



Section 5.6:

# Greenhouse Gas Emissions





a real potential for severe adverse environmental, social, and economic effects in the long term. Every nation emits GHGs and as a result makes an incremental cumulative contribution to global climate change; therefore, global cooperation will be required to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

**Assembly Bill 1493.** AB 1493 (also known as the Pavley Bill) requires that CARB develop and adopt, by January 1, 2005, regulations that achieve “the maximum feasible reduction of GHG emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State.”

To meet the requirements of AB 1493, CARB approved amendments to the *California Code of Regulations (CCR)* in 2004 by adding GHG emissions standards to California’s existing standards for motor vehicle emissions. Amendments to CCR Title 13, Sections 1900 and 1961 and adoption of 13 CCR Section 1961.1 require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty weight classes for passenger vehicles (i.e., any medium-duty vehicle with a gross vehicle weight rating less than 10,000 pounds that is designed primarily to transport people), beginning with the 2009 model year. Emissions limits are reduced further in each model year through 2016. When fully phased in, the near-term standards will result in a reduction of about 22 percent in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term standards will result in a reduction of about 30 percent.

**Executive Order S-20-04 (green building initiative).** Executive Order S-20-04, the California Green Building Initiative, (signed into law on December 14, 2004), establishes a goal of reducing energy use in State-owned buildings by 20 percent from a 2003 baseline by 2015. It also encourages the private commercial sector to set the same goal. The initiative places the California Energy Commission (CEC) in charge of developing a building efficiency benchmarking system, commissioning and retro-commissioning (commissioning for existing commercial buildings) guidelines, and developing and refining building energy efficiency standards under Title 24 to meet this goal.

**Executive Order S-3-05 (target dates for emissions reductions).** Executive Order S-3-05 set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order directed the secretary of the California Environmental Protection Agency (Cal/EPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The secretary will also submit biannual reports to the governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on



California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the secretary of Cal/EPA created the California Climate Action Team (CAT), made up of members from various State agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through State incentive and regulatory programs.

**Assembly Bill 32 (California Global Warming Solutions Act of 2006).** California passed the California Global Warming Solutions Act of 2006 (AB 32; *California Health and Safety Code* Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

**Senate Bill 1368.** SB 1368 (Chapter 598, Statutes of 2006) is the companion bill of AB 32 and was signed into law in September 2006. SB 1368 required the California Public Utilities Commission (CPUC) to establish a performance standard for baseload generation of GHG emissions by investor-owned utilities by February 1, 2007. SB 1368 also required the CEC to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emissions rate from a baseload combined-cycle, natural gas-fired plant. Furthermore, the legislation states that all electricity provided to California, including imported electricity, must be generated by plants that meet the standards set by CPUC and CEC.

**Executive Order S-1-07 (fuel sales).** Executive Order S-1-07 proclaims that the transportation sector is the main source of GHG emissions in California, generating more than 40 percent of statewide emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least ten percent by 2020. This order also directs the California Air Resources Board (CARB) to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

**Senate Bill 97.** SB 97, signed in August 2007 (Chapter 185, Statutes of 2007; PRC Sections 21083.05 and 21097), acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions (or the effects of GHG emissions), as required by CEQA.

OPR published a technical advisory recommending that CEQA lead agencies make a good-faith effort to estimate the quantity of GHG emissions that would be generated by a proposed project. Specifically, based on available information, CEQA lead agencies should estimate the emissions associated with project-related vehicular traffic, energy consumption, water usage, and



construction activities to determine whether project-level or cumulative impacts could occur, and should mitigate the impacts where feasible. OPR requested CARB technical staff to recommend a method for setting CEQA thresholds of significance as described in *CEQA Guidelines* Section 15064.7 that will encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the State.

The Natural Resources Agency adopted the CEQA Guidelines Amendments prepared by OPR, as directed by SB 97. On February 16, 2010, the Office of Administration Law approved the CEQA Guidelines Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The CEQA Guidelines Amendments became effective on March 18, 2010.

**Senate Bills 1078 and 107.** SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

**Executive Order S-14-08 (renewable energy standard).** Executive Order S-14-08 expands the State's Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, Executive Order S-21-09 (signed on September 15, 2009) directs CARB to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. CARB adopted the "Renewable Electricity Standard" on September 23, 2010, which requires 33 percent renewable energy by 2020 for most publicly owned electricity retailers.

**Senate Bill 375.** SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will address land use allocation in that MPOs regional transportation plan. CARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects may not be eligible for funding programmed after January 1, 2012.

**Assembly Bill 3018.** AB 3018 established the Green Collar Jobs Council (GCJC) under the California Workforce Investment Board (CWIB). The GCJC will develop a comprehensive approach to address California's emerging workforce needs associated with the emerging green economy. This bill will ignite the development of job training programs in the clean and green technology sectors.



**Executive Order S-13-08 (climate adaptation strategy).** Executive Order S-13-08 seeks to enhance the State's management of climate impacts including sea level rise, increased temperatures, shifting precipitation, and extreme weather events by facilitating the development of State's first climate adaptation strategy. This will result in consistent guidance from experts on how to address climate change impacts in the State of California.

**Executive Order S-21-09 (renewable energy portfolio standard).** Executive Order S-21-09, 33 percent Renewable Energy for California, directs CARB to adopt regulations to increase California's Renewable Portfolio Standard (RPS) to 33 percent by 2020. This builds upon SB 1078 (2002) which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006) which advanced the 20 percent deadline to 2010, a goal which was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II.

## CARB Scoping Plan

On December 11, 2008, CARB adopted its Scoping Plan, which functions as a roadmap to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's Scoping Plan contains the main strategies California will implement to reduce CO<sub>2</sub>eq emissions by 174 million metric tons (MT), or approximately 30 percent, from the State's projected 2020 emissions level of 596 million MT CO<sub>2</sub>eq<sup>1</sup> under a business as usual (BAU)<sup>2</sup> scenario. This is a reduction of 42 million MT CO<sub>2</sub>eq, or almost ten percent, from 2002 to 2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.

CARB's Scoping Plan calculates 2020 BAU emissions as the emissions that would be expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial, etc.). CARB used three-year average emissions, by sector, for 2002 to 2004 to forecast emissions to 2020. At the time CARB's Scoping Plan process was initiated, 2004 was the most recent year for which actual data was available. The measures described in CARB's Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32.

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<sup>1</sup> Carbon Dioxide Equivalent (CO<sub>2</sub>eq) - A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

<sup>2</sup> "Business as Usual" refers to emissions that would be expected to occur in the absence of GHG reductions. See <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>. Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition." It is broad enough to allow for design features to be counted as reductions.



## Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG serves as the federally designated Metropolitan Planning Organization for the Southern California region and is the largest Metropolitan Planning Organization in the United States. With respect to air quality planning, SCAG has prepared the *Regional Comprehensive Plan: Helping Communities Achieve a Sustainable Future* for the region, which focuses on transportation and growth management and forms the basis for the land use and transportation control portions of the *2007 Air Quality Management Plan for the South Coast Air Basin*. SCAG is responsible under the Federal Clean Air Act for determining conformity of projects, plans, and programs with the South Coast Air Quality Management District (SCAQMD).

### LOCAL

#### City of Murrieta

The City of Murrieta, as part of the proposed General Plan 2035, has prepared a Climate Action Plan (CAP). The purpose of the CAP is to address the main sources of emissions that contribute to global climate change. The CAP consists of the following:

- A city-wide existing GHG emissions inventory;
- Quantification of General Plan horizon year emissions;
- Development of measures aimed at reducing GHG emissions generated within the City;
- Development of thresholds of significance and a methodology for CEQA review of GHG and climate change impacts for subsequent projects within the City;
- A mechanism for monitoring and reporting of the GHG compliance program; and
- An implementation plan for future action.

As part of the CAP, the City has joined the International Council for local Environmental Initiatives (ICLEI)-Local Governments for Sustainability. ICLEI is an association of over 1,100 local governments from 67 countries who are committed to sustainable development. ICLEI provides technical consulting, training, and information services to build capacity, share knowledge, and support local governments in the implementation of sustainable development at the local level. Future GHG analyses for projects proposed in the City will be tiered off of the CAP.





## 5.6.2 ENVIRONMENTAL SETTING

The project site lies within the southern portion of the South Coast Air Basin (Basin). The Basin is a 6,600-square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Geronio Pass area in Riverside County. The Basin's terrain and geographical location (i.e., a coastal plain with connecting broad valleys and low hills) determine its distinctive climate.

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. The climate is mild and tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of pollutants throughout the Basin.

### GLOBAL CLIMATE CHANGE GASES

The natural process through which heat is retained in the troposphere is called the "greenhouse effect." The greenhouse effect traps heat in the troposphere through a three-fold process, summarized as follows: short wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long wave radiation; and GHGs in the upper atmosphere absorb this long wave radiation and emit this long wave radiation into space and toward the Earth. This "trapping" of the long wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

The most abundant GHGs are water vapor and carbon dioxide. Many other trace gases have greater ability to absorb and re-radiate long wave radiation; however, these gases are not as plentiful. For this reason, and to gauge the potency of GHGs, scientists have established a Global Warming Potential for each GHG based on its ability to absorb and re-radiate long wave radiation. The Global Warming Potential (GWP)<sup>3</sup> of a gas is determined using carbon dioxide as the reference gas with a GWP of one (1).

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<sup>3</sup> All Global Warming Potentials are given as 100 year GWP. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change. Climate Change (Intergovernmental Panel on Climate Change, *Climate Change, The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the IPCC*, 1996).





GHGs normally associated with a proposed project include the following:

- **Water Vapor ( $H_2O$ ).** Although water vapor has not received the scrutiny of other GHGs, it is the primary contributor to the greenhouse effect. Natural processes, such as evaporation from oceans and rivers, and transpiration from plants, contribute 90 percent and 10 percent of the water vapor in our atmosphere, respectively.

The primary human related source of water vapor comes from fuel combustion in motor vehicles; however, this is not believed to contribute a significant amount (less than one percent) to atmospheric concentrations of water vapor. The IPCC has not determined a GWP for water vapor.

- **Carbon Dioxide ( $CO_2$ ).**  $CO_2$  is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, the concentration of  $CO_2$  in the atmosphere has increased 36 percent.<sup>4</sup>  $CO_2$  is the most widely emitted GHG and is the reference gas (GWP of 1) for determining GWPs for other GHGs.
- **Methane ( $CH_4$ ).**  $CH_4$  is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. In the United States, the top three sources of  $CH_4$  are landfills, natural gas systems, and enteric fermentation.  $CH_4$  is the primary component of natural gas, which is used for space and water heating, steam production, and power generation. The GWP of  $CH_4$  is 21.
- **Nitrous Oxide ( $N_2O$ ).**  $N_2O$  is produced by both natural and human related sources. Primary human related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of  $N_2O$  is 310.
- **Hydrofluorocarbons (HFCs).** HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is growing, as the continued phase out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The GWP of HFCs range from 140 for HFC-152a to 11,700 for HFC-23.<sup>5</sup>
- **Perfluorocarbons (PFCs).** PFCs are compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semi conductor manufacturing. PFCs are potent GHGs with a GWP several thousand times that of  $CO_2$ , depending on the specific PFC. Another area of concern regarding

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<sup>4</sup> U.S. Environmental Protection Agency, *Inventory of United States Greenhouse Gas Emissions and Sinks 1990 to 2008*, April 2010.

<sup>5</sup> U.S. Environmental Protection Agency, *High GWP Gases and Climate Change*, June 22, 2010.



PFCs is their long atmospheric lifetime (up to 50,000 years).<sup>6</sup> The GWP of PFCs range from 6,500 to 9,200.

- ***Sulfur hexafluoride (SF<sub>6</sub>)***. SF<sub>6</sub> is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. SF<sub>6</sub> is the most potent GHG that has been evaluated by the Intergovernmental Panel on Climate Change with a GWP of 23,900. However, its global warming contribution is not as high as the GWP would indicate due to its low mixing ratio compared to carbon dioxide (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm], respectively).<sup>7</sup>

In addition to the six major GHGs discussed above (excluding water vapor), many other compounds have the potential to contribute to the greenhouse effect. Some of these substances were previously identified as stratospheric O<sub>3</sub> depleters; therefore, their gradual phase out is currently in effect. The following is a listing of these compounds:

- ***Hydrochlorofluorocarbons (HCFCs)***. HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, all developed countries that adhere to the Montreal Protocol are subject to a consumption cap and gradual phase out of HCFCs. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The GWPs of HCFCs range from 93 for HCFC-123 to 2,000 for HCFC-142b.<sup>8</sup>
- ***1,1,1 trichloroethane***. 1,1,1 trichloroethane or methyl chloroform is a solvent and degreasing agent commonly used by manufacturers. The GWP of methyl chloroform is 110 times that of CO<sub>2</sub>.<sup>9</sup>
- ***Chlorofluorocarbons (CFCs)***. CFCs are used as refrigerants, cleaning solvents, and aerosols spray propellants. CFCs were also part of the U.S. EPA's Final Rule (57 FR 3374) for the phase out of O<sub>3</sub> depleting substances. Currently, CFCs have been replaced by HFCs in cooling systems and a variety of alternatives for cleaning solvents. Nevertheless, CFCs remain suspended in the atmosphere contributing to the greenhouse effect. CFCs are potent GHGs with GWPs ranging from 4,600 for CFC 11 to 14,000 for CFC 13.<sup>10</sup>

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<sup>6</sup> Ibid.

<sup>7</sup> Ibid.

<sup>8</sup> U.S. Environmental Protection Agency, *Protection of Stratospheric Ozone: Listing of Global Warming Potential for Ozone Depleting Substances*, November 7, 2006.

<sup>9</sup> Ibid.

<sup>10</sup> U.S. Environmental Protection Agency, *Class I Ozone Depleting Substances*, March 7, 2006.



## GHG EMISSIONS INVENTORY METHODOLOGY

An inventory of GHG emissions requires the collection of information from a variety of sectors and sources. Community emissions from electricity and natural gas are based on usage rates specific to each land use type and are calculated using emissions coefficients compiled by ICLEI. Transportation data, including vehicle miles traveled (VMT), are based on traffic data provided by Iteris. Solid waste data was based on generation factors as well as historic and projected generation data identified in [Section 5.21, Solid Waste](#) and the *California Department of Resources Recycling and Recovery (CalRecycle)*. City staff were instrumental in providing data on municipal operations.

The inventory was compiled using ICLEI’s Clean Air Climate Protection (CACP) software. The CACP software estimates emissions derived from energy consumption and waste generation within a community. Emissions are determined using specific factors (or coefficients) according to the type of fuel used. Emissions are aggregated and reported in terms of carbon dioxide equivalent units (CO<sub>2</sub>eq). Converting all emissions to CO<sub>2</sub>eq units allows for the consideration of different GHGs in comparable terms. For example, methane is 21 times more powerful than CO<sub>2</sub> in its capacity to trap heat, so the model converts one ton of methane emissions to 21 tons of CO<sub>2</sub>eq. The emission coefficients and methodology employed by the software are consistent with national and international inventory standards established by the Intergovernmental Panel on Climate Change (1996 Revised IPCC Guidelines for the Preparation of National GHG Emissions Inventories), the U.S. Voluntary GHG Reporting Guidelines (EIA form 1605), and, for emissions generated from solid waste, the U.S. EPA’s Waste Reduction Model (WARM).

Compiled data were entered into the CACP software to create a community emissions inventory and a municipal emissions inventory. The community inventory represents all the energy used and waste produced within Murrieta and its contribution to GHG emissions. Municipal sources represent all City operated buildings and vehicles, and include government buildings, solid waste, and street lights. The municipal inventory is a subset of the community inventory, and includes emissions derived from internal government operations.

Separate emissions inventories for community and municipal operations are generally created, since the government is committed to action on climate change, and has a higher degree of control to achieve reductions in its own municipal emissions than those created by the community at large. Additionally, by proactively reducing emissions generated by its own activities, the City of Murrieta takes a visible leadership role in the effort to address climate change. This is important for inspiring local action in Murrieta, as well as for inspiring other communities.

When calculating the emissions inventory, all energy consumed in the City was included. As a result, even though the electricity used by Murrieta’s residents is produced elsewhere, this energy and emissions associated with it appears in the City’s inventory. The decision to calculate emissions in this manner reflects the general philosophy that a community should take full ownership of the impacts associated with its energy consumption, regardless of whether the



generation occurs within the geographical limits of the community. Additionally, the energy consumption is a result of activities that are within the City's regulatory authority.

### GHG EMISSIONS SECTORS

CACP separates the GHG emissions inventory into community-wide and government-related emissions. Community-wide emissions represent the total GHG emissions originating from activity within each sector throughout the community. Government-related emissions, although separated in CACP, are considered a subset of the community-wide (i.e., total) GHG emissions. CACP calculates GHG emissions from energy consumption, transportation, and solid waste, which are further discussed below.

#### Energy Consumption

Energy-related emissions are from the consumption of both electricity and natural gas. These emissions are both direct (e.g., building energy consumption) and indirect (e.g., produced off-site from energy production and water consumption [including water treatment and delivery]). The emissions inventory used electricity and natural gas usage rates for residential, commercial, and industrial land uses for the year 2009 from the CEC California Grid Average. The energy consumption data separated private users from government-operated facilities (i.e., City owned).

In order to calculate GHG emissions from natural gas and electricity consumption, ICLEI obtained California-specific emission coefficients. For natural gas consumption, a 2009 emission coefficient (kilograms of CO<sub>2</sub> per million British thermal units [kg CO<sub>2</sub>/MMBtu]) for natural gas delivery was used within CACP for both community-wide and government-related energy use. The specific natural gas emission coefficient used to calculate GHG emissions was verified by California Climate Action Registry (CCAR) and the CEC. Similar to natural gas consumption, a 2009 emission coefficient (pounds of CO<sub>2</sub> per kilowatt [lbs CO<sub>2</sub>/kWh]) was used to calculate GHG emissions associated with electricity delivery, which is also verified by CCAR.

#### Transportation

Murrieta's transportation sector includes emissions generated from vehicle miles traveled (VMT). Iteris provided vehicle activity data (i.e., VMT) occurring on local roadways and freeway ramps within the City limits. The City provided vehicle and VMT data for the City vehicle fleet.

ICLEI used CARB's Emission Factors model (EMFAC2007) to obtain Riverside County-specific emission coefficients for vehicle fuel distribution, vehicle fuel efficiencies, and emission factors. Riverside County-specific emissions factors data was only used for community-wide transportation data. The City provided municipal vehicle fleet data with specific information regarding fuel and vehicle types. ICLEI also used EMFAC2007 assumptions to generate emission factors for the City vehicle fleet.



## Solid Waste

Emissions from waste result primarily from organic waste occurring at landfills where the waste is disposed. Methane (CH<sub>4</sub>) is the primary GHG from waste and the emissions result from chemical reactions and microbes acting upon the waste as the biodegradable materials break down. Solid waste generation and disposal data was obtained from CalRecycle (formerly the California Integrated Waste Management Board [CIWMB]). CACP provides GHG emission coefficients for various solid waste categories. These national default emission coefficients were used to calculate GHG emissions associated with solid waste disposal. The only alteration made to these emission coefficients was to set all waste category sequestration rates to zero in order to avoid the City taking credit for downstream emissions sequestration without also accounting for upstream emissions associated with production, transport, and consumption.

## BASELINE GHG EMISSIONS INVENTORY

### Community Sector

*Table 5.6-1, Baseline (Year 2009) Community-Wide GHG Emissions Inventory*, presents Murrieta’s 2009 community-wide GHG emissions and the percent contribution of each emissions sector. As shown below, transportation-related activities account for the majority of the City’s GHG emissions (approximately 48.3 percent). Approximately 23.5 percent of Murrieta’s community-wide GHG emissions are attributed to residential uses. Commercial uses account for approximately 15.4 percent. Office, business park, civic/institutional, industrial, and waste disposal account for the remaining 12.6 percent of community-wide GHG emissions.

**Table 5.6-1  
Baseline (Year 2009) Community-Wide GHG Emissions Inventory**

Community Sector	GHG Emissions	
	Total MTCO <sub>2</sub> eq/year	CO <sub>2</sub> eq (percent)
<b>Residential</b>	91,492	23.5
<b>Commercial</b>		
Commercial	60,153	15.4
Office	12,711	3.3
Business Park	8,332	2.1
Civic/Institutional	9,333	2.4
<b>Industrial</b>	3,463	0.9
<b>Transportation</b>	188,138	48.3
<b>Waste</b>	14,795	3.8
<b>TOTAL<sup>1</sup></b>	<b>389,717</b>	<b>100</b>
GHG = greenhouse gas; MTCO <sub>2</sub> eq/yr = metric tons of carbon dioxide equivalent per year		
Notes:		
1. Totals may be slightly off due to rounding.		
Source: ICLEI, <i>Clean Air and Climate Protection 2009 Software Version 2.2.1b</i> , April 2010.		



## Municipal Sector

Municipal emissions include energy use from City facilities such as water delivery facilities as well as government buildings, vehicle fleets, streetlights, and City employee commuting. Municipal sector emissions represent an opportunity for the City to demonstrate how to reduce GHG emissions. *Table 5.6-2, Baseline (Year 2009) Municipal Operations GHG Emissions Inventory*, presents government-related GHG emissions and the percent contribution of each emission sector. Approximately 58.2 percent of government-related GHG emissions are generated from water pumping, treatment, and delivery and wastewater treatment accounts for 14.8 percent. Electricity consumption of streetlights and traffic signals represent 18.6 percent. GHG emissions from employee commute total approximately 4.2 percent of government-related emissions, while buildings and facilities account for just 1.1 percent of annual GHG emissions.

**Table 5.6-2  
Baseline (Year 2009) Municipal Operations GHG Emissions Inventory**

Municipal Sector	GHG Emissions	
	Total MTCO <sub>2</sub> eq/year	CO <sub>2</sub> eq (percent)
Buildings and Facilities	466	1.1
Streetlights & Traffic Signals	7,640	18.6
Water Delivery Facilities	23,941	58.2
Wastewater Facilities	6,091	14.8
Employee Commute	1,738	4.2
Vehicle Fleet	1,251	3.0
<b>Total<sup>1</sup></b>	<b>41,125</b>	<b>100</b>
GHG = greenhouse gas; MTCO <sub>2</sub> eq/yr = metric tons of carbon dioxide equivalent per year		
Notes:		
1. Totals may be slightly off due to rounding.		
Source: ICLEI, <i>Clean Air and Climate Protection 2009 Software Version 2.2.1b</i> , April 2010.		

## Total Baseline GHG Emissions

Total Baseline GHG emissions include both the Community Sector and the Municipal Sector. As indicated in *Table 5.6-3, Total Baseline (Year 2009) GHG Emissions*, the Citywide GHG emissions are 430,842 MT CO<sub>2</sub>eq per year. On a per capita basis, the annual emissions for each person in the City are 4.3 MT CO<sub>2</sub>eq.





**Table 5.6-3  
Total Baseline (Year 2009) GHG Emissions**

Sector	GHG Emissions	
	Total MTCO <sub>2</sub> eq/year	CO <sub>2</sub> eq (percent)
Community Sector	389,717	90.5
Municipal Sector	41,125	9.5
<b>Total</b>	<b>430,842</b>	<b>100</b>
GHG = greenhouse gas; MTCO <sub>2</sub> eq/yr = metric tons of carbon dioxide equivalent per year		
Source: ICLEI, <i>Clean Air and Climate Protection 2009 Software Version 2.2.1b</i> , April 2010.		

### 5.6.3 SIGNIFICANCE THRESHOLD CRITERIA

At this time, there is no absolute consensus in the State of California among CEQA lead agencies regarding the analysis of global climate change and the selection of significance criteria. In fact, numerous organizations, both public and private, have released advisories and guidance with recommendations designed to assist decision-makers in the evaluation of GHG emissions given the current uncertainty regarding when emissions reach the point of significance. That being said, several options are available to lead agencies.

First, lead agencies may elect to rely on thresholds of significance recommended or adopted by State or regional agencies with expertise in the field of global climate change (see *CEQA Guidelines* Section 15064.7(c)). However, to date, neither CARB nor SCAQMD have adopted significance thresholds for GHG emissions for residential or commercial development under CEQA.<sup>11</sup> CARB has suspended all efforts to develop a threshold, and SCAQMD’s threshold remains in draft form. Accordingly, this option (i.e., reliance on an adopted threshold) is not viable for the City of Murrieta.

Second, lead agencies may elect to conclude that the significance of GHG emissions under CEQA is too speculative. However, this option is not viable due to the important focus on global climate change created by the various regulatory schemes and scientific determinations cited in this section.

<sup>11</sup> Of note, in December 2009, the San Joaquin Valley Unified Air Pollution Control District adopted guidance for use by lead agencies in the valley, in assessing the significance of a project's GHG emissions under CEQA. The guidance relies on the use of performance-based standards, and requires that projects demonstrate a 29 percent reduction in GHG emissions, from business-as-usual, to determine that a project would have a less than significant impact. The guidance is for valley land use agencies and not applicable to areas outside the district. The Bay Area Air Quality Management District (BAAQMD) adopted its own GHG thresholds of significance on June 2, 2010. The threshold is based on quantitative standards including a per capita emission standard and project emission standard as well as a qualitative standard based on compliance with a qualified GHG reduction strategy. The BAAQMD thresholds are based on an analysis of local inventories of GHG emissions and local reduction programs; therefore, they would not be an appropriate basis for a GHG significance threshold in the City of Murrieta.





Third, lead agencies may elect to use a zero-based threshold, such that any emission of GHGs is significant and unavoidable. However, this type of threshold may indirectly truncate the analysis provided in CEQA documents and the mitigation commitments secured from new development, and could result in the preparation of extensive environmental documentation for even the smallest of projects, thereby inundating lead agencies and creating an administrative burden. Moreover, because the GHG analysis is a cumulative analysis, a zero based threshold would be inconsistent with *CEQA Guidelines* Section 15130(a)(3), which requires that cumulatively significant impacts, such as GHG emissions, be “cumulatively considerable”, as defined by *CEQA Guidelines* Section 15065(a)(3).

Fourth, lead agencies may elect to utilize their own significance criteria, so long as such criteria are informed and supported by substantial evidence. Recent amendments to the *CEQA Guidelines*, and specifically the addition of *CEQA Guidelines* Section 15064.4, subdivision (b), support the selection of this significance criterion:

*“A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:*

- (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;*
- (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;*
- (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project’s incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project”.*

Appendix G of the *CEQA Guidelines* also has been revised to provide some guidance regarding the criteria that may be used to assess whether a project’s impacts on global climate change are significant. The Appendix G environmental checklist form asks whether a project would: (i) generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or (ii) conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.



Based on the above factors (and particularly the adopted addition of *CEQA Guidelines* Section 15064.4, subdivisions (b)(2) and (b)(3)), it has been determined that it is appropriate for the City of Murrieta to rely on AB 32 implementation guidance (such as the CARB Scoping Plan) as a benchmark for purposes of this EIR and use the statute to inform the City's judgment as to whether the proposed project's GHG emissions would result in a significant impact (refer to *CEQA Guidelines* Section 15064, subdivision [f][1]). Accordingly, the following significance criterion is used to assess impacts:

*Will the project's GHG emissions impede compliance with the GHG emissions reductions mandated in AB 32?*

The City of Murrieta has prepared a CAP which recognizes the importance of reducing GHG emissions, and has identified a specific GHG emissions reductions target in compliance with the goals of AB 32. Clearly defined emissions reduction targets will provide City decision makers and the community with a clear direction for Murrieta's GHG emissions management efforts, and will provide milestones against which progress can be evaluated over time. This quantitative reduction target coupled with strategies and actions in this CAP would allow Murrieta to have greater control of the amount of GHGs emitted into the atmosphere.

Under AB 32, the State has committed to reducing GHG emissions to 1990 levels by 2020. Based on the *CARB Scoping Plan*, reducing GHG emissions to 1990 levels means cutting approximately 30 percent from BAU emission levels projected for 2020, or about 15 percent from today's levels.<sup>12</sup> The *CARB Scoping Plan* projects future emissions by comparing potential reductions from various measures to a BAU scenario. The BAU scenario represents future GHG emissions without the implementation of reduction measures. As a result, the *CARB Scoping Plan* outlines the State's strategy to achieve the 2020 GHG emissions limit with a comprehensive set of actions that will be developed by 2012.

Consistent with the *CARB Scoping Plan*, the City has chosen a reduction target of 15 percent below their current (2009 baseline) emissions levels by 2020. This reduction target will contribute to the stabilization of global GHG emission concentrations and achievement of AB 32 goals. Therefore, if the proposed General Plan 2035 can reduce its GHG emissions by 15 percent below 2009 levels by 2020, a less than significant impact would result.

The issues presented in the Initial Study Environmental Checklist (Appendix G of the *CEQA Guidelines*) have been utilized as thresholds of significance in this Section. Accordingly, greenhouse gas impacts resulting from the implementation of the proposed General Plan 2035 may be considered significant if they would result in the following:

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<sup>12</sup> In the *CARB Scoping Plan*, "today's levels" are based on the statewide GHG inventory for 2005. However, cities and counties are encouraged to set a 15 percent GHG reduction target for both municipal operations and the community as a whole based on the most current GHG inventory conducted.



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

Based on these standards the proposed General Plan 2035's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

## 5.6.4 PROJECT IMPACTS AND MITIGATION MEASURES

### GREENHOUSE GAS EMISSIONS

- **GREENHOUSE GAS EMISSIONS GENERATED BY DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED GENERAL PLAN 2035 COULD HAVE A SIGNIFICANT IMPACT ON THE ENVIRONMENT.**

**Level of Significance Before Mitigation:** Less Than Significant Impact.

#### Impact Analysis:

#### Effects of Climate Change on the Project

In addition to analyzing a project's impacts on the environment, *CEQA* requires a lead agency to consider the effects of bringing development into an area that may present hazards.<sup>13</sup> The primary effect of global climate change has been a rise in average global tropospheric temperature of 0.2 degrees Celsius per decade, determined from meteorological measurements worldwide between 1990 and 2005.<sup>14</sup> While there is broad agreement on the causative role of GHGs to climate change, there is considerably less information or consensus on how climate change would affect any particular location, operation, or activity. The IPCC has published numerous reports on potential impacts of climate change on the human environment. These reports provide a comprehensive and up-to-date assessment of the current state of knowledge on climate change. Despite the extensive peer review of reports and literature on the impacts of

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<sup>13</sup> *CEQA Guidelines* Section 15126.2[a] (*Consideration and Discussion of Significant Environmental Impacts*).

<sup>14</sup> Intergovernmental Panel on Climate Change, *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, 2007.



global climate change, the IPCC notes the fact that there is little consensus as to the ultimate impact of human interference with the climate system and its causal connection to global warming trends.

The following climate change effects could potentially affect the City of Murrieta.

- **Sea Level Rise.** According to the IPCC, climate change is expected to raise sea levels by up to four feet. The City is approximately 22 miles from the Pacific Ocean and ranges from approximately 1,050 feet above mean sea level (msl) to 1,700 feet above msl. Sea levels are anticipated to rise 12 to 18 inches by 2050.<sup>15</sup> Therefore, sea level rise of this magnitude would not be capable of inundating the City. However, if determined to be a significant threat, protective measures such as levees would likely be installed by regional and local governments to protect urbanized areas.
- **Water Supply.** The City receives some of its water supplies from the State Water Project through the Metropolitan Water District of Southern California (MWD). Surface water supplies in the City from the State Water Project could potentially be reduced as a result of climate change effects.<sup>16</sup> Climate change could also impact groundwater supplies. Warmer temperatures could lead to higher evaporation or shorter rainfall seasons, which would mean that soil deficits would persist for longer time periods. Higher evapotranspiration would likely reduce the amount of water available for recharge and can lead to greater pumping of groundwater to make up for losses in surface water. Groundwater serves as a source of water supply in Murrieta, which could result in serious implications for water supply in the City. However, potential impacts to groundwater are too speculative to determine at this time.
- **Natural Disasters.** Climate change could result in increased flooding and weather-related disasters. The proposed project is located approximately 22 miles from the Pacific Ocean and would not be exposed to intense coastal storms. The frequency of large floods on rivers and streams could also increase. The proposed project would not impede flood flows or be susceptible to increased flooding; thus, flood-related impacts would be less than significant even under an intensified flooding scenario.
- **Wildfires.** Climate change could result in increased occurrences and duration of wildfire events due to warmer temperatures, longer dry seasons, reduced winter precipitation, and early snowmelt. The City is located within areas designated by the California Department of Forestry and Fire Protection (CalFire) as Very High Fire Hazard Severity Zones (VHFHSZ) and Non-VHFHSZ. Development within the VHFHSZ is required to meet strict building construction requirements specified in the *California Building Code* Chapter 7A which would substantially reduce the risk and significance of wildland fires.

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<sup>15</sup> California Natural Resources Agency, *2009 California Climate Adaptation Strategy*, 2009.

<sup>16</sup> California Department of Water Resources, *Progress on Incorporating Climate Change into Management of California's Water Resources*, July 2006.



- **Public Health.** Climate change could potentially cause an increase in infections, disease, asthma, and other health-related problems. Heat waves are expected to have a major impact on public health as well as decreasing air quality and an increase in mosquito breeding and mosquito-borne diseases. Vector control districts throughout the State are already evaluating how they will address the expected changes to California's climate. The City would comply with State regulations to implement necessary measures for vector control.
- **Air Quality.** Climate change could potentially compound negative air quality impacts in the South Coast Air Basin, resulting in respiratory health impacts. The California Climate Adaptation Strategy states that climate change influences on atmospheric processes will promote formation of ground-level pollutants, such as ozone and secondary aerosols (particulate matter), and that these increases could offset much of the potential gains achieved through air pollution control measures. However, this would be a regional effect.

Other predicted physical and environmental impacts associated with climate change include heat waves, alteration of disease vectors, biome shifts, impacts on agriculture and the food supply, reduced reliability in the water supply, and strain on the existing capacity of sanitation and water-treatment facilities. While these issues are a concern for society at large, implementation of City policies and regional, State, and Federal regulations regarding health and safety would lessen potential impacts to the City of Murrieta.

### Projected Greenhouse Gas Emissions

To determine the GHG emission reductions necessary to achieve Murrieta's target (15 percent reduction in emissions from 2009 emission levels by 2020), the City's GHG emissions were projected for the proposed General Plan 2035 buildout year, then GHG emissions were projected for year 2020 under a trend scenario. The trend scenario is based on anticipated growth and development as well as future year consumption rates for energy, transportation, water transport, and waste. The existing and projected emissions are presented in *Table 5.6-4, Baseline and Projected 2020 and 2035 Emissions*. The emissions forecast estimates future emissions under a BAU scenario. The BAU scenario assumes that no effort has been made to reduce emissions. Therefore, the future emissions depicted in *Table 5.6-4* present how GHG emissions may increase in Murrieta if no reduction programs are implemented.

Growth and development under a 2035 BAU scenario would continue along a similar trend as under the 2020 BAU conditions. Assuming that the same type of current emissions-generating practices continue to occur within Murrieta, the City's GHG emissions would be anticipated to increase from 430,842 MT CO<sub>2</sub>eq in 2009 to 1,385,382 MT CO<sub>2</sub>eq in 2035. This represents a 192 percent increase from the 2009 baseline level in 2035. In comparison, the City's projected



population is expected to increase 32 percent by 2035 from 2009.<sup>17</sup> Therefore, if current emissions-generating practices continue, Murrieta's GHG emissions are expected to increase at a higher rate than its population in 2035. This trend can be explained by increases in per capita activity levels (i.e., energy consumption, waste disposal, water consumption, and VMT).

**Table 5.6-4**  
**Baseline and Projected 2020 and 2035 Emissions**

Emissions Sector	GHG Emissions					
	2009 Baseline		2020 Projected		2035 Projected	
	MTCO <sub>2</sub> eq/yr	% of Emissions <sup>1</sup>	MTCO <sub>2</sub> eq/yr	% of Emissions <sup>1</sup>	MTCO <sub>2</sub> eq/yr	% of Emissions <sup>1</sup>
<b>COMMUNITY SECTOR</b>						
Residential	91,492	23.5	105,148	13.3	123,770	9.3
<b>Commercial</b>						
Commercial	60,153	15.4	96,636	12.3	146,386	11.0
Office	12,711	3.3	232,750	29.5	532,806	39.9
Business Park	8,332	2.1	23,398	3.0	43,942	3.3
Civic/Institutional	9,333	2.4	8,309	1.1	6,914	0.5
Mixed Use	-	-	3,113	0.4	7,358	0.6
<b>Industrial</b>	3,463	0.9	4,241	0.5	5,302	0.4
<b>Transportation</b>	188,138	48.3	296,651	37.6	444,625	33.3
<b>Waste</b>	14,795	3.8	18,419	2.3	23,363	1.8
<b>Community Sub-Total<sup>2</sup></b>	<b>389,717</b>	<b>100</b>	<b>788,666</b>	<b>100</b>	<b>1,334,466</b>	<b>100</b>
<b>MUNICIPAL SECTOR</b>						
Buildings and Facilities	466	1.1	485	1.1	513	1.0
Streetlights & Traffic Signals	7,640	18.6	8,125	17.9	8,786	17.3
Water Delivery Facilities	23,941	58.2	26,791	59.2	30,679	60.3
Wastewater Facilities	6,091	14.8	6,864	15.2	7,918	15.6
Employee Commute	1,738	4.2	1,739	3.8	1,740	3.4
Vehicle Fleet	1,251	3.0	1,264	2.8	1,281	2.5
<b>Municipal Sub-Total<sup>2</sup></b>	<b>41,125</b>	<b>100</b>	<b>45,268</b>	<b>100</b>	<b>50,917</b>	<b>100</b>
<b>Grand Total (Community and Municipal Sectors)<sup>2</sup></b>	<b>430,842</b>	<b>N/A</b>	<b>833,934</b>	<b>N/A</b>	<b>1,385,382</b>	<b>N/A</b>
GHG = greenhouse gas; MTCO <sub>2</sub> eq/yr = metric tons of carbon dioxide equivalent per year						
Notes:						
1. The percentage of emissions refers to the respective sectors (either community or municipal) and not to the combined total.						
2. Totals may be slightly off due to rounding.						
Source: ICLEI, <i>Clean Air and Climate Protection 2009 Software Version 2.2.1b</i> , April 2010.						

Under a BAU scenario, the City's GHG emissions (municipal and community) would be anticipated to increase from 430,842 MT CO<sub>2</sub>eq in 2009 to 833,934 MT CO<sub>2</sub>eq in 2020. This represents a 75 percent increase from the 2009 baseline level. In comparison, the City's projected population is expected to increase 13 percent by 2020 from 2009.<sup>18</sup> Therefore, if

<sup>17</sup> Southern California Association of Governments (SCAG), *Adopted 2008 RTP Growth Forecast* by City, <http://www.scag.ca.gov/forecast/index.htm>. Accessed January 17, 2010.

<sup>18</sup> Ibid.





current emissions-generating practices continue, Murrieta's GHG emissions are expected to increase at a higher rate than its population in 2020. This trend can be explained by increases in per capita activity levels (i.e., energy consumption, waste disposal, water consumption, and VMT).

## Proposed Climate Action Plan Reduction Measures

The City has prepared a CAP as part of the proposed General Plan 2035 to address GHG emissions reduction within the City. There are seven CAP strategies that Murrieta has crafted to achieve the desired reduction target of 15 percent below baseline levels by 2020. Combined, these strategies would decrease GHG emissions by approximately 469,386 MT CO<sub>2</sub>eq by 2020, enabling the community to contribute to global efforts to combat climate change. It should be noted that the strategies and emissions reduction measures take into account projected growth within the City. Each of the strategies contains emission reduction measures from municipal and non-municipal operations. These measures are consistent with and build upon the goals and policies within the proposed General Plan 2035. Although GHG inventories for 2035 (buildout year associated with the proposed General Plan 2035) are included, these are included only for informational purposes, as the reduction strategy that was chosen is set to comply with the AB 32 benchmark of 2020. However, implementation of the GHG reduction measures in the CAP would ensure the GHG emissions are significantly reduced from a 2035 BAU scenario. Each of the seven strategies recommends measures and actions that would make the vision of the CAP a reality. Measures define the direction that the City would take to accomplish its GHG reduction goals. Actions define the specific steps that City staff and decision-makers would take over time. The seven emission reduction strategies and associated GHG reduction measures identified in the CAP are as follows:

- ***Community Involvement Strategy (Climate Action Strategy 1).*** The community involvement strategy is intended to foster a sense of ownership of the ideas and actions to be carried out within the City. To create a successful plan that is supported by the community, who will ultimately make these changes.

Specific measures to implement this strategy include Climate Action Strategy 1, Goal CIR-6 and associated Measure CIR-6.12 which would increase public education of public transit options through public workshops. Climate Action Strategy 1, Goal CSV-15 and Measures CSV-15.1 through CSV-15.7 address green building, energy efficiency, and renewable energy options for the City. Additionally, Climate Action Strategy 1, Goal HC-1 and Measure HC-1.3 encourage the municipal use of fuel-efficient and low emissions vehicles (i.e., hybrid and/or electric vehicles).

- ***Land Use and Community Vision Strategy (Climate Action Strategy 2).*** The land use and community vision strategy encourages changes in the land use pattern to enable residents to reduce dependence on their cars to get around town.

In support of this strategy, Climate Action Strategy 2, Goal LU-1 and Measure LU-1.6 would balance land uses within the City to reduce VMT by promoting more efficient





future land use patterns and amending the City's Development Code to ensure efficiency. Climate Action Strategy 2, Goals LU-4 through LU-6, ED-5, ED-6, and ED-8, Measures LU-4.3, LU-5.1, LU-5.2, LU-6.3, ED-5.1, ED-6.1, ED-6.2, and ED-8.1 address the goal of improving the jobs/housing balance within the City to reduce VMT of commuters. This would be accomplished by locating residential uses near jobs and public transportation, incorporating mixed-use development, and updating the Development Code to allow for emerging businesses and industry types. Climate Action Strategy 2, Goals LU-7 and LU-8 and Measures LU-7.4, LU-7.8, LU-8.1, LU-8.2, and LU-8.4 through LU-8.8 would promote transit oriented development within the City. Specifically, multi-modal transit opportunities should be located near higher density residential, mixed-use, and employment development to increase transit ridership and reduce VMT. Pedestrian-friendly measures are addressed by Climate Action Strategy 2, Goals LU-9 and LU-10, Measures LU-9.1 through LU-9.8, and LU-10.1 through LU-10.9. Human-scale development, mixed-use development, infill development, shortened blocks, and pedestrian-oriented design would encourage pedestrian modes of travel as opposed to vehicular travel. Additionally, Climate Action Strategy 2, Goals ED-3, ED-4, ED-10, AQ-6, and Measures ED-3.1 through ED-3.4, ED-4.2, ED-10.6, and AQ-6.3 support a sustainable economy. An increased jobs/housing balance would be achieved through the support of a diverse range of business activities, incentives to attract new businesses and industries, increased development in the Historic Downtown, and encouragement of non-polluting industry.

- ***Transportation and Mobility Strategy (Climate Action Strategy 3).*** The transportation and mobility strategy identifies opportunities to improve mobility such as walking, bicycling, and transit use, and to decrease the need to drive.

In support of this strategy, Climate Action Strategy 3, Goals LU-24, CIR-1, CIR-6, and AQ-5, Measures LU-24.2, LU-24.6, CIR-1.1, CIR-1.9, CIR-1.11, CIR-6.1 through CIR-6.6, AQ-5.1, AQ-5.3 through AQ-5.4, AQ-5.6, and AQ-5.7 specifically address reduced driving within the City. This would be accomplished through a pedestrian-oriented environment, mixed-use development, increased alternative transportation options, and implementation of transportation demand management measures. Additionally, Climate Action Strategy 3, Goals LU-22, CIR-8, and Measures LU-22.6, CIR-8.1, CIR-8.2, and CIR-8.9 through CIR-8.12 provide for interconnected bicycle, pedestrian, and multi-use trails within the City to discourage vehicle dependence. Improved public transportation ridership is addressed by Climate Action Strategy 3, Goal CIR-5 and LU-25, and Measures CIR-5.9 through CIR-5.11, CIR-5.14, and LU-25.2 which specifically encourage development of a Metrolink station within the City, which would reduce regional vehicular trips. Pedestrian travel is promoted by Climate Action Strategy 3, Goal CIR-2 and CIR-7, and Measures CIR-2.3 and CIR-2.4 through CIR-2.6, CIR-2.12, and CIR-7.1 through CIR-7.8 which would ensure efficient and safe pedestrian movement, the installation of traffic calming measures, and creation of internal sidewalk systems linking different land uses in new developments.



- ***Energy Use and Conservation Strategy (Climate Action Strategy 4).*** The energy use and efficiency strategy recommends ways to increase energy efficiency in existing buildings, enhance energy performance for new construction, and increase use of renewable energy.

In support of this strategy, Climate Action Strategy 4, Goal CSV-12 and Policies CSV-12.1 through CSV-12.8, and Climate Action Strategy 4, Draft 2008-2014 Housing Element Goal 2, Measure 2.3, and Action 2.5 which promote energy conservation by providing incentives, allowing for solar power generation, developing required improvements to improve energy efficiency by 15 percent, as well as adopting an Energy Conservation Ordinance. Climate Action Strategy 4, Goal CSV-14 and Measures CSV-14.1 through CSV-14.4 address green building measures, which ensure new construction projects would comply with the 2010 California State Green Building Standards Code, integrate green building methods, and raise community awareness regarding green building.

- ***Water Use and Efficiency Strategy (Climate Action Strategy 5).*** The intent of this strategy is to conserve water through efficient use and conservation.

To implement this strategy, Climate Action Strategy 5, Goal INF-2 and associated Measures INF-2.1 through INF-2.5 would increase the use of recycled water. The City would support and work with other water districts to explore options for expanding recycled water infrastructure to reduce the demand for potable water. Climate Action Strategy 5, Goal CSV-1 and Measures CSV-1.2 and CSV-1.4 promote water conservation, water recycling, and groundwater recharge. Climate Action Strategy 5, Goal CSV-2 and Measures CSV-2.1, CSV-2.2, and CSV-2.4 promote landscape irrigation water reduction by ensuring that developments would comply with water efficiency requirements, encouraging the retrofitting of building systems (indoor and outdoor), and promoting water efficient landscaping practices through outreach efforts.

- ***Waste Reduction and Recycling Strategy (Climate Action Strategy 6).*** The strategy builds on past City successes by increasing waste diversion, reducing consumption of materials that otherwise end up in landfills, and increasing recycling.

In support of this strategy, Climate Action Strategy 6, Goal INF-1 and Measure INF-1.15 encourages the City to continue promoting reduced waste with informational and outreach programs. Climate Action Strategy 6, Goal CSV-13 and Measures CSV-13.1 through CSV-13.7 ensure landfill diversion requirements are met, promote recycling, encourage composting programs, promote public outreach and education workshops on composting, and explore the implementation of a community-wide composting program.

- ***Open Space Strategy (Climate Action Strategy 7).*** This strategy expands the utilization of open spaces for habitat, storm water management, soil retention, air filtration, and cooling, aesthetic and economic value, local food security, increased and improved parks, preservation, and to create new open spaces.



To implement this strategy, Climate Action Strategy 7, Goal CSV-9 and associated Measures CSV-9.1 through CSV-9.9 aim to increase suburban open space by establishing street tree standards and a landscape program, and promoting tree planting. Climate Action Strategy 7, Goal CSV-10 and Measures CSV-10.1 through CSV-10.7 promote locally-grown food and the availability of fresh produce in the City. Climate Action Strategy 7, Goals ROS-7 through ROS-9 and associated Measures aim to preserve and enhance open space resources, and encourage new developments to incorporate parks and recreation facilities, gardens, green spaces, and public plazas.

Implementation of the recommended CAP measures and actions would result in a potential reduction in GHG emissions of up to 885,247 MT CO<sub>2</sub>eq; refer to *Table 5.6-5, Summary of GHG Reduction Measures*. As a result, the City of Murrieta would not achieve the emission reduction target of 15 percent below 2009 emission levels with these measures alone. However, the community can assume credit for a portion of the GHG emission reductions that occur through legislation that is being implemented at the statewide level. Senate Bill 107 (SB 107) establishes performance standards for GHG emission reductions from electric utilities and Assembly Bill 1493 (AB 1493) establishes performance standards for GHG emission reductions from motor vehicles. Executive Order S-1-07 (EO S-1-07) also establishes performance standards for the carbon intensity of transportation fuels. At the time of the CAP preparation, the City only has confidence in estimating the GHG emission reductions associated with SB 107, AB 1493, and EO S-1-07. As the regulatory framework surrounding AB 32 grows in the future, it may be possible to evaluate a wider range of statewide reductions.

**Table 5.6-5  
Summary of GHG Reduction Measure Performance**

Number	Strategy and Measure	2020 GHG Reductions (MTCO <sub>2</sub> eq per Year)	Percent Reduction
<b>Community Involvement Strategy</b>			
CIR-6	Alternative travel modes and facilities are available to serve residents and employers/employees and reduce vehicle miles traveled.	Supporting Measure	N/A
CSV-15	A community taking a leadership role in resource conservation and reduction of greenhouse gas emissions by implementing programs to improve municipal operations.	97	0.02%
HC-1	Application of innovative and model best practices in the community health field.	253	0.05%
	<b>Subtotal</b>	<b>350</b>	<b>0.07%</b>
<b>Land Use and Community Vision Strategy</b>			
LU-1	A complementary balance of land uses throughout the community that meets the needs of existing residents and businesses as well as anticipated growth, and achieves the community's vision.	18,674	3.98%



**Table 5.6-5 [continued]  
Summary of GHG Reduction Measure Performance**

Number	Strategy and Measure	2020 GHG Reductions (MTCO <sub>2</sub> eq per Year)	Percent Reduction
LU-4	A housing stock that meets the diverse needs of Murrieta's existing and future residents.	Supporting Measure	N/A
LU-5	Promotion of quality industrial development that provides local employment opportunities.	3,641	0.78%
LU-6	Land use policy that encourages job retention and attraction.	52,288	11.14%
LU-7	Economically viable, vital, and attractive commercial centers throughout the City that serve the needs of the community.	Supporting Measure	N/A
Number	Strategy and Measure	2020 GHG Reductions (MTCO <sub>2</sub> eq per Year)	Percent Reduction
LU-8	A community that provides opportunities for mixed use and/or transit-oriented development.	784	0.17%
LU-9	Land use patterns and urban design that support healthy and sustainable lifestyles and businesses.	2,334	0.50%
LU-10	A community that provides pedestrian-friendly environments for residential, commercial, business, and recreation uses.	Supporting Measure	N/A
ED-3	A sound, stable, and diversified economic base.	Supporting Measure	N/A
ED-4	Positive balance between the supply of retail opportunities and demand for goods and services.	Supporting Measure	N/A
ED-5	An improved jobs/housing balance.	Supporting Measure	N/A
ED-6	An educated and highly-skilled labor force.	Supporting Measure	N/A
ED-8	Strategic Approach to Economic Growth	Supporting Measure	N/A
ED-10	A revitalized and economically stable Historic Downtown Murrieta.	Supporting Measure	N/A
AQ-6	Stationary source pollution (point source and area source) are minimized through existing and future regulations and new technology.	Supporting Measure	N/A
	<b>Subtotal</b>	<b>77,721</b>	<b>16.56%</b>
<b>Transportation and Mobility Strategy</b>			
LU-22	Natural and visual resources are valued resources to maintain the rural character of the Los Alamos Hills.	Supporting Measure	N/A
LU-24	Historic Murrieta as the City's cultural, civic and community center.	Supporting Measure	N/A
LU-25	Collaboration with Federal, State, County, and other regional agencies and authorities to ensure compliance with existing and future legislation that affects the City of Murrieta.	Supporting Measure	N/A
CIR-1	A circulation system that serves the internal circulation needs of the City, while also addressing the inter-community or through travel needs.	7,470	1.59%
CIR-2	A comprehensive circulation system that promotes safety.	14,939	3.18%



**Table 5.6-5 [continued]  
Summary of GHG Reduction Measure Performance**

Number	Strategy and Measure	2020 GHG Reductions (MTCO <sub>2</sub> eq per Year)	Percent Reduction
CIR-5	A supported regional transportation system that serves existing and future travel between Murrieta and other population and employment centers within southwest Riverside County and the larger region, and that accommodates the regional travel needs of developing areas outside the City.	1,867	0.40%
CIR-6	Alternative travel modes and facilities are available to serve residents and employers/employees and reduce vehicle miles traveled.	37,345	7.96%
CIR-7	Residential areas and activity centers are accessible to all pedestrians, including persons with disabilities or having special accessibility needs.	934	0.20%
CIR-8	Development, expansion, and maintenance of a network of bicycle, pedestrian, and multi-use trails that allows residents to travel between parks, schools, neighborhoods, and other major destinations without driving.	6,536	1.39%
AQ-4	Mobile source emissions are reduced by providing a balance of jobs and housing that serve the needs of the community.	18,674	3.98%
AQ-5	Air quality is improved through an efficient circulation system, reduced traffic congestion, and reduced vehicle miles traveled.	47	0.01%
	<b>Subtotal</b>	<b>87,812</b>	<b>18.77%</b>
<b>Energy Use and Conservation Strategy</b>			
CSV-12	Energy conservation and the generation of energy from renewable sources is prioritized as part of an overall strategy to reduce greenhouse gas emissions.	54,588	11.63%
CSV-14	A community that encourages and incentivizes the sustainable development of buildings and neighborhoods, particularly with respect to durability, energy and water use, and transportation impacts.	120,120	25.59%
Housing Element Goal 2	Conserve and enhance the quality of existing housing and residential neighborhoods in Murrieta.	Supporting Measure	N/A
	<b>Subtotal</b>	<b>174,708</b>	<b>37.22%</b>
<b>Water Use and Efficiency Strategy</b>			
INF-2	Infrastructure for recycled water is expanded throughout Murrieta for irrigation and other non-potable uses.	4,019	0.86%
CSV-1	A community that conserves, protects, and manages water resources to meet long-term community needs, including surface waters, groundwater, imported water supplies, storm water, and waste water.	10,097	2.15%
CSV-2	Murrieta promotes compliance with requirements from the State and appropriate agencies regarding comprehensive water conservation measures in buildings and landscaping.	Supporting Measure	N/A
	<b>Subtotal</b>	<b>14,116</b>	<b>3.01%</b>



**Table 5.6-5 [continued]  
Summary of GHG Reduction Measure Performance**

Number	Strategy and Measure	2020 GHG Reductions (MTCO <sub>2</sub> eq per Year)	Percent Reduction
<b>Waste Reduction and Recycling Strategy</b>			
INF-1	New development and redevelopment is coordinated with the provision of adequate infrastructure for water, sewer, storm water, and energy.	Supporting Measure	N/A
CSV-13	Solid waste is diverted from landfills through waste reduction, re-use and recycling.	7,009	1.50%
	<b>Subtotal</b>	<b>7,009</b>	<b>1.50%</b>
<b>Open Space Strategy</b>			
CSV-9	A community that promotes the growth of an urban forest and water-efficient landscaping, recognizing that plants provide natural services such as habitat, storm water management, soil retention, air filtration, and cooling, and also have aesthetic and economic value.	1,590	0.34%
CSV-10	Fresh food is grown locally and made available through multiple venues that maintain a link to the City's agricultural heritage and promote healthy eating.	Supporting Measure	N/A
ROS-7	Open space areas are planned to protect, conserve, and utilize resources of unique character and value for the community.	Supporting Measure	N/A
ROS-8	New development is part of a coordinated system of open space, parkland, recreation facilities, and trails.	Supporting Measure	N/A
ROS-9	Public plazas or green spaces provide additional open space opportunities for existing and future residents and employees.	Supporting Measure	N/A
	<b>Subtotal</b>	<b>1,590</b>	<b>0.34%</b>
<b>Statewide Reductions</b>			
	SB 1078 and SB 107	53,691	11.44%
	AB 1493 and EO S-1-07	52,389	11.16%
	<b>Subtotal Statewide Reductions</b>	<b>106,080</b>	<b>22.60%</b>
	<b>Total Reductions</b>	<b>469,386</b>	<b>100%</b>
		15.21% from 2009 baseline	
Source: City of Murrieta, <i>City of Murrieta Draft Climate Action Plan</i> , January 2011.			

The GHG reduction strategies and measures in the CAP were based on the goals and policies in the proposed General Plan 2035 and were designed to include performance criteria that would allow the City to achieve its GHG reduction target of 15 percent below 2009 levels by 2020. As proposed, the CAP meets this target, with a projected 15.21 percent reduction. This 15.21 percent reduction includes credit for a portion of the GHG emission reductions that occur through legislation that is being implemented at the statewide level (SB 107, AB 1493, and EO-E-1-07). The CAP includes other supporting measures that contribute to the GHG emission reductions of other related measures. Other measures could not be quantified, due either to a lack of substantial evidence or limitations inherent in quantifying the effect of less tangible programs and policies. For the CAP to successfully guide Murrieta toward meeting its GHG





reduction target, the City must play a prominent role in implementing the CAP's programs and policies. The public also has a role by participating in and ensuring success of the measures and actions.

### Consistency with the California Attorney General's Mitigation Measures

With implementation of the proposed CAP Climate Action Strategies and associated measures and actions, the proposed General Plan 2035 would comply with measures that are consistent with the California Office of the Attorney General's recommended measures to reduce GHG emissions. The CAP incorporates sustainable practices consistent with the Attorney General's recommended measures which include water, energy, solid waste, land use, and transportation efficiency measures.

### Consistency with the CARB Scoping Plan

CARB Scoping Plan Measures/Recommended Actions include those related to transportation, electricity consumption, natural gas usage, water conservation, green buildings, and recycling and waste management. The proposed CAP incorporates several Climate Action Strategies and associated measures and actions that would be consistent with, and help implement the CARB Scoping Plan in order to obtain AB 32 goals, as well as the Governor's Executive Order.

### Impact Conclusion

As presented above, implementation of the GHG reduction strategies and measures in the CAP would allow the proposed General Plan 2035 to achieve its GHG reduction target of 15 percent below 2009 levels by 2020. As proposed, the CAP meets this target with a projected 15.21 percent reduction, and the proposed General Plan 2035 would be consistent with the reduction targets of AB 32. Thus, a less than significant impact would occur.

**Goals and Policies in the Proposed General Plan 2035:** A detailed summary of the goals and policies outlined below can be found in [Chapter 3, Climate Action Strategies](#) in Appendix Q, Climate Action Plan, as well as [Section 3.0, Project Description](#), in this EIR. The complete goal and policy statement is stated in [Section 3.0, Project Description](#).

### LAND USE ELEMENT

**Goals:** LU-1, LU-4, LU-5, LU-6, LU-7, LU-8, LU-9, LU-10, LU-22, LU-24, LU-25

**Policies :** LU-1.6, LU-4.3, LU-5.1, LU-5.2, LU-6.1, LU-7.4, LU-7.8, LU-8.1, LU-8.2, LU-8.4, LU-8.5, LU-8.6, LU-8.7, LU-8.8, LU-9.1, LU-9.2, LU-9.3, LU-9.4, LU-9.5, LU-9.6, LU-9.7, LU-9.8, LU-10.1, LU-10.2, LU-10.3, LU-10.4, LU-10.5, LU-10.6, LU-10.7, LU-10.8, LU-10.9, LU-22.6, LU-24.2, LU-24.6, LU-25.2





## ECONOMIC DEVELOPMENT ELEMENT

**Goals:** ED-3, ED-4, ED-5, ED-6, ED-8, ED-10

**Policies:** ED-3.1, ED-3.2, ED-3.3, ED-3.4, ED-4.2, ED-5.1, ED-6.1, ED-6.2, ED-8.1, ED-10.6

## CIRCULATION ELEMENT

**Goals:** CIR-1, CIR-2, CIR-5, CIR-6, CIR-7, CIR-8

**Policies:** CIR-1.1, CIR-1.9, CIR-1.11, CIR-2.3, CIR-2.5, CIR-2.6, CIR-2.7, CIR-2.12, CIR-5.9, CIR-5.10, CIR-5.11, CIR-5.14, CIR-6.1, CIR-6.2, CIR-6.3, CIR-6.4, CIR-6.5, CIR-6.6, CIR-6.12, CIR-7.1, CIR-7.2, CIR-7.3, CIR-7.4, CIR-7.5, CIR-7.6, CIR-7.7, CIR-7.8, CIR-8.1, CIR-8.2, CIR-8.10, CIR-8.11, CIR-8.12, CIR-8.13

## INFRASTRUCTURE ELEMENT

**Goals:** INF-1, INF-2

**Policies:** INF-1.15, INF-2.1, INF-2.2, INF-2.3, INF-2.4, INF-2.5

## HEALTHY COMMUNITY ELEMENT

**Goals:** HC-1

**Policies:** HC-1.3

## CONSERVATION ELEMENT

**Goals:** CSV-1, CSV-2, CSV-9, CSV-10, CSV-12, CSV-13, CSV-14, CSV-15

**Policies:** CSV-1.2, CSV-1.4, CSV-2.1, CSV-2.2, CSV-2.4, CSV-9.1, CSV-9.2, CSV-9.3, CSV-9.4, CSV-9.5, CSV-9.6, CSV-9.7, CSV-9.8, CSV-9.9, CSV-10.1, CSV-10.2, CSV-10.3, CSV-10.4, CSV-10.5, CSV-10.6, CSV-10.7, CSV-12.1, CSV-12.2, CSV-12.3, CSV-12.4, CSV-12.5, CSV-12.6, CSV-12.7, CSV-12.8, CSV-13.1, CSV-13.2, CSV-13.3, CSV-13.4, CSV-13.5, CSV-13.6, CSV-13.7, CSV-14.1, CSV-14.2, CSV-14.3, CSV-14.4, CSV-15.1, CSV-15.2, CSV-15.3, CSV-15.4, CSV-15.5, CSV-15.6, CSV-15.7

## RECREATION AND OPEN SPACE ELEMENT

**Goals:** ROS-7, ROS-8, ROS-9

**Policies:** ROS-7.1, ROS-7.2, ROS-7.3, ROS-7.4, ROS-8.1, ROS-8.2, ROS-8.3, ROS-8.4, ROS-9.1, ROS-9.2, ROS-9.3, ROS-9.4, ROS-9.5



## AIR QUALITY ELEMENT

**Goals:** AQ-4, AQ-5, AQ-6

**Policies:** AQ-4.1, AQ-4.2, AQ-4.3, AQ-4.4, AQ-5.1, AQ-5.3, AQ-5.4, AQ-5.6, AQ-5.7, AQ-6.3

## HOUSING ELEMENT

**Goals:** Goal 2

**Policies:** Policy 2.3

**Action:** Action 2.5

**Mitigation Measures:** No mitigation measures beyond the strategies, goals, and measures identified in the proposed Climate Action Plan are required.

**Level of Significance After Mitigation:** Not Applicable.

## CONSISTENCY WITH APPLICABLE GHG PLANS, POLICIES, OR REGULATIONS

- **IMPLEMENTATION OF THE PROPOSED GENERAL PLAN 2035 COULD CONFLICT WITH AN APPLICABLE GREENHOUSE GAS REDUCTION PLAN, POLICY, OR REGULATION.**

**Level of Significance Before Mitigation:** Less Than Significant Impact.

**Impact Analysis:** As previously stated, the City has prepared a CAP as part of the proposed General Plan 2035 process, which includes a variety of strategies, measures, and actions to reduce GHG emissions in accordance with State reduction goals. These strategies, measures, and actions are consistent with and build upon the Goals and Policies within the City's proposed General Plan 2035. *Table 5.6-6, Climate Action Strategy Reductions* illustrates the reductions that would be achieved per Climate Action Strategy with implementation of the CAP.



**Table 5.6-6  
Climate Action Strategy Reductions**

Reduction Categories	Reductions from CAP Measures	
	MTCO <sub>2</sub> eq/yr	Percentage
Climate Action Strategy 1: Community Involvement Strategy	350	0.07
Climate Action Strategy 2: Land Use and Community Vision Strategy	77,721	16.56
Climate Action Strategy 3: Transportation and Mobility Strategy	87,812	18.77
Climate Action Strategy 4: Energy Use and Conservation Strategy	174,708	37.22
Climate Action Strategy 5: Water Use and Efficiency Strategy	14,116	3.01
Climate Action Strategy 6: Waste Reduction and Recycling Strategy	7,009	1.49
Climate Action Strategy 7: Open Space Strategy	1,590	0.34
AB 1078 and SB 107	53,691	11.44
AB 1493 and EO S-1-07	52,389	11.16
<b>Total</b>	<b>469,386</b>	<b>100</b>
	<b>15.21% from 2009 baseline</b>	

CAP reduction measures would result in a total of approximately 469,386 MTCO<sub>2</sub>eq (15.21 percent) below 2020 BAU GHG emissions. The proposed General Plan 2035 would be consistent with the proposed CAP, as CAP strategies, measures, and actions are consistent with and build upon the goals and policies within the proposed General Plan 2035. Therefore, the proposed General Plan 2035 would be consistent, and would not conflict with an applicable GHG reduction plan, policy, or regulation. Impacts in this regard are less than significant.

**Goals and Policies in the Proposed General Plan 2035:** Refer to the goals and policies referenced above in this Section 5.6.

**Mitigation Measures:** No mitigation measures beyond the strategies, goals, and measures identified in the proposed CAP are required.

**Level of Significance After Mitigation:** Not Applicable.



## 5.6.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- **GREENHOUSE GAS EMISSIONS RESULTING FROM DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED GENERAL PLAN 2035 AND CUMULATIVE DEVELOPMENT COULD IMPACT GREENHOUSE GAS EMISSIONS ON A CUMULATIVELY CONSIDERABLE BASIS.**

**Level of Significance Before Analysis and Mitigation:** Less Than Significant Impact.

**Impact Analysis:** The proposed General Plan 2035 would result in a less than significant impact regarding GHG emissions with implementation of CAP reduction strategies, measures, and actions. These policies and measures would result in a reduction of approximately 469,386 MTCO<sub>2</sub>eq (15.21 percent) below 2020 BAU GHG emissions, which is consistent with the State reduction goals set forth in AB 32.

On December 30, 2009, the Natural Resources Agency adopted the CEQA Guideline Amendments prepared by Office of Planning and Research (OPR), as directed by SB 97. On February 16, 2010, the Office of Administration Law approved the CEQA Guidelines Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The CEQA Guidelines Amendments became effective on March 18, 2010. The Natural Resources Agency originally proposed to add subdivision (f) to section 15130 to clarify that sections 21083 and 21083.05 of the Public Resources Code do not require a detailed analysis of GHG emissions solely due to the emissions of other projects (i.e., *CEQA Guidelines, Section 15130(a)(1)*; *Santa Monica Chamber of Commerce v. City of Santa Monica* (2002) 101 Cal.App.4th 786, 799). Rather, the proposed subdivision (f) would have provided that a detailed analysis is required when evidence shows that the incremental contribution of the project's GHG emissions is cumulatively considerable when added to other cumulative projects (i.e., *Communities for a Better Environment v. California Resources Agency* (2002), *supra*, 103 Cal.App.4th at 119-120). In essence, the proposed addition would be a restatement of law as applied to GHG emissions. Analysis of GHG emissions as a cumulative impact is consistent with case law arising under the National Environmental Policy Act (e.g., *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 538 F.3d 1172, 1215-1217 [9th Cir. 2008]). Other portions of the CEQA Guideline Amendments address how lead agencies may determine whether a project's emissions are cumulatively considerable (e.g., Proposed Sections 1506(h)(3) and 15064.4). However, public comments noted that the new subdivision merely restated the law, and was capable of misinterpretation. The Natural Resources Agency, therefore, determined that because other provisions of the CEQA Guideline Amendments address the analysis of GHG emissions as a cumulative impact, and because the reasoning of those is fully explained in the Initial Statement of Reasons, subdivision (f) should not be added



to the CEQA Guidelines. The deletion was reflected in the revisions that were made available for further public review and comment on October 23, 2009.

It is generally the case that an individual project of this size is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory.<sup>19</sup> GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective.<sup>20</sup> In addition, as noted in *Table 5.6-6*, implementation of the CAP would result in GHG reduction of approximately 469,386 MT CO<sub>2</sub>eq (15.21 percent) below 2020 BAU. For the reasons discussed in this section and because the project incorporates GHG reduction measures, the proposed General Plan 2035's GHG emissions would not result in a cumulative considerable impact.

**Goals and Policies in the Proposed General Plan 2035:** Refer to the goals and policies referenced above in this Section 5.6.

**Mitigation Measures:** No mitigation measures beyond the strategies, goals, and measures identified in the proposed CAP are required.

**Level of Significance After Mitigation:** Not Applicable.

## 5.6.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Greenhouse Gas emissions impacts associated with implementation of the proposed General Plan 2035 would be less than significant by adherence to and/or compliance with CAP strategies, goals, and measures. No significant unavoidable GHG emissions impacts would occur as a result of buildout of the proposed General Plan 2035.

## 5.6.7 SOURCES CITED

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<sup>19</sup> California Air Pollution Control Officers Association, *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, 2008.

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