from 2005 levels (California Air Resources Board 2011). MTC adopted an SCS as part of their regional transportation plan (RTP) for the SFBAAB in 2013 known as *Plan Bay Area*. The plan exceeds the regional per-capita targets, achieving 10 percent and 16 percent reduction in per capita GHG emissions by 2020 and 2035, respectively (Association of Bay Area Governments and Metropolitan Transportation Commission 2012).

SB 375 includes provisions for streamlined CEQA review for certain types of mixed-use and transit priority projects that meet specific criteria established by SB 375. According to State CEQA Guidelines Section 15183.5, quantified plans, such as the RTP/SCS EIR, "may be used in the cumulative

impacts analysis of later projects." More specifically, "[l]ater project-specific environmental documents may tier from and/or incorporate by reference" the "programmatic review" conducted for the GHG reduction plan. Section 15183.5 also states:

> An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project.

Environmental documents prepared for residential and mixed-use projects that are consistent with the RTP/SCS EIR are not required to reference, describe, or discuss the following in their GHG impact analysis:[3]

- Growth-inducing impacts
- A reduced-density alternative to address impacts on transportation or climate change of increased car and truck VMT induced by the project
- Any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network

Senate Bill 97 (2009)

SB 97 required the Governor's Office of Planning and Research to develop recommended amendments to the CEQA Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Senate Bills 1078/107 and Senate Bill X1-2 (2011)—Renewables Portfolio Standard

SBs 1078 and 107, California's Renewables Portfolio Standard (RPS), obligates investor-owned utilities (IOUs), energy service providers (ESPs), and Community Choice Aggregations (CCAs) to procure an additional 1 percent of retail sales per year from eligible renewable sources until 20 percent is reached, no later than 2010. The California Public Utilities Commission (CPUC) and CEC are jointly responsible for implementing the program. SB X1-2 (2011) set forth a longer range target of procuring 33 percent of electricity retail sales from eligible renewable sources by 2020. The RPS has been extended by SB 350, discussed further below.

California Energy Efficiency Standards for Residential and Nonresidential Buildings—Green Building Code (2011), Title 24 Update (2014/2016)

The Green Building Standards Code (CALGreen) applies to the planning, design, operation, construction, use, and occupancy of newly constructed buildings and requires the installation of energy- and water-efficient indoor infrastructure for all new projects beginning after January 1, 2011. CALGreen now requires newly constructed buildings to develop a waste management plan and to recycle or salvage for reuse at least 65 percent of the construction and demolition waste materials generated during project construction.

[3] Pub. Res. Code § 21159.28.

Administrative regulations for CALGreen Part 11 and the California Building Energy Efficiency Standards were adopted in 2013 and took effect on January 1, 2014. The 2013 Building Energy Efficiency Standards are 25 percent more efficient than previous standards for residential construction. Part 11 also established voluntary standards that became mandatory in the 2010 edition of the code, including planning and design for sustainable site development, energy efficiency, water conservation, material conservation, and internal air contaminants. The standards offer builders better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

The 2016 Building Energy Efficiency Standards took effect on January 1, 2017. According to CEC, single-family homes built to the 2016 standards will use about 28 percent less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards. While the 2016 standards do not require zero net energy (ZNE) buildings, which on an annual basis would produce approximately the same amount of energy as they consume, the 2019 standards are expected to take the final step toward achieving ZNE for newly constructed residential buildings throughout California. Later standards are expected to require ZNE for newly constructed commercial buildings.

Senate Bill 350—De Leon (Clean Energy and Pollution Reduction Act of 2015) (2015)

SB 350 was approved by the California legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions are to require the following by 2030: (1) a renewables portfolio standard of 50 percent and (2) a doubling of energy efficiency (electrical and natural gas) by 2030, including improvements to the efficiency of existing buildings. These mandates will be implemented by future actions of the California Public Utilities Commission and California Energy Commission.

Senate Bill 32 and Assembly Bill 197 (2016)

SB 32 requires the ARB to ensure that statewide GHG emissions are reduced to at least 40 percent below 1990 levels by 2030. The companion bill, AB 197, creates requirements to form a Joint Legislative Committee on Climate Change Policies, requires the ARB to prioritize direct emission reductions and consider social costs when adopting regulations to reduce GHG emissions beyond the 2020 statewide limit, requires ARB to prepare reports on sources of GHGs and other pollutants, establishes 6-year terms for voting members of ARB, and adds two legislators as non-voting members of ARB.

Local Regulations

The Bay Area Air Quality Management District has local jurisdiction over air quality in the SFBAAB, including projects in the City of Belmont. BAAQMD (2011) has adopted advisory emission thresholds to assist CEQA lead agencies in determining the level of significance of a project's GHG emissions, including long range plans (e.g., general plans, specific plans), which are outlined in its *California Environmental Quality Act: Air Quality Guidelines* (CEQA Guidelines). The CEQA Guidelines also outline methods for quantifying GHG emissions, as well as potential mitigation measures.

As discussed in Chapter 3 of this EIR, "Project Description," a component of the Proposed Project that is analyzed is a proposed Climate Action Plan (CAP) for the City of Belmont. The CAP includes policies and strategies to reduce community and municipal GHG emissions and conserve energy,

and has been prepared to be consistent with the proposed General Plan, which encompasses the Belmont Village Specific Plan (BVSP). The proposed CAP has been prepared consistent with State CEQA Guidelines Section 15183.5, and once adopted, it will enable streamlined CEQA review for future projects that are consistent with the CAP. The CAP is discussed further in the Impact Analysis section to follow.

4.6.2 Impact Analysis

SIGNIFICANCE CRITERIA

Energy

Appendix F of the State CEQA Guidelines identifies the following potential environmental impacts related to energy that may be considered in an EIR.

1. The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project, including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
2. The effects of the project on local and regional energy supplies and on requirements for additional capacity.
3. The effects of the project on peak- and base-period demands for electricity and other forms of energy.
4. The degree to which the project complies with existing energy standards.
5. The effects of the project on energy resources.
6. The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

The State CEQA Guidelines recommend that the discussion of applicable energy impacts focus on whether the project would result in the wasteful, inefficient, or unnecessary consumption of energy. Efficiency projects that incorporate conservation measures to avoid wasteful energy usage facilitate long-term energy planning and avoid the need for unplanned or additional energy capacity. Accordingly, based on the criteria outlined in the State CEQA Guidelines Appendix F, the proposed project would cause significant impacts related to energy if it would lead to a wasteful, inefficient, and unnecessary usage of direct or indirect energy. As discussed in the Regulatory Setting section, energy legislation, policies, and standards adopted by California and local governments were enacted and promulgated for the purpose of reducing energy consumption and improving efficiency (i.e., reducing wasteful and inefficient use of energy). Therefore, for the purposes of this analysis, inconsistency with legislation, policies, or standards designed to avoid wasteful and inefficient energy usage is used as the basis for evaluating whether the Proposed Project would result in a significant impact related to energy resources and conservation. Potential effects on local and regional energy supplies are also assessed.

Greenhouse Gases and Climate Change

Implementation of the Proposed Project would have a potentially significant adverse impact if it would:

Criterion 1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

Criterion 2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Climate change is a global problem and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors), which are primarily pollutants of regional and local concern. Given their long atmospheric lifetimes (refer to Table 4.6-2), GHGs emitted by countless sources worldwide accumulate in the atmosphere. No single emitter of GHGs is large enough to trigger global climate change on its own. Rather, climate change is the result of the individual contributions of countless past, present, and future sources. Therefore, GHG impacts are inherently cumulative.

Supplemental Thresholds

The California Supreme Court's Newhall Ranch decision confirmed that there are multiple potential pathways for evaluating GHG emissions consistent with CEQA, depending on the circumstances of a given project. (*Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal.4th 204, known as the Newhall Ranch decision). The decision also identified the need to analyze both near-term and post-2020 emissions, as applicable, stating that an "EIR taking a goal-consistency approach to CEQA significance may in the near future need to consider the project's effects on meeting longer term emissions reduction targets."

BAAQMD's CEQA Guidelines do not identify a GHG emission threshold for construction-related emissions. Instead, BAAQMD recommends that GHG emissions from construction be quantified and disclosed, and that a determination regarding the significance of these GHG emissions be made with respect to whether a project is consistent with the AB 32 GHG emission reduction goals. The BAAQMD further recommends incorporation of BMPs to reduce GHG emissions during construction, as feasible and applicable.

The Newhall Ranch decision affirmed that the AB 32 Scoping Plan encourages the use of adopted local GHG reduction plans, and consistency with a geographically specific GHG reduction plan, or CAP, can relieve some of the burden taken on by local governments in analyzing the cumulative contribution of operational GHG emissions, consistent with CEQA Guidelines Section 15183.5. Consequently, if a project is consistent with a local CAP and that CAP is consistent with AB 32 and future GHG targets (e.g., SB 32), then the project would be considered consistent with statewide GHG reduction goals for the applicable analysis years.

AB 32 requires statewide emissions levels to meet 1990 levels by 2020. The AB 32 Scoping Plan provides a roadmap for meeting AB 32's reduction target and recommends a complementary 2020 reduction goal for local governments of 15 percent below "current" emissions levels (defined as 2005 to 2008). BAAQMD has adopted complimentary efficiency metrics of 6.6 metric tons CO_2e per service population (SP) (employees + population) for general plans and 4.6 metric tons CO_2e per SP for mixed use developments within the SFBAAB. SB 32 extends the 2020 statewide target and requires a 40 percent reduction below 1990 levels by 2030. The 2030 Draft Scoping Plan includes per capita reduction targets consistent with SB 32, which are 6 metric tons CO_2e per capita by 2030 and 2 metric tons CO_2e per capita by 2050 (California Air Resource Board 2017b). Although not legislatively adopted, EO S-3-05 outlines a long-range target of 80 percent below 1990 emissions levels by 2050, as discussed in the Environmental Setting section.

Operational emissions associated with the proposed General Plan and BVSP are analyzed using two separate, but related threshold approaches.

General Plan. The CAP includes a GHG reduction target of 15 percent below 2005 levels by 2020 for the Planning Area, consistent with the ARB's recommendation in the AB 32 Scoping Plan. The CAP also includes a GHG reduction target of 50 percent below 2005 levels by 2035 for the Planning Area. This target is consistent with reductions required by SB 32 (2030) and the trajectory of statewide climate change legislation, as defined by EO S-3-05 (Butterworth pers. comm.). Operational emissions associated with the proposed General Plan are therefore evaluated by examining consistency of the proposed General Plan, which includes the CAP, with the recommendations of the ARB for municipalities to support the overall AB 32, SB 32, and EO S-3-05 reduction targets. The analysis also considers BAAQMD's AB 32 general plan efficiency metric of 6.6 metric tons CO_2e per SP. If the proposed General Plan is consistent with these targets, then both near-term (2020) and buildout (2035) operational GHG emissions would be less than significant.

Belmont Village Specific Plan. The CAP has been prepared as a "Plan for the Reduction of Greenhouse Gas Emissions" for purposes of CEQA Guidelines §15183.5. This section of the CEQA Guidelines provides that quantified plans "may be used in the cumulative impacts analysis of later projects." More specifically, "[l]ater project-specific environmental documents may tier from and/or incorporate by reference" the "programmatic review" conducted for the GHG reduction plan. "An environmental document that relies on a GHG reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project." (§15183.5) Because global climate change, by its very nature, is a global cumulative impact, an individual project's compliance with a qualifying GHG reduction plan may suffice to mitigate the project's incremental contribution to that cumulative impact to a level that is not "cumulatively considerable." (See CEQA Guidelines, § 15064[h][3]).

The proposed General Plan, including the CAP, will be adopted simultaneously with the BVSP. Accordingly, the significance of GHG emissions generated by the BVSP is evaluated by determining whether the BVSP is consistent with all applicable measures outlined in the CAP. If the BVSP is consistent with these measures, it would not conflict with the City's ability to achieve future emission reduction goals. Since the CAP includes both a 2020 and 2035 GHG target, consistent with AB 32, SB 32, and EO S-3-05, both near-term (2020) and buildout (2035) operational GHG emissions therefore would be found to be less than significant.

METHODOLOGY AND ASSUMPTIONS

Impacts of the Proposed Project on GHG emissions and energy resources from construction and operations were assessed and quantified using standard and accepted software tools, techniques, and emission factors. The primary assumptions and key methods used to quantify emissions and estimate potential impacts are described below. Model inputs and calculation files are provided in Appendix B, *Air Quality and Greenhouse Gas Data*.

This analysis provides a program-level overview of construction and operational emissions that could occur with buildout of the Proposed Project. Subsequent project-level environmental review,

including quantification of construction GHG emissions, would be required during the processing of individual applications for future projects. While the proposed BVSP is encompassed within the proposed General Plan, both plans are analyzed and presented separately in order to facilitate future project-level analyses to tier from either plan.

As discussed in Chapter 3 of this EIR, "Project Description," the proposed General Plan, BVSP, and Climate Action Plan together constitute the Proposed Project. Unlike the proposed General Plan and BVSP, the Climate Action Plan does not control land use development; rather, it is a policy-based comprehensive strategy for reducing the City's GHG emissions. Therefore, where emissions are quantified, the focus of this analysis is emissions that would result from net new development under the proposed General Plan and BVSP. Where policies proposed under the Climate Action Plan would contribute to reducing estimated emissions, these effects are noted in the analysis.

General Plan

Construction Emissions

Land uses that could be developed under the proposed General Plan would generate construction-related emissions from mobile and stationary construction equipment exhaust and employee and haul truck vehicle exhaust. Buildout would occur over an extended period of time beginning in 2018, depending on local economic conditions, market demand, and other financing considerations.

While it is not possible to develop a refined construction inventory without specific project-level details,[4] the GHG impacts from construction of new development that would be supported by the proposed General Plan were estimated based on general land use assumptions and the California Emissions Estimator Model (CalEEMod), version 2016.3.1. Net new development supported by the proposed General Plan was averaged over the 17-year buildout period (2018-2034), assuming reasonably foreseeable buildout under the proposed General Plan. A single construction year from this scenario was analyzed as a representative year of construction under the proposed General Plan. Emissions from ongoing demolition were estimated assuming a plan-wide average of 10 percent of existing development would be demolished over the buildout period (79,544 square feet per year) (Martin pers. comm.), because the proposed Project identified approximately 10 percent of the Planning Area as sites that are opportunities for redevelopment. Model defaults for all other assumptions were conservatively assumed since specific details for individual projects are not available for this program-level analysis. Please refer to Table 4.2-6 in Chapter 4.2 of this EIR, "Air Quality," for the land use assumptions, and Appendix B for the CalEEMod output files.

Construction-related energy use (i.e., fuel consumption) was calculated by converting GHG emissions predicted by CalEEMod using the rate of CO_2 emissions emitted per gallon of combusted gasoline (19.4 pounds/gallon) and diesel (22.2 pounds/gallon) (Climate Registry 2016). The estimated fuel consumption was converted to BTU assuming an energy intensity of 122,364 BTU per gallon of gasoline and 138,490 per gallon of diesel (United States Department of Energy 2014). Materials manufacturing would also consume energy; however, it would be speculative and beyond the scope of this program-level analysis to make assumptions regarding the intensity

[4] Project-level information includes details such as the size and scale of the project to be constructed, construction schedule, equipment fleet, construction worker crew estimates, and demolition and grading quantities.

and quantity of fuels used during manufacturing of building materials for individual projects that would be constructed throughout the life of the plan. Therefore, this analysis focuses on energy associated with physical construction activities (i.e., fuel consumed by heavy-duty equipment and vehicles).

Operational Mobile Source Emissions

Impacts of the proposed General Plan on GHGs from mobile sources were assessed using emissions data from the CAP. Energy consumed by mobile sources was quantified by converting VMT provided by the project engineers (Stefanakis pers. comm.) to BTU using a Pavley-adjusted energy intensity for San Mateo County light duty vehicles (Oak Ridge National Laboratory 2015).[5] The VMT data for the proposed General Plan account for trip reductions achieved by General Plan policies that increase proximity to transit and mixed-use design.

Operational Area, Energy, Water, and Waste Source Emissions

Impacts of the proposed General Plan on GHGs from area, energy, water, and waste sources were assessed using emissions data from the CAP. Natural gas and electricity consumption were also drawn from the CAP, and were converted to BTU assuming energy intensities of 99,976 BTU per therm and 3,416 BTU per kWh (United States Department of Energy 2014).

Belmont Village Specific Plan

Construction Emissions

GHG and energy impacts from construction of land uses supported by the BVSP were evaluated using the methods described above for the proposed General Plan. Similar to the proposed General Plan, GHG emissions for a representative year of construction were estimated using CalEEMod defaults since project-level construction details are not currently available. Note that emissions from ongoing demolition were estimated assuming a plan-wide average of 51 percent of existing development would be demolished over the buildout period (21,318 square feet per year) (Simundza pers. comm.), because the nonresidential square footage of sites identified as opportunities for redevelopment constitute approximately 51 percent of the total existing nonresidential square footage in the BVSP Area. Energy use from construction activity was scaled based on the GHG results predicted by CalEEMod. Please refer to Table 4.2-7 in Chapter 4.2, "Air Quality," for the land use assumptions and Appendix B for the CalEEMod output files.

Operational Mobile Source Emissions

GHG impacts from motor vehicles operating within the BVSP Area were evaluated using Caltrans' CT-EMFAC2014 emissions model (version 6.0) and vehicle miles traveled (VMT) provided by the traffic engineers (Stefanakis pers. comm.). Daily VMT data for existing (2013) and buildout (2035)

[5] Oak Ridge National Laboratory reports energy intensities (BTU/vehicle mile) for cars and light duty trucks (two-axle, four-tire trucks) by year (1970–2014). The 2014 energy intensity value was applied to the 2014 vehicle fleet for San Mateo (as reported by the ARB's EMFAC2014 model) to quantify the current weighted light-duty vehicle energy intensity for San Mateo County (5,405 BTU/mile). State Pavley standards will reduce average per-mile greenhouse gas emissions by 26–28%, which is roughly the same as improving fossil fuel economy by the same amount. Accordingly, a future weighted energy intensity of 4,000 BTU per vehicle mile was calculated by multiplying the existing calculated energy intensity (5,405) by 0.74.

year conditions were provided with and without the proposed BVSP. VMT data for the BVSP account for trip reductions achieved by General Plan policies that increase proximity to transit and mixed-use design. VMT for all analysis conditions were apportioned into 5 mph speed bins based on regional speed profile data provided by MTC (Brazil pers. comm.).

GHG emissions were calculated by multiplying the VMT estimates by the appropriate emission factors provided by CT-EMFAC2014. Daily emissions were annualized using a factor of 347, consistent with ARB (2008) guidance. Please refer to Appendix B for the CT-EMFAC2014 emission factors and traffic data utilized in this analysis.

Energy consumed by mobile sources was quantified by converting VMT provided to BTU using a Pavley-adjusted weighted energy intensity, as described above for the proposed General Plan.

Operational Area, Energy, Water, and Waste Source Emissions

Area, energy, water, and waste emissions were estimated using CalEEMod, version 2016.3.1. Landscaping equipment is the primary area source of emissions. Energy sources include the combustion of natural gas, as well as the use and generation of electricity. Water consumption results in indirect GHG emissions from the conveyance and treatment of water. Waste generation results in fugitive CH_4 and N_2O emissions from the decomposition of organic matter.

Emissions were quantified for existing (2013) and buildout (2035) conditions with and without the BVSP based on current and anticipated land uses. The 2035 modeling accounts for natural gas reductions achieved by adoption of mandatory CALGreen Tier 1 energy performance standards, and the 2035 with BVSP conditions modeling accounts for additional water reductions achieved by BVSP Policy 5.1-4. CalEEMod defaults were assumed, with the exception of wood burning stoves and fireplaces, which were assumed to be prohibited for all new development under the BVSP per BAAQMD Regulation 6, Rule 3. Please refer to Appendix B for the land use assumptions and CalEEMod output files.

Operational electricity and natural gas consumption was drawn from the CalEEMod modeling performed to support the GHG analysis. CalEEMod outputs for natural gas consumption are provided in BTU; outputs for electricity consumption, which are provided in kWh, were converted to BTU assuming an energy intensity of 3,416 BTU per kWh (United States Department of Energy 2014).

IMPACT SUMMARY

Future development under the proposed General Plan and BVSP would consume energy during construction and operation. Both plans and the CAP include numerous policies that promote energy efficiency and encourage the use of renewable energy. Implementation of these policies would result in lower operational energy consumption under the proposed General Plan than compared to existing and 2035 No Project conditions. Operational uses under the BVSP would increase overall energy consumption, relative to existing and 2035 No Project conditions, but the relative energy intensity (i.e., per capita) would be lower than existing and 2035 No Project conditions as a result of sustainability initiatives. As such, neither the proposed General Plan nor the BVSP would result in a wasteful, inefficient, and unnecessary usage of energy. Existing regulatory requirements for long-range utility planning would address future regional energy supplies and capacity issues, and

the proposed General Plan and BVSP would not impede PG&E's ability to meet future peak and base period demand for electricity and other forms of energy.

Similar to energy consumption, GHG emissions would be generated by future projects during construction and operation. Construction-related emissions of individual projects would result in a less-than-significant short-term GHG impact. Operation of future development in the proposed General Plan area would be subject to the City's CAP, which is part of the Proposed Project. The measures proposed under the CAP would enable the City to reduce its community GHG emissions to meet the reduction targets of 15 percent below 2005 levels by 2020 and 50 percent below 2005 levels by 2035, which are consistent with AB 32, SB 32, and EO S-3-05. The BVSP is consistent with all CAP measures, and as such, operational emissions supported by the BVSP are not expected to conflict with the City's ability to implement the GHG emissions reduction outlined in the CAP. Since the CAP is consistent with AB 32, SB 32, and EO S-3-05, the proposed General Plan and BVSP would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

IMPACTS AND MITIGATION MEASURES

Impact

4.6-1 Implementation of the Proposed Project would not lead to wasteful, inefficient, or unnecessary consumption of energy. *(Less than significant)*

Construction associated with future projects under the proposed General Plan and BVSP would consume gasoline and diesel through operation of heavy-duty construction equipment and vehicles. Based on the GHG emissions analysis (see Impact 4.6-3), energy use associated with construction activities under the proposed General Plan and BVSP would result in the consumption of 113,700 and 148,166 million BTU, respectively, over the course of the 17-year buildout period (refer to Appendix B, *Air Quality and Greenhouse Gas Data*). The types of land uses envisioned under the plans would involve construction activities typical of development within the Planning Area. No land uses are expected to require an extraordinary amount of energy consumption during construction, as may occur with large, industrial facilities, like new power plants or dams, because no such land use are proposed or permitted by the Proposed Project. Proposed General Plan and BVSP policies designed to reduce air quality impacts during construction would also often achieve complementary reductions in construction-related energy use.

Once operational, land uses developed under the proposed General Plan and BVSP would generate vehicle trips, which would consume gasoline and diesel. Developments would also result in the consumption of electricity and natural gas for power, heating, and cooking. Operational energy consumption (expressed in terms of million BTU or MMBTU) under existing (2013) and buildout (2035) conditions with and without the proposed General Plan is summarized in Table 4.6-5. The with proposed General Plan condition includes fuel savings achieved by General Plan policies that increase proximity to transit and mixed-use design, as well as electricity and natural gas reductions associated with implementation of quantifiable CAP measures.

Table 4.6-5. Estimated Operational Energy Consumption for the Proposed General Plan

Analysis Condition/Source	*Million BTU/Year*
Existing (2013)	
Electricity	378,110
Natural Gas	672,664
Mobile (gasoline and diesel)	2,073,290
Total	3,124,065
2035 No Proposed General Plan	
Electricity	463,352
Natural Gas	796,075
Mobile (gasoline and diesel)	1,720,400
Total	2,979,827
2035 With Proposed General Plan	
Electricity	228,548
Natural Gas	337,150
Mobile (gasoline and diesel)	1,917,018
Total	*2,482,716*
Net Change with Proposed General Plan	
2035 With Proposed General Plan vs. Existing	-641,349 (-21%)
2035 With Proposed General Plan vs. 2035 No Proposed General Plan	-497,110 (-17%)
Energy per Square Foot (MMBTU/SF)	
Existing (2013)	0.14
2035 No Proposed General Plan	0.13
2035 With Proposed General Plan	0.10

As shown in Table 4.6-5, operational sources under the proposed General Plan would reduce energy use relative to existing and 2035 no plan conditions. The reduction is attributable to energy efficiency measures proposed under the CAP, as well as future statewide fuel economy (e.g., Pavley) standards. For example, pursuant to CAP measures EC1 and EC2, new buildings in the Planning Area would be required to comply with the California Green Building Standards Code, and potentially achieve Tier 1 energy performance through further City mandates. Measures EC4 and EC5 provide incentives for energy audits, demand response programs, and retrofits. These and other measures in the CAP, which are supported by the proposed General Plan policies, are estimated to reduce electricity and natural gas consumption by 51 percent and 58 percent, relative to 2035 no plan conditions.

Growth in the Planning Area will increase demand on the transportation network and energy consumption from mobile sources (see Table 4.6-6). However, the proposed General Plan and CAP include several policies and measures to reduce the severity of growth-related VMT. Mixed-use design is a critical component of the General Plan's land use strategy, which would reduce growth-related VMT by capturing trips on-site instead of requiring a separate auto-trip to travel from one

use-type to another (e.g., co-locating housing and neighborhood-serving retail on the same site has been shown to reduce VMT). Proposed General Plan policies 2.3-2, 2.5-6, 3.2-4, and 3.6-3 support design and implementation of mixed-use developments. In addition, Phase I Zoning section 7A.7 (applying citywide, outside the BVSP) and Belmont Village zoning section 31.7 (applying within the BVSP) would require that projects over a certain size to implement transportation demand management (TDM) measures. Expanding transit and increasing opportunities for active transportation (e.g., walking and biking) are also supported by the proposed General Plan and CAP; increased transit and active transportation options reduce VMT by replacing vehicle trips in whole or in part. To present a conservative estimate of the Proposed Project's potential impacts, the mobile source energy results presented in Table 4.6-5 only account for trip benefits achieved by mixed-used design and proximity to transit; it is possible that implementation of other land use and transportation measures in the proposed General Plan and CAP would further reduce energy consumption from mobile sources, however, these reductions are not quantified or factored in to the impact analysis.

Developing a quantitative estimate of energy consumption under the BVSP is more challenging than the proposed General Plan since a detailed forecast of electricity and natural gas consumption associated with the BVSP was not developed as part of the CAP. Accordingly, operational energy use can only be estimated using CalEEMod and default assumptions for the potential future land use types. This estimate likely overestimates actual energy consumption associated with development under the BVSP because it does not account for the majority of energy savings that would be achieved through implementation of the CAP and BVSP policies, which cannot be accurately quantified without a detailed energy forecast by land use type. Nonetheless, Table 4.6-6 presents an estimate of operational energy consumption (expressed in terms of million BTU) under existing (2013) and buildout (2035) conditions with and without the BVSP. An additional scenario for the BVSP is also presented that adjusts electricity and natural gas consumption by anticipated reductions achieved by the CAP, as demonstrated by the proposed General Plan analysis (see Table 4.6-5).[6]

Table 4.6-6. Estimated Operational Energy Consumption for the Belmont Village Specific Plan

Analysis Condition/Source	*Million BTU/Year*
Existing (2013)	
Electricity	31,591
Natural Gas	18,880
Mobile (gasoline and diesel)	400,368
Total	*450,840*
2035 No BVSP or CAP	
Electricity	45,608

[6] As shown in Table 4.6-6, implementation of the CAP is estimated to reduce electricity and natural gas consumption by 51% and 58%, relative to 2035 no plan conditions. These values were applied to the electricity and natural gas consumption estimates for the Specific Plan to calculate potential energy use with implementation of the CAP, assuming the same magnitude of reduction would be achieved by development in the Specific Plan as estimated for the proposed General Plan since the BVSP is consistent with the CAP (refer to Impact 4.6-4).

Natural Gas	40,777
Mobile (gasoline and diesel)	366,663
Total	*453,047*
2035 With BVSP	
Electricity	60,486
Natural Gas	49,571
Mobile (gasoline and diesel)	431,051
Total	*541,108*
2035 With BVSP and Potential CAP Benefit	
Electricity	30,819
Natural Gas	23,518
Mobile (gasoline and diesel)	431,051
Total	*485,388*
Net Change with BVSP	
2035 With BVSP + CAP vs. Existing	34,548 (8%)
2035 With BVSP + CAP vs. 2035 Without BVSP	32,340 (7%)
Energy per Square Foot (MMBTU/SF)	
Existing (2013)	0.43
2035 No BVSP	0.33
2035 With BVSP and Potential CAP Benefit	0.25

As shown in Table 4.6-6, operational sources under the BVSP and CAP would slightly increase overall energy use relative to existing and 2035 no plan conditions. However, the overall increase in energy use in 2035 after implementation of the BVSP and CAP also reflects a significant decrease in energy use per square foot; the slight overall increase in energy use reflects the greater intensity of uses proposed by the BVSP and the resulting increase in the number of people living and working in the BVSP Area. As discussed above, an estimate of actual energy consumption with implementation of all CAP measures and BVSP policies was not possible. Table 4.6-6 presents estimated energy use with electricity and natural gas benefits that are anticipated by the CAP, based on the analysis conducted for the General Plan Update, but the table likely overestimates actual energy consumption associated with development under the BVSP, and so the figures likely underestimate the anticipated reductions in energy consumption created by implementation of the BVSP and CAP.

The increase in energy under the BVSP is attributable to the amount of growth supported by the BVSP. In particular, the square footage of nonresidential development in the BVSP Area is projected to increase by 35 percent or by approximately 274,970 square feet, relative to the 2035 no plan condition. The number of residential units is expected to increase by 51 percent, or by approximately 450 units. When analyzed in terms of energy intensity, development under the BVSP and CAP would have an average energy consumption of 0.25 MMBTU per square foot. This is compared to 0.33 MMBTU per square foot under 2035 conditions without the BVSP or CAP, indicating that implementing the BVSP and CAP would result in more efficient use of energy resources (e.g. lower consumption per population served).

Analyzing the energy intensity of proposed land use developments is critical to understanding long-term energy impacts of large-scale plans. Since both the proposed General Plan and BVSP would alter the types and amounts of development within the Planning Area, relative to no project conditions, simply considering the magnitude of energy consumption may unfairly penalize the projects, which support and accommodate future growth. Energy is required to power buildings and vehicles. As such, larger projects will consume greater quantities of energy simply due to size. The threshold for purposes of CEQA is whether that energy consumption is done in an efficient and non-wasteful manner. Comparing projects in terms of their overall energy intensity, through MMBTU per square foot or other appropriate metrics, normalizes energy from projects of varying sizes and provides for a better understanding of actual impacts to energy resources.

Based on the above analysis, the proposed General Plan and BVSP are consistent with and would go beyond State and local energy policies enacted to reduce energy consumption (see policies below). Operational energy consumption and the intensity of that consumption under the proposed General Plan would be lower than existing and 2035 no plan conditions. While operational uses under the BVSP would increase energy consumption, relative to existing and 2035 no plan conditions, the intensity of energy consumption (MMBTU/SF) would be substantially lower. As such, the Proposed Project would not result in a wasteful, inefficient, and unnecessary usage of energy. Therefore, impacts related to energy resources would be less than significant.

Proposed General Plan Policies that Would Reduce the Impact

Land Use Element

2.3-2 Encourage higher density residential uses located in close proximity to commercial services, employment opportunities, and major transportation corridors and facilities.

2.5-6 Enhance walkability and pedestrian orientation of the Village to create an identity, improve the atmosphere, and improve access to and utilization of transit, in accordance with the Belmont Village Specific Plan.

Circulation Element

3.2-1 Promote energy efficiency and accommodate new and improved technology, such as autonomous vehicles, in meeting transportation needs.

3.2-2 Look for ways to partner with ride-sharing services as a means to reduce single-occupancy vehicle trips, reduce the need for car ownership, and cover service gaps in the public transportation system.

3.2-3 Maintain and expand transit and active transportation networks that connect neighborhoods with key destinations to encourage travel by non-automobile modes while also improving public health.

3.2-4 Support thoughtful and appropriate land use locations and densities with development or redevelopment in Belmont that promote alternatives to travel via single-occupant vehicles.

3.2-5 Comply with the adopted Complete Streets Policy of the City of Belmont.

3.5-9 Prepare the Comprehensive Pedestrian and Bicycle Plan for on-street and off-street bicycle and pedestrian facilities in the city.

3.6-1 Encourage the use of park-and-ride and shuttle services.

3.6-2 Encourage (or require, for large employment centers with high projected trip generate rates) businesses to implement Transportation Demand Management Programs with an emphasis on connecting and sharing the service with other businesses in the City and region, such as commuter buses, carpools, and other forms of private transit, especially in conjunction with major new industrial or commercial development. (See also Belmont Village Zoning Section 31.7.2 for additional discussion of Transportation Demand Management Applicability.)

3.6-3 Ensure that major new development is adequately served by transit.

3.7-1 Ensure that adequate transit service facilities are provided in Belmont, including bus turn-outs along arterials when needed, and bus stop amenities including, but not limited to, lighted shelters, benches, and route information signs.

3.7-4 Design streets and rights-of-way to accommodate and support safe and efficient bus operations.

3.7-6 Support improvement and frequency of north-south mass transit service by advocating for increased service at the Belmont Caltrain station as systemwide improvements are made, and working with Samtrans to implement service improvements (such as transit signal priority and rapid bus service) on El Camino Real.

Conservation Element

5.11-1 Adopt a Climate Action Plan that incorporates a Greenhouse Gas Emissions Reduction Plan, which quantifies current and anticipated future emissions and focuses on feasible actions the City can take to minimize the adverse impacts of General Plan implementation on climate change and air quality.

Proposed Phase I Zoning Regulations that Would Reduce the Impact

Section 7A.7 of the Phase I Zoning regulations, applying citywide, requires implementation of Transportation Demand Management measures for all multi-unit residential projects greater than 10 units, all nonresidential projects greater than 10,000 square feet, and all non-residential changes in use or operational characteristics in buildings larger than 10,000 square feet that would result in a net increase in average daily vehicle trips of 10 percent or greater.

Proposed Belmont Village Specific Plan Policies that Would Reduce the Impact

Land Use Chapter

2.1-1 Allow for a flexible mix of uses, with a variety of uses at the ground floor as well as on upper stories, except where Active Ground Floor Uses are required, in which case only

active uses are permitted at the ground floor as described in [Belmont Village Specific Plan] Section 2.4. Allow commercial and residential uses on upper stories.

2.1-3 Develop the area around Hill Street with a mix of residential, retail, employment, and entertainment uses to serve as a gateway and connection to the Caltrain station.

2.1-5 Encourage pedestrian-friendly retail anchors and high-traffic establishments to locate throughout the Village Core at intersections and gateways in an effort to enhance the image recognition of the shopping district and maximize foot traffic.

Mobility Chapter

3.1-2 Pursue Complete Streets transportation infrastructure improvements needed to accommodate growth and land use changes proposed in Belmont Village.

3.2-2 Improve facilities to encourage more bicycle and pedestrian travel.

3.2-8 Add Class III bicycle signage and supporting facilities to Fifth Avenue between Broadway and O'Neill Avenue.

3.2-18 Ensure that Masonic Way remains an important bicycle connection, either through retention of existing Class II bike lanes or replacement with Class III signage and sharrows. The appropriate bicycle facility type should be based on existing and projected bicycle volumes, safety considerations, and any changes to roadway design that accompany potential redevelopment of properties fronting the corridor.

3.3-1 Create inviting bus stops with benches, shelters, pedestrian-scaled lighting, and other amenities at bus stops within the Planning Area.

3.3-3 Improve access to Caltrain for all transportation modes.

3.4-1 Implement Transportation Demand Management for developments in the Planning Area, either through a set of guide-lines, an incentive/community benefits program, or through an ordinance.

Infrastructure and Public Services Chapter

5.4-1 Apply CALGreen standards to both residential and non-residential buildings, which the City adopts triennially, and mandate CALGreen Tier 1 energy performance (if adopted by the City).

5.4-2 Create and implement incentives to improve energy efficiency in new development and retrofits, such as for the installation of energy efficient solar panels and hot water systems.

Environmental Sustainability, Health and Safety Chapter

6.4-10 Support citywide initiatives to target purchase of new or conversion of existing government vehicles to more efficient vehicles, encourage staff to drive minimally and efficiently, and mandate government operations idling policy at all municipal buildings in the Village.

Proposed Climate Action Plan Measures that Would Reduce the Impact

EC1 Adopt CALGreen for non-residential buildings triennially. Work to mandate achievement of CALGreen Tier 1 energy performance.

EC2 Update CALGreen for residential buildings triennially. Work to mandate achievement of CALGreen Tier 1 energy performance.

EC3 Provide financial incentives for solar PV and hot water system installation.

EC4 Provide or encourage residential energy audits and retrofits. Leverage existing rebates/add additional rebates for energy efficient retrofits.

EC5 Promote and assist with marketing and outreach for PG&E energy efficiency and demand response programs for the nonresidential sector. Leverage existing rebates/add additional rebates for energy efficient retrofits.

EC6 Continue to be part of the Peninsula Clean Energy (PCE) Community Choice Aggregation (CCA) Program and continue to opt for the ECO100 option (100% renewable energy) for all City facilities.

EM1 Replace street, signal lights, parks and parking lot lighting with efficient lighting (LEDs, induction, etc).

EM3 Work to mandate all new municipal buildings achievement of CALGreen Tier 1 energy performance.

EM4 Complete feasibility study on the installation of solar or other renewable energy projects at City facilities and install where feasible. Set a goal for renewable energy purchase if installation is not feasible

EM5 Participate in San Mateo County Energy Watch and leveraged benchmarking to identify EE audit and retrofit projects and track energy performance.

Mitigation Measures

None required.

Impact

4.6-2 Implementation of the Proposed Project would not result in a substantial adverse effect on local or regional energy supplies, peak or base period energy demand, or resource capacity. *(Less than significant)*

It is anticipated the proposed General Plan and BVSP polices that promote on-site generation and increased efficiency at residential and commercial developments would enhance energy, environmental, and transportation efficiency overall, reducing the need for additional capacity generated off-site that would otherwise be required. The degree to which future development in the planning areas encourage efficient and reduced energy consumption and generation of their own energy resources would dictate their dependency on the local energy utility. This would allow a certain degree of self-sufficiency, as less reliance and dependency on the local energy utility occurs. As an example, electricity purchases from the grid can be flattened and utility charges reduced or avoided through the installation of rooftop solar PV or other distributed energy resources (as encouraged by CAP measures EC3 and EC5). Generating onsite energy resources may also provide enhanced power quality and insulate homeowners from blackouts and other larger grid disruptions. Therefore, the extent to which future development is able to reduce its energy load and meet its own energy requirements would have a direct effect on demand for peak and base supply from the local energy utility.

The primary sources of onsite energy consumption associated with development in the planning area are electricity and natural gas. As discussed above, PG&E has a diverse power production portfolio and maintains a dynamic electric and gas distribution network. PG&E will need to plan on the degree of dependency associated with future development supported by the proposed General Plan and BVSP, as well as the potential for export of excess energy from potential renewable components that could be implemented under the CAP. PG&E will evaluate and plan for the energy resources needed to accommodate future growth, and these resources include generation, transmission, and distribution facilities. The costs of these facilities are generally included in the rates paid by the users.

An energy utility's planning for the energy needs of its service territory utilizes local and regional development plans. This dynamic process is subject to regulatory oversight by the CPUC where every 2 years in long term procurement plan proceedings the CPUC assesses the system and local resource needs of the State's three investor-owned utilities over a 10-year horizon. The CPUC establishes upfront standards for utility procurement activities and cost recovery by reviewing and approving proposed procurement plans prior to implementation. Integral to this process is the utility demand forecast which is subject to review by the CEC and used in its Integrated Energy Policy Report. To ensure consistency with approved plans, the CPUC conducts annual Energy Resource Recovery Account proceedings where energy forecasts are refined versus on-going procurement. This continual planning process ensures the local energy requirements for a region, both current and planned, will be accommodated by PG&E. Consequently, it is anticipated future development supported by the proposed General Plan and BVSP would not have a detrimental effect on local and regional energy supplies, nor on any requirements for additional capacity. In addition, the plans would not impede PG&E's ability to meet future peak and base period demand for electricity and other forms of energy. Consequently, this impact would be less than significant.

Proposed General Plan Policies that Would Reduce the Impact

Circulation Element

Policy 3.2-1, as listed under Impact 4.6-1 above.

Conservation Element

Policy 5.11-1 as listed under Impact 4.6-1 above.

Proposed Belmont Village Specific Plan Policies that Would Reduce the Impact

Infrastructure and Public Services Chapter

Policies 5.4-1 and 5.4-2 as listed in Impact 4.6-1 above.

Proposed Climate Action Plan Measures that Would Reduce the Impact

Refer to policies identified under Impact 4.6-1.

Mitigation Measures

None required.

Impact

4.6-3 Implementation of the Proposed Project would generate GHG emissions, either directly or indirectly, during construction that may have a significant impact on the environment. *(Less than significant with mitigation)*

Proposed General Plan

Construction associated with later projects under the proposed General Plan would result in the temporary generation of GHG emissions. The precise level of construction activities that buildout would entail is currently unknown. In addition, changes in the land use designations of certain areas could result in more intense construction activities under the proposed General Plan than would take place under the current General Plan. Because such details of future construction under the proposed General Plan are not known, it is difficult to accurately quantify construction-related emissions. Accordingly, a high-level analysis was performed based on the average annual amount of development that may occur under the proposed General Plan, assuming an equal amount of construction over the 17-year buildout period. Table 4.6-7 summarizes average annual and total construction emissions associated with the proposed General Plan.

Table 4.6-7. Estimated Average Annual and Total Construction Emissions from the Proposed General Plan (metric tons)

Condition	CO_2	CH_4	N_2O	CO_2e
Average Annual[1]	640	<1	<1	643
Total (17 years)	10,881	2	<1	10,938

Note:

1. Emissions were modeled under 2018 conditions, which is the earliest construction may occur under the proposed General Plan.

Source: CalEEMod (refer to Appendix B for model outputs).

As shown in Table 4.6-7, construction activities under the proposed General Plan would generate approximately 10,938 metric tons CO_2e annually over the 17-year buildout period. As previously

discussed, BAAQMD has not established a quantitative threshold for assessing construction-related GHG emissions. Rather, the air district recommends evaluating whether construction activities would conflict with statewide emission reduction goals and implement feasible BMPs.

As discussed in Section 4.2, "Air Quality," development projects within Belmont under the Project would be required to use renewable diesel for all off-road diesel-powered equipment, pursuant to Mitigation Measure AQ-2. Implementation of this measure would reduce lifecycle GHG emissions (i.e., those produced by the extraction, refining, processing, and combustion of diesel) by 67 percent, relative to traditional diesel (DieselHPR n.d.). This measure is also consistent with BAAQMD's recommend BMPs for construction-related GHG emissions, which are outlined in General Plan Policy 5.10-3. New development would be required to comply with these BMPs, which would reduce construction emissions consistent with BAAQMD guidance and statewide emission reduction goals. Accordingly, this impact is less than significant with the incorporation of mitigation.

Belmont Village Specific Plan

Similar to the proposed General Plan, later projects under the BVSP may result in short-term GHG impacts from construction activities. Specific construction scheduling and equipment details for individual projects are currently unknown. Accordingly, a high-level analysis was performed based on the average annual amount of development that may occur under the BVSP, assuming an equal amount of construction over the 17-year buildout period. Table 4.6-8 summarizes the average annual and total construction emissions associated with the BVSP.

Table 4.6-8. Estimated Average Annual and Total Construction Emissions from the Belmont Village Specific Plan (pounds per day)

Condition	*CO_2*	*CH_4*	*N_2O*	*CO_2e*
Average Annual[1]	491	<1	<1	494
Total (17 years)	8,355	2	<1	8,399

Note:

1. Emissions were modeled under 2018 conditions, which is the earliest construction may occur under the BVSP.

Source: CalEEMod (refer to Appendix B for model outputs).

As shown in Table 4.6-8, construction activities under the BVSP would generate approximately 8,399 metric tons CO_2e annually over the 17-year buildout period. As previously discussed, BAAQMD has not established a quantitative threshold for assessing construction-related GHG emissions. Rather, the air district recommends evaluating whether construction activities would conflict with statewide emission reduction goals and implement feasible BMPs.

As discussed in Section 4.2, "Air Quality," development projects within Belmont would be required to use renewable diesel for all off-road diesel-powered equipment, pursuant to Mitigation Measure AQ-2. Implementation of this measure would reduce lifecycle GHG emissions by 67 percent, relative to traditional diesel (DieselHPR n.d.). This measure is also consistent with BAAQMD's recommended BMPs for construction-related GHG emissions, which are outlined in General Plan Policy 5.10-3. New development within the BVSP Area would be required to comply with these BMPs, which would reduce construction emissions consistent with BAAQMD guidance and statewide emission reduction goals. Accordingly, this impact is less than significant with the incorporation of mitigation.

Proposed General Plan Policies that Would Reduce the Impact

Conservation Element

5.10-3 Ensure that construction and grading activities minimize short-term impacts to air quality by employing appropriate mitigation measures and best practices.

Action 5.10-3.a Require applicants proposing new development projects within the Planning Area to require their contractors, as a condition of contract, to reduce construction-related GHG emissions by implementing BAAQMD's recommended best management practices, including (but not limited to) the following measures (based on BAAQMD's (2011) CEQA Guidelines):

- Use local building materials of at least 10 percent (sourced from within 100 miles of the planning area).
- Recycle and reuse at least 50 percent of construction waste or demolition materials.

Proposed Belmont Village Specific Plan Policies that Would Reduce the Impact

There are no policies in the Belmont Village Specific Plan that relate to this topic.

Proposed Climate Action Plan Measures that Would Reduce the Impact

There are no strategies in the Climate Action Plan that relate to this topic.

Mitigation Measures

Mitigation Measure AQ-2: Require Construction Fleet to Use Renewable Diesel. All applicants proposing development of projects within Belmont shall require their contractors, as a condition of contract, to reduce construction-related exhaust emissions by ensuring that all off-road equipment greater than 50 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities shall operate on renewable diesel (such as Diesel high performance renewable). Renewable diesel is currently commercially available in San Francisco Bay Area.

Impact

4.6-4 Implementation of the Proposed Project would not generate GHG emissions, either directly or indirectly, during operation that may have a significant impact on the environment. ***(Less than significant)***

Proposed General Plan

Operation of land uses supported by the proposed General Plan would generate direct and indirect GHG emissions. Estimated operational emissions in 2020 and at buildout in 2035 by CAP inventory sector are summarized in Table 4.6-9. The table does not include emissions benefits achieved by proposed General Plan polices (following Table 4.6-13), CAP measures, or adopted State regulations designed to reduce GHG emissions (i.e., Business-as-Usual emissions).

Table 4.6-9. Belmont General Plan 2020 and 2035 Business-as-Usual Community Greenhouse Gas Emissions Forecasts (metric tons CO_2e)

	2020 Forecast		*2035 Forecast*	
Emission Sector	*Metric Tons CO_2e*	*Percent*	*Metric Tons CO_2e*	*Percent*
Residential	40,584	25%	44,457	23%
Commercial/Industrial	21,208	13%	25,825	13%
Transportation	99,608	60%	122,515	62%
Waste and Wastewater	3,191	2%	3,254	2%
Water	421	0%	369	0%
Total [1]	**165,013**	**100%**	**196,422**	**100%**
Total / Service Population	**4.5**		**4.5**	

Note:

1. Values may not add up precisely due to rounding.

Source: City of Belmont Climate Action Plan, 2017.

Estimated community emissions in 2020 and 2035 are 165,013 and 196,422 metric tons CO2e, respectively. Emissions are therefore projected to grow by approximately 19 percent between 2020 and 2035 without any further statewide or local actions to reduce emissions. Much of this growth is attributable to increases in building energy use and vehicle trips. The CAP developed as part of the Proposed Project outlines GHG reduction goals of 15 percent below 2005 levels by 2020 and 50 percent below 2005 levels by 2035, which are based on the inventory presented in Table 4.6-4. These goals were selected to be consistent with the AB 32 Scoping Plan and long-range reduction targets, including the per capita goals (6 metric tons CO_2e/person by 2030 and 2 metric tons CO_2e/person by 2050), identified by SB 32 and EO S-3-05 (Butterworth pers. comm.). As shown in Table 4.6-9, the forecasted metric tons of CO_{2e} emissions per service population in the business as usual scenario is 4.5 in 2020 and in 2035, which is consistent with the State targets described above.

The CAP includes a variety of regulatory and incentive-based measures that would reduce emissions from both existing and new development in Belmont consistent with the City's goal. Several of the CAP measures build on existing City programs, whereas others provide new opportunities to address climate change. State- and countywide (e.g., San Mateo Transportation Climate Action Plan) sustainability efforts, which would have a substantial impact on future GHG emissions, serve as the foundation of the CAP. Local measures adopted by Belmont would supplement these State programs and achieve additional GHG emissions reductions. The local measures align with the goals and policies of the General Plan update.

The combined implementation of the State/county and local measures included in the CAP is expected to reduce 2020 community-wide GHG emissions by 48,644 metric tons CO_2e (31 percent below 2005 levels), which improves upon the 2020 emissions reduction target by 26,132 metric tons CO_2e. This is equivalent to removing more than 10,200 passenger vehicles from the road each year (United States Environmental Protection Agency 2016b). SP emissions in 2020 with implementation of the CAP would be 3.2 metric tons CO_2e per SP, which compares to the 2020 business as usual forecast of 4.5 metric tons CO_{2e} emissions per SP and exceeds BAAQMD's AB 32 efficiency

metric of 6.6 metric ton CO_2e per SP.[7] As shown in Table 4.6-10, the majority (88 percent) of emissions reductions are achieved by State and county programs, which is typical of other CAPs throughout California. Local actions implemented by Belmont supplement reductions achieved by the State programs to meet and exceed the reduction target.

Table 4.6-10. Achieving Belmont's 2020 Emissions Reduction Target

Parameter	*Emissions (metric tons CO_2e)*
2020 BAU Greenhouse Gas Emissions Forecast (see Table 4.6-9)	165,013
2020 Emissions Reduction Target (15 percent below 2005 levels)[1]	142,501
$Total_1$ Reductions Needed to Reach Target	*22,512*
2020 Emissions Reductions from State and County Strategies	42,908
2020 Emissions Reductions from Local Strategies[2]	5,736
Building Energy	2,468
Transportation and Land Use	1,408
Solid Waste	1,863
$Total_2$ GHG Reductions Achieved by the CAP	*48,644*
Emissions Reductions in Excess of Target ($Total_2$ minus $Total_1$)	26,132
Emissions per Service Population with the CAP (metric tons CO2e/service pop.)	3.2
Percent Below 2005 Levels	31%

Notes:
BAU = business as usual
1. Total GHG emissions in 2005 were 167,648 metric tons CO_2e.
2. Values may not add up precisely due to rounding.

Source: City of Belmont Climate Action Plan, 2017.

The combined implementation of the State/county and local actions included in the CAP is expected to reduce 2035 community-wide GHG emissions by 114,641 metric tons CO_2e (51 percent below 2005 levels), which exceeds the 2035 emissions reduction target by 2,043 metric tons CO_2e (see Table 4.6-11). Similar to the 2020 analysis, the majority (83 percent) of emissions reductions are achieved by State and county programs. Per-capita emissions in 2035 with implementation of the CAP would be 2.7 metric tons CO_2e.[8] Although the ARB's SB 32 draft metric of 6 metric tons CO_2e per person is benchmarked to 2030 emissions, the analysis demonstrates that the CAP would reduce emissions to approximately half of the proposed metric by 2035.

[7] Calculated by dividing 2020 emissions with the CAP (114,277 metric tons CO2e) by the sum of 2020 population (27,368) and jobs (9,450).
[8] Calculated by dividing 2035 emissions with the CAP (81,781 metric tons CO2e) by the 2035 population (29,980).

Table 4.6-11. Achieving Belmont's 2035 Emissions Reduction Target

Parameter	*Emissions (metric tons CO_2e)*
2035 BAU Greenhouse Gas Emissions Forecast (see Table 4.6-9)	196,422
2035 Emissions Reduction Target (50 percent below 2005 levels)[1]	83,824
$Total_1$ Reductions Needed to Reach Target	*112,598*
2035 Emissions Reductions from State and County Strategies	95,351
2035 Emissions Reductions from Local Strategies[2]	19,290
Building Energy	12,972
Transportation and Land Use	3,432
Solid Waste	2,085
$Total_2$ GHG Reductions Achieved by the CAP	*114,641*
Emissions Reductions in Excess of Target ($Total_2$ minus $Total_1$)	2,043
Emissions per Service Population with the CAP (metric tons CO2e/service pop.)	2.7
Percent Below 2005 Levels	51%

Notes:

BAU = business as usual

1. Total GHG emissions in 2005 were 167,648 metric tons CO_2e.

2. Values may not add up precisely due to rounding.

Source: City of Belmont Climate Action Plan, 2017.

The GHG measures summarized in the CAP have been identified as either mandatory or voluntary. Measures that are required by State law, such as compliance with Senate Bill X7-7, would be mandatory for both existing and new development. The City would require implementation of these strategies, pursuant to State and new or existing local laws and regulations. Measures that would be implemented through incentive-based approaches, such as building solar power, would be voluntary, but the City is confident that voluntary, incentive-based approaches can produce real and substantive reductions in part due to people acting to reduce their own costs related to the consumption of fossil fuels (e.g., making energy efficient improvements to their homes; carpooling, using public transit, or reducing driving; minimizing waste; reducing water use). GHG reductions associated with these incentive-based measures were quantified based on anticipated participation rates (e.g., 5% of homes in Belmont installing a rooftop PV solar system by 2035) (refer to the Draft CAP for more detail regarding the expected participation rates for individual programs in Belmont). Further, Section 5 of the proposed CAP includes an implementation and monitoring program that would include a process to track the emissions, resource savings, and other effects of each implemented measure. The City would also be required to update its GHG inventory every 3 to 5 years according to the Local Governments for Sustainability (ICLEI) community emissions protocol, which would allow the City to understand how emissions levels are tracking in a top-down manner.

Based on the quantified emissions reductions included in the Draft CAP, implementation of the proposed General Plan and the associated CAP would enable the City to reduce its community

GHG emissions to meet the reduction targets of 15 percent below 2005 levels by 2020 and 50 percent below 2005 levels by 2035, which are consistent with AB 32, SB 32, and EO S-3-05. The majority of local reductions would be achieved by measures in the building energy sector. For example, EC1, EC2, EC4, and EC5 promote increased energy efficiency, which would reduce building energy demand and associated emissions. Other measures, like EC3 and EC6 would directly reduce emissions by increasing the amount of energy sourced from renewable resources. Land use measures, like TL1 and LT2, support mixed-use and pedestrian-oriented design, which would reduce vehicle use and mobile source emissions. Reductions would also be achieved by measures that conserve water (e.g., EW1, EW2) and promote recycling (e.g., WC1, WC2). Measures not currently quantified, as well as local effects of the State's cap-and-trade program,[9] would also likely contribute additional reductions beyond those estimated in the CAP.[10] This would be a less-than-significant impact.

Belmont Village Specific Plan

Similar to the General Plan update, operational land uses supported by the BVSP would generate direct and indirect GHG emissions. Sources of direct emissions include mobile vehicle trips, natural gas combustion, and landscaping activities. Indirect emissions would be emitted by electricity generation and consumption, waste and wastewater generation, and water use. Each of these sources was taken into account in the emissions analysis for the BVSP.

Developing a quantitative estimate of operational GHG emissions under the BVSP is more challenging than the proposed General Plan since a detailed forecast of emissions associated with the BVSP based on an existing inventory was not developed as part of the CAP. Accordingly, operational emissions can only be estimated using CalEEMod and default assumptions for the potential future land use types. This estimate likely overestimates actual GHG emissions associated with development under the BVSP because it does not account for the majority of emission savings that would be achieved through implementation of the CAP and BVSP policies. Nonetheless, estimated operational emissions generated by land uses in the BVSP under buildout (2035) conditions are presented in Table 4.6-12.

Table 4.6-12. Estimated 2035 Belmont Village Specific Plan Operational GHG Emissions (metric tons per year)

Source	*CO_2*	*CH_4*	*N_2O*	*CO_2e*	*% of Total CO_2e*
Area	48	<1	<1	50	0.1
Energy	4,025	<1	<1	4,041	8.0
Mobile	43,981	2	2	44,632	88.7
Waste	492	29	<1	1,218	2.4

[9] Cap-and-trade is a market-based regulation that will reduce GHGs by establishing a limit or "cap" on GHGs.

[10] The effects of California's cap-and-trade system, which took effect in 2013, are not included in the CAP analysis. However, it is expected that by 2020 and potentially beyond, the cap-and-trade system will result in additional reductions in the building energy and transportation sectors due to changes in energy prices directly (at the consumer level) or indirectly (at the producer level).

Water	174	6	<1	376	0.7
Total	*48,720*	*37*	*2*	*50,318*	*100.0*

As shown in Table 4.6-12, operational land uses associated with the BVSP at buildout (2035) are expected to generate 50,318 metric tons CO_2e. Similar to the proposed General Plan (see Table 4.6-9), the majority of emissions would be generated by mobile sources (89 percent), following by building energy consumption (8 percent). The BVSP includes numerous policies (following Table 4.6-13) designed to reduce VMT, energy consumption, and water use, and to increase recycling and composting. For example, Policies 2.1-1, 2.1-3 and 2.1-5 support mixed-use design, which would reduce growth-related VMT by capturing trips on-site instead of requiring a separate auto-trip to travel from one use-type to another. Several other policies (e.g., 3.2-2, 3.2-8, 3.2-18, 3.3-1, 3.3-3) encourage and expand transit and opportunities for active transportation (e.g., walking and biking), which reduce VMT by replacing vehicle trips, Policies 5.4-1 and 5.4-2 would directly reduce building energy emissions by increasing energy efficiency and performance. Implementation of these policies and measures from the CAP listed below would reduce operational emissions beyond the levels presented above.

As previously discussed, the City's CAP has been prepared and will be adopted consistent with CEQA Guidelines §15183.5. The City specifically prepared the CAP such that projects meeting certain criteria could rely on the analysis provided in the CAP to evaluate project significance through the CAP's horizon year of 2035. Pursuant to the City's analysis requirements, Table 4.6-13 evaluates the plan's consistency with applicable local GHG reduction measures outlined in the CAP.

Table 4.6-13. Belmont Village Specific Plan Consistency Analysis with CAP

CAP		
Measure	*Description*	*BVSP Consistency Analysis*
EC1	Adopt CALGreen for non-residential buildings triennially. Work to mandate achievement of CALGreen Tier 1 energy performance.	The Urban Design Chapter includes general building design guidelines, including energy efficient and sustainable building strategies for new development. Policy 5.4-1 also requires residential and non-residential buildings comply with CALGreen standards, which the City adopts triennially, and mandates CALGreen Tier 1 energy performance (if adopted by the City).
EC2	Update CALGreen for residential buildings triennially. Work to mandate achievement of CALGreen Tier 1 energy performance.	See above consistency analysis for EC1.
EC3	Provide financial incentives for solar PV and hot water system installation.	Policy 5.4-2 creates and implements incentives to improve energy efficiency and renewable energy in new development, including the installation of energy efficient solar panels and hot water systems.
EC4	Provide or encourage residential energy audits and retrofits. Leverage existing rebates/add additional rebates for energy efficient retrofits.	Policy 5.4-3 supports citywide retrofits and audits for both residential and non-residential buildings through efforts such as rebate programs and supporting PG&E initiatives (e.g., demand response programs).
EC5	Promote and assist with marketing and outreach for PG&E energy efficiency and demand response programs for the nonresidential sector. Leverage existing rebates/add additional rebates for energy efficient retrofits.	See above consistency analysis for EC4.
EC6	Continue to be part of the Peninsula Clean Energy (PCE) Community Choice Aggregation (CCA) Program and continue to opt for the ECO100 option (100% renewable energy) for all City facilities.	Policy 5.4-4 Continue participation in a Community Choice Aggregation (CCA) program.
EM1	Replace street, signal lights, parks and parking lot lighting with efficient lighting (LEDs, induction, etc).	Policy 5.4-5 will replace street, signal lights, parks and parking lot lighting fixtures in the Village with efficient lighting technology such as LEDs and induction.
EM2	Implement a sustainable purchasing policy that emphasizes recycled materials and Energy Star equipment.	Policy 5.2-5 Require new development to comply with any citywide sustainable purchasing policy.
EM3	Work to mandate all new municipal buildings achievement of CALGreen Tier 1 energy performance.	See above consistency analysis for EC1. (municipal buildings covered under umbrella of nonresidential development)
EM4	Complete feasibility study on the installation of solar or other renewable energy projects at City facilities and install where feasible. Set a goal for renewable energy purchase if installation is not viable.	Policy 5.4-6 requires City facilities in the Village to install renewable energy projects as recommended by a citywide feasibility study of renewable energy projects at City facilities.

Table 4.6-13. Belmont Village Specific Plan Consistency Analysis with CAP

CAP		
Measure	*Description*	*BVSP Consistency Analysis*
EM5	Participate in San Mateo County Energy Watch and leveraged benchmarking to identify EE audit and retrofit projects and track energy performance.	Policy 5.4-7 requires participation of new residential and non-residential development in the San Mateo County Energy Watch.
EW1	Promote existing and/or new rebates for water efficient appliances and fixtures.	Policy 5.1-4 encourages new development, including through the promotion of rebates, to install low-flow showerheads, faucets, and toilets; smart irrigation controllers; and drought-tolerant landscaping.
EW2	Adopt Bay Area Water Supply and Conservation Agency (BAWSCA) Ordinances or triennial CALGreen codes that apply to water.	Policy 5.1-5 requires new streetscape and landscaped areas be designed to conserve water. Policy 5.4-1 requires residential and non-residential buildings comply with CALGreen standards, including those codes that apply to water.
A1	Establish voluntary program that allows businesses to brand themselves as green by following sustainable practices.	Policy 5.4-8 supports sustainable business practices through measures such as green branding programs.
TL1	Establish a Smart Growth Policy that prioritizes infill, higher density, transit-oriented and mixed-use development.	Policies 2.1-1 and 2.1-5 encourage mixed-used design and pedestrian-friendly retail anchors in high-traffic areas. Policy 2.1-3 also seeks to develop the area around Hill Street with a mix of uses to serve as a gateway and connection to the Belmont Caltrain station.
TL2	Remake urban landscape to ensure Complete Streets, with bike lanes, bike parking, traffic calming, beautification, etc. Continue to support Paper Trails and Safe Routes to School to encourage walking.	The BVSP includes several policies to pursue complete streets and improvements to the transportation network that supported mixed-used and pedestrian oriented design (e.g., 3.2-2, 3.2-1, 3.2-2).
TL3	Incentivize City Car Sharing Companies to open pods in town. Explore Bike Share program.	The BVSP includes numerous policies geared toward improving and expanding the existing bicycle network and amenities (e.g., 3.2-8, 3.2-10, 3.2-18, 3.2-19). Policy 3.4-1 also encourages carsharing and bike sharing as measures to consider as part of future Transportation Demand Management (TDM) programs.
TM1	Prioritize purchase of efficient vehicles and alternative fuel vehicles (including off-road equipment). Maintain existing vehicles for optimum mileage. Encourage staff to drive minimally and efficiently. Establish government operations idling policy.	Policy 6.4-10 support citywide initiatives to target purchase of new or conversion of existing government vehicles to more efficient vehicles, encourages staff to drive minimally and efficiently, and mandates government operations idling policy at all municipal buildings in the Village.
TM2	Establish alternative work schedules and telecommuting to reduce employee commute.	Development under the BVSP would be subject to the TDM program developed under Policy 3.4-1 and Section 31.7 of the Belmont Village Zoning Regulations. The TDM program would include a variety of incentive and community benefits to reduce VMT

Table 4.6-13. Belmont Village Specific Plan Consistency Analysis with CAP

CAP		
Measure	*Description*	*BVSP Consistency Analysis*
		and encourage sustainable transportation habits, including flex time schedules.
TM4	Target purchase of new or conversion of existing government vehicles to more efficient vehicles.	See above consistency analysis for TM1.
WC1	Increase participation in recycling programs and ensure weekly collection of recyclables and organic waste.	Policy 5.2-1 requires all development to participate in all recycling, hazardous waste reduction, and solid waste diversion programs. Policy 5.2-2 requires recycling and composting opportunities in all new multifamily and non-residential development, and policy 5.2-3 encourages residents and businesses in the Village to recycle and compost their waste.
WC2	Mandate businesses recycle and provide staff or contractor to verify compliance.	Policy 5.2-3 requires residents and businesses in the Village to recycle and verify compliance.
WC4	Increase diversion/recycling of yard waste by landscapers and landscape maintenance businesses and food scraps by residents and businesses. Explore a ban on these organics from landfill.	Policy 5.2-4 encourages residents and businesses in the Village to compost their organic waste, and ensures compliance with any citywide ban on organics from landfills if adopted.

As shown in Table 4.6-13, the BVSP is consistent with the proposed CAP. Operational emissions supported by the plan (see Table 4.6-12) are therefore not expected to conflict with the City's ability to implement the GHG emissions reduction outlined in the CAP. Individual projects under the BVSP would be subject to independent review to assess their conformance with the BVSP and CAP, as assessed in this analysis. As such, operational emissions associated with the BVSP are consistent with the CAP, and this impact is considered less than significant.

Proposed General Plan Policies that Would Reduce the Impact

Land Use Element

2.1-2 Coordinate land use and transportation planning to ensure that land use patterns and intensities can be supported by and are accessible to the transportation network, including pedestrian and bicycle facilities.

2.13-6 Enhance walkability on a citywide scale by improving or adding sidewalks, landscaping, benches, wayfinding signage, public art, and pedestrian-scaled lighting, where appropriate and feasible.

2.15-1 Participate with other cities in the county and across the region in working towards solution of regional land use and transportation planning issues, including through partnership with the Association of Bay Area Governments, the Metropolitan Transportation Commission, and the San Mateo City/County Association of Governments.

See also Policies 2.3-2 and 2.5-6 in Impact 4.6-1.

Circulation Element

3.1-3 Understand the unique needs for connectivity between neighborhoods and implement various strategies to promote Complete Streets in and between all neighborhoods.

3.1-4 Provide a transportation system that is well-connected within the city and to areas outside the city.

3.1-5 Require new development and redevelopment projects to construct or pay their fair share toward improvements for all travel modes to provide and enhance connectivity to existing transportation facilities.

3.4-3 Seek innovative solutions to addressing traffic congestion and barriers to mobility that are due, in part, to Belmont's unique geography.

3.4-10 Support the installation of vehicle traffic-calming measures to ensure bicycle and pedestrian safety on roadways where the street typology prioritizes pedestrian and bicycle mobility, and especially on hillside streets.

3.5-5 Maintain and encourage use of the existing system of main and neighborhood bike routes. Incorporate bike lanes or pathways into the circulation system of any new subdivision, consistent with the citywide bike and trails network.

3.5-8 Support and provide bicycle and pedestrian connections to commercial and employment areas to enhance accessibility.

3.5-13 Support additional pedestrian and bicycle crossings across the railroad tracks in Belmont to enhance connectivity.

3.5-14 Prioritize transportation improvements that improve pedestrian and bicycle safety for students traveling to and from schools.

3.5-15 Ensure that new development projects provide bicycle and pedestrian improvements to facilitate the implementation of adopted Safe Routes to School plans.

3.5-16 Locate sidewalks, pedestrian paths, and appropriate crosswalks to facilitate access to all schools and other areas with significant pedestrian traffic.

3.7-2 Prioritize improvements to service that have the potential to alleviate congestion on Belmont's most impacted roadways and to extend service to areas of the community where no service currently exists.

3.7-3 Encourage SamTrans and other public transit providers to provide service on regular schedules along El Camino Real, arterial streets, and, as possible, major collectors; support these transportation services to increase the mobility of seniors, the disabled, and others who depend on public transportation.

3.7-7 Prioritize El Camino Real and railroad rights-of-way as major intercity transportation corridors to accommodate mass transit as well as automobile, bus, and bicycle movement.

3.8-1 Proactively manage parking in Carlmont Village and the Belmont Village PDA using innovative parking techniques, implementing effective TDM programs to reduce parking demand, supporting shared parking and innovative pricing policies, and considering other means to efficiently manage parking supply and demand.

See also Policies 3.2-2, 3.2-3, 3.2-4, 3.2-5, 3.5-9, 3.6-1, 3.6-2, 3.6-3, 3.7-1 3.7-4, and 3.7-6 in Impact 4.6-1.

Conservation Element

5.10-1 Coordinate air quality planning efforts with other local, regional, and State agencies.

5.10-6 Ensure compliance with the most current Bay Area Clean Air Plan by implementing the Plan's recommended Transportation Control Measures (TCMs).

See also Policy 5.11-1 in Impact 4.6-1.

Proposed Belmont Village Specific Plan Policies that Would Reduce the Impact

Land Use Chapter

See Policies 2.1-1, 2.1-3, and 2.1-5 in Impact 4.6-1.

Mobility Chapter

3.2-1 Develop the "Belmont Village Loop" as a cohesive and safe active transportation loop for pedestrians and bicyclists through the Village and around its perimeter.

3.2-10 Enhance El Camino Real to better serve as a Boulevard and major connection for all modes of transportation, including pedestrians and bicyclists.

3.2-19 Enhance Ralston Avenue as an east-west Boulevard to better serve as a major connection for all modes of transportation, including pedestrians and bicyclists.

3.2-20 Extend Emmett Street as a Main Street from Sixth Avenue to the proposed Twin Pines Park Class I path to create a direct connection between the Civic Center and the Village Core.

3.2-27 Improve east-west connectivity and accessibility by providing a new crossing for pedestrians and bicyclists across El Camino Real at Emmett Street.

3.2-29 Improve the Sixth Avenue and Ralston Avenue intersection to facilitate bicycle and pedestrian circulation and safety

3.2-31 Improve the intersection at Ralston Avenue and El Camino Real to enhance bicycle and pedestrian access.

3.2-32 Upgrade all crosswalks to have high-visibility crosswalk markings at the intersection of Ralston Avenue and Old County Road, and add crossbike markings to the west leg to improve visibility of cyclists.

3.2-33 Improve the pedestrian crossing at Ralston Avenue and Elmer Street to increase the visibility of pedestrians crossing the street

3.2-35 Reconfigure the intersection of Ralston Avenue ("Little Ralston" Avenue) between Granada Street and Hiller Street to reduce traffic volumes and provide crossing improvements for pedestrians and bicyclists

3.2-36 Improve crossing at Ralston Avenue and O'Neill Avenue to enhance pedestrian and bicyclist connectivity along the Belmont Village Loop

3.5-1 Minimize the number of parking spaces in the Village Core to the extent feasible.

See Policies 3.2-2, 3.2-8, 3.2-18, 3.3-1, 3.3-3, and 3.4-1 in Impact 4.6-1.

Infrastructure and Public Services Chapter

5.1-4 To reduce water consumption, encourage new development, including through the promotion of rebates, to install low-flow showerheads, faucets, and toilets; smart irrigation controllers; and drought-tolerant landscaping.

5.4-3 Support citywide retrofits and audits for both residential and non-residential buildings through efforts such as rebate programs and supporting PG&E initiatives (e.g., demand response programs).

5.4-4 Continue participation in a Community Choice Aggregation (CCA) program.

5.4-5 Replace street, signal lights, parks and parking lot lighting fixtures in the Village with efficient lighting technology such as LEDs and induction.

5.4-6 Require City facilities in the Village to install renewable energy projects as recommended by a citywide feasibility study of renewable energy projects at City facilities.

5.4-7 Require participation of new residential and non-residential development in the San Mateo County Energy Watch.

5.4-8 Support sustainable business practices through measures such as green branding programs.

5.2-5 Require new development to comply with any citywide sustainable purchasing policy.

See also Policies 5.4-1 and 5.4-2 in Impact 4.6-1.

Environmental Sustainability, Health, and Safety Chapter

6.4-6 Encourage existing uses to retrofit generators with Best Available Control Technology to meet ARB's Tier 4 emission standards. Encourage the use of zero emission back-up power.

6.4-7 Implement the recommendations in the City's transportation studies, such as those in the Ralston Avenue Corridor Study, to ease congestion, improve multi-modal mobility, and reduce traffic-generated exhaust.

6.4-8 Consistent with the goals and policies in the General Plan's Land Use Element and development patterns shown on the General Plan Land Use Diagram, promote mixed-use development in the Village and along the El Camino Real Corridor that is supportive of alternative modes of transportation (public transit, walking, bicycling, etc.) and lessens the need for and length of vehicle trips.

6.4-9 Require new large commercial projects to prepare a loading plan aimed to minimize truck idling and reduce diesel particulate emissions related to truck loading.

See also Policy 6.4-10 in Impact 4.6-1.

Proposed Climate Action Plan Measures that Would Reduce the Impact

See measures described in Table 4.6-9.

Mitigation Measures

None required.

Impact

4.6-5 Implementation of the Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. (*Less than significant*)

Assembly Bill 32

AB 32 codifies the State's GHG emissions reduction targets for 2020. ARB adopted the 2008 Scoping Plan and 2014 First Update as a framework for achieving the AB 32 targets. The 2008 Scoping Plan and 2014 First Update outline a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions. Some reductions would need to come in the form of changes pertaining to vehicle emissions and mileage standards. Some would come from changes pertaining to sources of electricity and increased energy efficiency at existing facilities. The remainder would need to come from State and local plans, policies, or regulations that would lower carbon emissions, relative to business as usual conditions.

As discussed above, the CAP developed as part of the Proposed Project would reduce emissions 31 percent below 2005 levels and would result in emissions per service population of 3.2 metric tons CO_2e per SP (see Table 4.6-10). This goal exceeds ARB's recommendation of 15 percent below 2005

levels for municipalities to support the overall AB 32 reduction targets, and the emissions per service population are below the complimentary AB 32 efficiency metrics established by BAAQMD (6.6 metric tons CO2 per SP for general plans and 4.6 metric tons CO2e per SP for mixed used developments within the SFBAAB). The proposed General Plan and BVSP also include numerous policies to reduce operational and construction-related GHG emissions. For example, General Plan policies 2.3-2, 2.5-6, 3.2-4, and 3.6-3 and BVSP policies 2.1-1, 2.1-3 and 2.1-5 support design and implementation of mixed-use developments, which would reduce growth-related VMT. Expanding transit and increasing opportunities for active transportation (e.g., walking and biking) are also supported by the proposed General Plan, CAP, and BVSP (e.g., General Plan policies 3.2-2, 3.2-4, 3.5-8 and BVSP policies 3.2-2, 3.2-8). Implementation of policies in these documents would also directly reduce building energy consumption emissions through support for increased energy efficiency and renewable energy, and reduce emissions from water consumption and waste generation (e.g., CAP measures EC2, EM1; BVSP policies 5.4-1 and 5.4-2). These measures are consistent with strategies identified in the 2008 Scoping Plan and 2014 First Update, as well as statewide goals to improve energy efficiency, reduce building energy consumption, and increase renewable energy generation. Accordingly, GHG emissions associated with the Proposed Project would not conflict with AB 32.

Metropolitan Transportation Plan and Sustainable Communities Strategy

Climate protection and transportation system effectiveness are two of seven goals addressed in MTC's *Plan Bay Area*. *Plan Bay Area* provides a long-range framework to minimize transportation impacts on the environment, improve regional air quality, protect natural resources, and reduce GHG emissions. The plan supports smart growth principles, promotes infill development, and proactively links land use, air quality, and transportation needs in the region. *Plan Bay Area* is consistent with SB 375, which requires MTC to adopt an SCS that outlines policies to reduce per capita GHG emissions from automobiles and light trucks. The SCS policies include a mix of strategies that encourage compact growth patterns, mixed-used design, alternative transportation, transit, mobility and access, network expansion, and transportation investment.

Implementation of the SCS is intended to improve the efficiency of the transportation system and achieve a variety of housing types throughout the Bay Area that meet market demands in a balanced and sustainable manner. The Proposed Project is built around the concept of sustainability. Density would be increased in appropriate locations, mixed-use development would be promoted, and green-building and transit-oriented development would be encouraged, as would energy efficiency, water conservation, and waste reduction.

The proposed General Plan and BVSP would allow development of residential land uses to help meet forecasted growth within the planning areas. The socioeconomic assumptions and housing element update is consistent with the long-range forecasts made for the RTP/SCS. Consistent with MTC goals, both plans would create a mixed-used and pedestrian/bicycle friendly community (e.g., General Plan policies 2.3-2, 2.5-6, 3.6-3, 3.2-2, and 3.5-8 and BVSP policies 2.1-1, 2.1-3, 2.1-5, 3.2-2, and 3.2-8). The land use design, transportation network efficiency improvements, and transit priority enhancements would help reduce vehicle trips and support alternative transportation. The proposed General Plan and BVSP policies would also encourage active transportation by providing safer pedestrian crossings, a connected bicycle network, and improved streetscapes. These policies

would support alternative transportation within the community, which could help reduce per capita GHG emissions from passenger vehicles consistent with *Plan Bay Area*.

Senate Bill 32 and Executive Order EO S-3-05

Senate Bill 32 extends the State's GHG target adopted under AB 32 to require a 40 percent reduction below 1990 emissions levels by 2030. Although not legislatively adopted, EO S-3-05 sets a long-term goal of reducing statewide GHG emissions to 80 percent below 1990 levels by 2050. As discussed above, the CAP developed as part of the Proposed Project includes a GHG reduction target of 50 percent below 2005 levels by 2035. This target is consistent with reductions required by SB 32 (2030) and the trajectory of statewide climate change legislation, as defined by EO S-3-05. As discussed above, the CAP would reduce emissions 51 percent below 2035 levels (see Table 4.6-11), consistent with the reduction goals of SB 32 and EO S-3-05. The proposed General Plan and BVSP also include numerous policies to reduce operational and construction-related GHG emissions. For example, General Plan policies 2.3-2, 2.5-6, 3.2-4, and 3.6-3 and BVSP policies 2.1-1, 2.1-3 and 2.1-5 support design and implementation of mixed-use developments, which would reduce growth-related VMT. Expanding transit and increasing opportunities for active transportation (e.g., walking and biking) are also supported by the proposed General Plan, CAP, and BVSP (e.g., General Plan policies 3.2-2, 3.2-4, 3.5-8 and BVSP policies 3.2-2, 3.2-8). Implementation of policies in these documents would also directly reduce building energy consumption emissions through support for increased energy efficiency and renewable energy, and reduce emissions from water consumption and waste generation (e.g., CAP measures EC2, EM1; BVSP policies 5.4-1 and 5.4-2). These measures are consistent with strategies identified in AB 32 Scoping Plans, which are expected to be extended as part of the Second Update to address SB 32. Accordingly, GHG emissions associated with the proposed General Plan and BVSP would not conflict with SB 32 or EO S-3-05.

Proposed General Plan Policies that Would Reduce the Impact

Refer to policies identified under Impact 4.6-4.

Proposed Belmont Village Specific Plan Policies that Would Reduce the Impact

Refer to policies identified under Impact 4.6-4.

Proposed Climate Action Plan Measures that Would Reduce the Impact

Refer to policies identified under Impact 4.6-4.

Mitigation Measures

None required.