

4.0 ENVIRONMENTAL IMPACT ANALYSIS

E. GREENHOUSE GAS EMISSIONS

1. INTRODUCTION

This section addresses greenhouse gas (GHG) emissions generated by the construction and operation of the Project inclusive of mandatory and voluntary energy and resource conservation measures that have been incorporated into the Project to reduce GHG emissions and associated impacts. The analysis also addresses the consistency of the Project with applicable regulations, plans, and policies set forth by the State of California and the County to reduce GHGs. The Project's potential contributions to global climate change impacts are identified. GHG emission calculations prepared for the Project are provided in Appendix D of this Draft EIR.

2. ENVIRONMENTAL SETTING

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation and storms. Historical records indicate that global climate changes have occurred in the past due to natural phenomena; however current data increasingly indicate that the current global conditions differ from past climate changes in rate and magnitude. Global climate change attributable to anthropogenic (human) GHG emissions is currently one of the most important and widely debated scientific, economic and political issues in the United States and the world. The extent to which increased concentrations of GHGs have caused or will cause climate change and the appropriate actions to limit and/or respond to climate change are the subject of significant and rapidly evolving regulatory efforts at the federal and state levels of government.

GHGs are those compounds in the Earth's atmosphere which play a critical role in determining temperature near the Earth's surface. More specifically, these gases allow high-frequency shortwave solar radiation to enter the Earth's atmosphere, but retain some of the low frequency infrared energy which is radiated back from the Earth towards space, resulting in a warming of the atmosphere. Not all GHGs possess the same ability to induce climate change; as a result, GHG contributions are commonly quantified in the units of equivalent mass of carbon dioxide (CO₂e). Mass emissions are calculated by converting pollutant specific emissions to CO₂e emissions by applying the proper global warming potential (GWP) value.¹ These GWP ratios are available from the Intergovernmental Panel on Climate Change (IPCC). Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's Second Assessment Report (SAR). The IPCC updated the GWP values based on the latest science in its Fourth Assessment Report (AR4). The updated GWPs in the IPCC AR4 have begun to be used in recent GHG emissions inventories; however, the resulting difference in CO₂e emissions is relatively minor. By applying the GWP ratios, project-related CO₂e emissions can be tabulated in metric tons per year. Typically, the GWP ratio corresponding to the warming potential of CO₂ over a 100-year period is used as a baseline. The CO₂e values are calculated for construction years as well as Existing Hospital and Master Plan Project buildout conditions in order to generate a net change in GHG emissions for construction and operation. Compounds that are regulated as GHGs are discussed below.

¹ GWPs and associated CO₂e values were developed by the Intergovernmental Panel on Climate Change.

Carbon Dioxide (CO₂): CO₂ is the most abundant GHG in the atmosphere and is primarily generated from fossil fuel combustion from stationary and mobile sources. CO₂ is the reference gas (GWP of 1) for determining the GWPs of other GHGs.

Methane (CH₄): CH₄ is emitted from biogenic sources (i.e., resulting from the activity of living organisms), incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. The GWP of CH₄ is 21 in the IPCC SAR and 25 in the IPCC AR4.

Nitrous Oxide (N₂O): N₂O produced by human-related sources including 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 N₂O is 310 in the IPCC SAR and 298 in the IPCC AR4.

Hydrofluorocarbons (HFCs): HFCs are fluorinated compounds consisting of hydrogen, carbon, and fluorine. They are typically used as refrigerants in both stationary refrigeration and mobile air conditioning systems. The GWPs of HFCs ranges from 140 for HFC-152a to 11,700 for HFC-23 in the IPCC SAR and 124 for HFC-152a to 14,800 for HFC-23 in the IPCC AR4.

Perfluorocarbons (PFCs): PFCs are fluorinated compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semiconductor manufacturing. The GWPs of PFCs range from 6,500 to 9,200 in the IPCC SAR and 7,390 to 17,700 in the IPCC AR4.

Sulfur Hexafluoride (SF₆): SF₆ is a fluorinated compound consisting of sulfur and fluoride. It 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. SF₆ has a GWP of 23,900 in the IPCC SAR and 22,800 in the IPCC AR4.

a. Existing Conditions

(1) Greenhouse Gas Emissions Inventory

Worldwide man-made emissions of GHGs were approximately 49,000 million metric tons (MMT) CO₂e annually including ongoing emissions from industrial and agricultural sources and emissions from land use changes (e.g., deforestation).² Emissions of CO₂ from fossil fuel use and industrial processes accounts for 65 percent of the total while CO₂ emissions from all sources accounts for 76 percent of the total. Methane emissions account for 16 percent and N₂O emissions for 6.2 percent. In 2013, the United States was the world's second largest emitter of carbon dioxide at 5,300 MMT (China was the largest emitter of carbon dioxide at 10,300 MMT).³

The California Air Resources Board (CARB) compiles GHG inventories for the State of California. Based on the 2013 GHG inventory data (i.e., the latest year for which data are available from CARB), California emitted 459.3 MMTCO₂e including emissions resulting from imported electrical power and 419.3 MMTCO₂e

² *Intergovernmental Panel on Climate Change, Fifth Assessment Report - Synthesis Report, 2014.*

³ *PBL Netherlands Environmental Assessment Agency and the European Commission Joint Research Center, Trends in Global CO₂ Emissions 2014 Report, 2014.*

excluding emissions related to imported power.⁴ Between 1990 and 2013, the population of California grew by approximately 8.2 million (from 29.8 to 38.0 million).⁵ This represents an increase of approximately 27.5 percent from 1990 population levels. In addition, the California economy, measured as gross state product, grew from \$773 billion in 1990 to \$2.21 trillion in 2013 representing an increase of approximately 186 percent.⁶ Despite the population and economic growth, California's net GHG emissions only grew by approximately 9.5 percent between 1990 and 2013. The California Energy Commission (CEC) attributes the slow rate of growth to the success of California's renewable energy programs and its commitment to clean air and clean energy.⁷ **Table 4.E-1, State of California Greenhouse Gas Emissions**, identifies and quantifies statewide anthropogenic GHG emissions and sinks (e.g., carbon sequestration due to forest growth) in 1990 and 2011 (i.e., the most recent year in which data are available from CARB). As shown in the table, the transportation sector is the largest contributor to statewide GHG emissions at 37 percent in 2013.

(2) Existing Site Greenhouse Gas Emissions

The Medical Center Campus is currently developed with approximately 1.3 million square feet of differentiated buildings including the hospital and the current hospital expansion in the east sector of the Medical Center Campus; LA Biomed facilities in the central portion of the Medical Center Campus; administration and facilities management buildings in various locations of the Medical Center Campus; and large tenants, such as the Children's Institute International and MFI's Harbor-UCLA Professional Building (outpatient care) and Imaging Center, in the west sector of the Medical Center Campus. The existing Medical Center Campus generates mobile source emissions from vehicle trips to and from the Medical Center Campus and from the operation of medical helicopters. The Existing Hospital generates on-site area and stationary source emissions from the combustion of natural gas from the existing Central Plant for cooling and heating. As described in the Campus Master Plan, the Central Plant consists of a Boiler Plant and Chiller Plant. The Medical Center Campus also maintains six 2-megawatt (MW) emergency generators that would result in stationary source emissions from the combustion of fuel oil when required to operate. Other existing emissions include on-site combustion area source emissions from fossil-fueled landscaping equipment. The Master Plan Project would not result in changes in GHG emissions associated with the operation of the Central Plant or emergency generators. In addition, the operation of medical helicopters under Existing Hospital conditions is expected to be similar under the Master Plan Project. In order to compare the change in GHG emissions from implementation of the Project, this analysis estimates GHG emissions from Existing Hospital uses that would be demolished, replaced, or renovated under the Project. Mobile source emissions from visitors and employees traveling to and from the Medical Center Campus are also included in the GHG emissions estimate. The estimated Existing Hospital emissions from uses and elements that would be demolished, replaced, or renovated under the Project are summarized in **Table 4.E-2, Estimated Existing**

⁴ California Air Resources Board, "California Greenhouse Gas 2000-2013 Inventory by Scoping Plan Category - Summary," http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_2000-13_20150831.pdf. Accessed February 2016.

⁵ U.S. Census Bureau, "California, Population of Counties by Decennial Census: 1900 to 1990," <http://quickfacts.census.gov/qfd/states/060001k.html>. Accessed November 2015; California Department of Finance, "E-5 Population and Housing Estimates for Cities, Counties and the State, January 2011-2015, with 2010 Benchmark," <http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php>. Accessed November 2015.

⁶ California Department of Finance, "Financial & Economic Data: Gross Domestic Product, California," http://www.dof.ca.gov/HTML/FS_DATA/LatestEconData/FS_Misc.htm. Accessed November 2015. Amounts are based on current dollars as of the date of the report (June 2015).

⁷ California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004*, (2006).

Table 4.E-1

State of California Greenhouse Gas Emissions

Category	Total 1990 Emissions using IPCC SAR (MMTCO ₂ e)	Percent of Total 1990 Emissions	Total 2013 Emissions using IPCC AR4 (MMTCO ₂ e)	Percent of Total 2013 Emissions
Transportation	150.7	35%	169.0	37%
Electric Power	110.6	26%	90.5	20%
Commercial and Residential	44.1	10%	43.5	9%
Industrial	103.0	24%	92.7	20%
Recycling and Waste ^a	-	-	8.9	2%
High GWP/Non-Specified ^b	1.3	<1%	18.5	4%
Agriculture/Forestry	23.6	6%	36.2	8%
Forestry Sinks	-6.7		-- ^c	--
Net Total (IPCC SAR)	426.6	100%	--	--
Net Total (IPCC AR4) ^c	431	100%	459.3	100%

^a Included in other categories for the 1990 emissions inventory.

^b High GWP gases are not specifically called out in the 1990 emissions inventory.

^c CARB revised the State's 1990 level GHG emissions using GWPs from the IPCC AR4.

Sources: California Air Resources Board, Staff Report – California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit, (2007); California Air Resources Board, “California Greenhouse Gas 2000-2013 Inventory by Scoping Plan Category – Summary,” <http://www.arb.ca.gov/cc/inventory/data/data.htm>. Accessed February 2016.

Hospital Greenhouse Gas Emissions. Detailed emissions calculations are provided in Appendix D of this Draft EIR.

(3) Effects of Global Climate Change

The scientific community's understanding of the fundamental processes responsible for global climate change has improved over the past decade, and its predictive capabilities are advancing. However, there remain significant scientific uncertainties in, for example, predictions of local effects of climate change, occurrence, frequency, and magnitude of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the Earth's climate system and inability to accurately model it, the uncertainty surrounding climate change may never be completely eliminated. Nonetheless, the IPCC, in its *Fifth Assessment Report, Summary for Policy Makers*, stated that “it is *extremely likely* that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in greenhouse gas concentrations and other anthropogenic forcings together.”⁸ A report from the National Academy of Sciences concluded that 97 to 98 percent of the climate researchers most actively publishing in

⁸ Intergovernmental Panel on Climate Change, *Fifth Assessment Report, Summary for Policy Makers*, (2013) 15.

Table 4.E-2

Estimated Existing Hospital Greenhouse Gas Emissions

Emissions Sources	CO ₂ e (Metric Tons per Year) ^a
Existing Hospital	
Mobile Sources	26,255
Area	< 1
Energy (Electricity and Natural Gas)	5,959
Water/Wastewater Conveyance	867
Waste	2,209
Subtotal	35,290

^a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix D.

Source: PCR Services Corporation, 2016

the field support the tenets of the IPCC in that climate change is very likely caused by human (i.e., anthropogenic) activity.⁹

According to CARB, the potential impacts in California due to global climate change may include: loss in snow pack; sea level rise; more extreme heat days per year; more high ozone days; more large forest fires; more drought years; increased erosion of California's coastlines and sea water intrusion into the Sacramento and San Joaquin Deltas and associated levee systems; and increased pest infestation.¹⁰ Below is a summary of some of the potential effects, reported by an array of studies that could be experienced in California as a result of global warming and climate change.

(a) Air Quality

Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore, its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state.¹¹

⁹ Anderegg, William R. L., J.W. Prall, J. Harold, S.H., Schneider, *Expert Credibility in Climate Change, Proceedings of the National Academy of Sciences of the United States of America*. 2010;107:12107-12109.

¹⁰ California Environmental Protection Agency, *Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature*, (2006).

¹¹ California Energy Commission, *Scenarios of Climate Change in California: An Overview, February 2006*. <http://www.energy.ca.gov/2005publications/CEC-500-2005-186/CEC-500-2005-186-SF.PDF>. Accessed March 2015.

In 2009, the California Natural Resources Agency (CNRA) published the *California Climate Adaptation Strategy*¹² as a response to the Governor's Executive Order S-13-2008. The CNRA report lists specific recommendations for state and local agencies to best adapt to the anticipated risks posed by a changing climate. In accordance with the *California Climate Adaptation Strategy*, the CEC was directed to develop a website on climate change scenarios and impacts that would be beneficial for local decision makers.¹³ The website, known as Cal-Adapt, became operational in 2011.¹⁴ The information provided from the Cal-Adapt website represents a projection of potential future climate scenarios. The data are comprised of the average values from a variety of scenarios and models and are meant to illustrate how the climate may change based on a variety of different potential social and economic factors. According to the Cal-Adapt website, the portion of the County of Los Angeles in which the Medical Center Campus is located (near Carson, CA) could result in an average increase in temperature of approximately 5 to 9 percent (about 3.2 to 5.7°F) by 2070-2090, compared to the baseline 1961-1990 period.

(b) Water Supply

Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. Studies have found that, "Considerable uncertainty about precise impacts of climate change on California hydrology and water resources will remain until we have more precise and consistent information about how precipitation patterns, timing, and intensity will change."¹⁵ For example, some studies identify little change in total annual precipitation in projections for California while others show significantly more precipitation.¹⁶ Warmer, wetter winters would increase the amount of runoff available for groundwater recharge; however, this additional runoff would occur at a time when some basins are either being recharged at their maximum capacity or are already full.¹⁷ Conversely, reductions in spring runoff and higher evapotranspiration because of higher temperatures could reduce the amount of water available for recharge.¹⁸

The California Department of Water Resources report on climate change and effects on the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta, concludes that "climate change will likely have a significant effect on California's future water resources...[and] future water demand." It also reports that "much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain." It also reports that the relationship between climate change and its potential effect on water demand is not well understood, but "[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future." Still, changes in water supply are expected to occur, and many

¹² *California Natural Resources Agency, Climate Action Team, 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008, (2009).*

¹³ *Ibid.*

¹⁴ *The Cal-Adapt website address is: <http://cal-adapt.org>.*

¹⁵ *Pacific Institute for Studies in Development, Environment and Security, Climate Change and California Water Resources: A Survey and Summary of the Literature, July 2003. http://www.pacinst.org/reports/climate_change_and_california_water_resources.pdf. Accessed March 2015.*

¹⁶ *Ibid.*

¹⁷ *Ibid.*

¹⁸ *Ibid.*

regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows.¹⁹ In its *Fifth Assessment Report*, the IPCC states “Changes in the global water cycle in response to the warming over the 21st century will not be uniform. The contrast in precipitation between wet and dry regions and between wet and dry seasons will increase, although there may be regional exceptions.”²⁰

(c) Hydrology and Sea Level Rise

As discussed above, climate change could potentially affect: the amount of snowfall, rainfall and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes: expansion of seawater as the oceans warm, and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California’s water supply. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

(d) Agriculture

California has a \$30 billion agricultural industry that produces half the country’s fruits and vegetables. Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thus affect their quality.²¹

(e) Ecosystems and Wildlife

Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists expect that the average global surface temperature could rise by 2-11.5°F (1.1-6.4°C) by 2100, with significant regional variation.²² Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Sea level could rise as much as two feet along most of the U.S. coast. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species’ composition within communities; and (4) ecosystem processes such as carbon cycling and storage.^{23, 24}

¹⁹ California Department of Water Resources Climate Change Report, *Progress on Incorporating Climate Change into Planning and Management of California’s Water Resources*, July 2006. http://baydeltaoffice.water.ca.gov/climatechange/DWRClimateChangeJuly06_update8-2-07.pdf. Accessed March 2015.

²⁰ Intergovernmental Panel on Climate Change, *Fifth Assessment Report, Summary for Policy Makers*, (2013) 20.

²¹ California Climate Change Center, *Our Changing Climate: Assessing the Risks to California*, (2006).

²² National Research Council, *Advancing the Science of Climate Change*, (2010).

²³ Parmesan, C., 2004. *Ecological and Evolutionary Response to Recent Climate Change*.

²⁴ Parmesan, C and Galbraith, H, 2004. *Observed Ecological Impacts of Climate Change in North America*. Arlington, VA: Pew. Cent. Glob. Clim. Change.

b. Regulatory Framework

(1) Federal

The USEPA is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO₂ gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the Energy Star labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

In *Massachusetts v. Environmental Protection Agency* (Docket No. 05–1120), the United States Supreme Court held in April of 2007 that the USEPA has statutory authority under Section 202 of the federal Clean Air Act to regulate GHGs. The Court did not hold that the USEPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare.

On May 19, 2009, the President announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy standards and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO₂ per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO₂ per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle.²⁵

On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act. The USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) on December 7, 2009. The Endangerment Finding is required before USEPA can regulate GHG emissions under Section 202(a)(1) of the Clean Air Act consistently with the United States Supreme Court decision. The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not themselves impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

²⁵ *United States Environmental Protection Agency, "EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks," August 2012, <http://www.epa.gov/oms/climate/documents/420f12051.pdf>. Accessed March 2015.*

(2) State

California has promulgated a series of executive orders, laws, and regulations aimed at reducing both the level of GHGs in the atmosphere and emissions of GHGs from commercial and private activities within the State.

(a) California Air Resources Board

The CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's State Implementation Plan, for which it works closely with the federal government and the local air districts. The State Implementation Plan is required for the State to take over implementation of the federal Clean Air Act.

(b) Executive Order S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets:

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

The Secretary of CalEPA is required to coordinate efforts of various agencies in order to collectively and efficiently reduce GHGs. Some of the agency representatives involved in the GHG reduction plan include the Secretary of the Business, Transportation and Housing Agency, the Secretary of the Department of Food and Agriculture, the Secretary of the Resources Agency, the Chairperson of CARB, the Chairperson of the California Energy Commission, and the President of the Public Utilities Commission. Representatives from these agencies comprise the California Climate Action Team (CAT).

The CAT provides biennial reports to the Governor and Legislature on the state of GHG reductions in the state as well as strategies for mitigating and adapting to climate change. The first CAT Report to the Governor and the Legislature in 2006 contained recommendations and strategies to help meet the targets in Executive Order S 3-05.²⁶ The 2010 CAT Report, finalized in December 2010, expands on the policy oriented 2006 assessment.²⁷ The new information detailed in the CAT Report includes development of revised climate and sea-level projections using new information and tools that have become available in the last two

²⁶ California Environmental Protection Agency, *California Climate Action Team Report to the Governor and the Legislature, (2006)*.

²⁷ California Environmental Protection Agency, *California Climate Action Team Report to the Governor and the Legislature, (2010)*.

years; and an evaluation of climate change within the context of broader social changes, such as land-use changes and demographic shifts.

(c) California Assembly Bill 32 (AB 32, Nunez) (Chapter 488, Statutes of 2006)

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006, focusing on reducing GHG emissions in California to 1990 levels by 2020. As required by AB 32, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was originally set at 427 MMTCO_{2e} using the GWP values from the IPCC SAR. CARB also projected the state's 2020 GHG emissions under business-as-usual (BAU) conditions – that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions. CARB originally used an average of the state's GHG emissions from 2002 through 2004 and projected the 2020 levels at approximately 596 MMTCO_{2e} (using GWP values from the IPCC SAR). Therefore, under the original projections, the state must reduce its 2020 BAU emissions by 28.4 percent in order to meet the 1990 target of 427 MMTCO_{2e}. In 2014, CARB revised the target using the GWP values from the IPCC AR4 and determined that the 1990 GHG emissions inventory and 2020 GHG emissions limit is 431 MMTCO_{2e}. CARB also updated the State's 2020 BAU emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that were recently adopted for motor vehicles and renewable energy.²⁸ CARB's revised 2020 BAU emissions estimate using the GWP values from the IPCC AR4 is 509.4 MMTCO_{2e}. Therefore, the emission reductions necessary to achieve the 2020 emissions target of 431 MMTCO_{2e} would be 78.4 MMTCO_{2e}, or a reduction of GHG emissions by approximately 15.4 percent. A summary of the GHG emissions reductions required under AB 32 is provided in **Table 4.E-3, *Estimated Greenhouse Gas Emissions Reductions Required by AB 32.***

AB 32 defines GHGs as CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆ and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under AB 32, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020. On or before June 30, 2007, CARB was required to publish a list of discrete early action GHG emission reduction measures that would be implemented to be made enforceable by 2010. In 2007, CARB published its Final Report for Proposed Early Actions to Mitigate Climate Change in California.²⁹ This report described recommendations for discrete early action measures to reduce GHG emissions as part of California's AB 32 GHG reduction strategy. Resulting from this are three new regulations proposed to meet the definition of "discrete early action greenhouse gas reduction measures," including the following: a low carbon fuel standard; reduction of HFC 134a (HFC used in automobile air-conditioning systems) emissions from non-professional servicing of motor vehicle air conditioning systems; and improved landfill gas capture. CARB estimates that by 2020, the reductions from those three measures would range from 13 to 26 MMTCO_{2e}. Six additional early-action regulations were adopted on October 25, 2007 that targeted: motor vehicles; auxiliary engines from docked ships; PFCs from the semiconductor industry; propellants in consumer products; automotive maintenance; and SF₆ from non-electricity sectors.

²⁸ California Air Resources Board, "2020 Business-as-Usual (BAU) Emissions Projection, 2014 Edition," <http://www.arb.ca.gov/cc/inventory/data/bau.htm>. Accessed March 2015.

²⁹ California Air Resources Board, *Proposed Early Actions to Mitigation Climate Change in California, (2007)*.

Table 4.E-3

Estimated Greenhouse Gas Emissions Reductions Required by AB 32

Emissions Category	GHG Emissions (MMTCO ₂ e)
2008 Scoping Plan (IPCC SAR)	
2020 BAU Forecast (CARB 2008 Scoping Plan Estimate)	596
2020 Emissions Target Set by AB 32 (i.e., 1990 level)	427
Reduction below Business-As-Usual necessary to achieve 1990 levels by 2020	169 (28.4%)^a
2011 Scoping Plan (IPCC AR4)	
2020 BAU Forecast (CARB 2011 Scoping Plan Estimate)	509.4
2020 Emissions Target Set by AB 32 (i.e., 1990 level)	431
Reduction below Business-As-Usual necessary to achieve 1990 levels by 2020	78.4 (15.4%)^b

MMTCO₂e = million metric tons of carbon dioxide equivalents

$$^a \quad 596 - 427 = 169 / 596 = 28.4\%$$

$$^b \quad 509.4 - 431 = 78.4 / 509.4 = 15.4\%$$

Source: California Air Resources Board, Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (FED), Attachment D, August 19, 2011; California Air Resources Board, "2020 Business-as-Usual (BAU) Emissions Projection, 2014 Edition," <http://www.arb.ca.gov/cc/inventory/data/bau.htm>. Accessed March 2015.

(d) California Assembly Bill No. 1493 (AB 1493, Pavley), (Chapter 200, Statutes of 2002)

In response to the transportation sector accounting for more than half of California's CO₂ emissions, AB 1493 (Chapter 200, Statutes of 2002), enacted on July 22, 2002, required CARB to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is non-commercial personal transportation manufactured in and after 2009. In setting these standards, CARB must consider cost effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. The State of California in 2004 submitted a request for a waiver from federal clean air regulations, which ordinarily preempts state regulation of motor vehicle emission standards, to allow the state to require reduced tailpipe emissions of CO₂. In late 2007, the USEPA denied California's waiver request. In early 2008, the state brought suit against USEPA related to this denial. In January 2009, the President directed the USEPA to assess whether its denial of the waiver was appropriate under the federal Clean Air Act. In June 2009, the USEPA granted California the waiver.

However, as discussed previously, the USEPA and USDOT have adopted federal standards for model year 2012 through 2016 light-duty vehicles. In light of the USEPA and USDOT standards, California - and states adopting California emissions standards - have agreed to defer to the proposed national standard through model year 2016. The 2016 endpoint of the federal and state standards is similar, although the federal standard ramps up slightly more slowly than required under the state standard. The state standards (called the Pavley standards) require additional reductions in CO₂ emissions beyond model year 2016 (referred to as Pavley Phase II standards). As noted above, the USEPA and USDOT have adopted GHG emission standards for model year 2017 through 2025 vehicles. These standards are slightly different from the Pavley Phase II standards, but the State of California has agreed not to contest these standards, in part due to the fact that while the national standard would achieve slightly less reductions in California, it would achieve greater

reductions nationally and is stringent enough to meet state GHG emission reduction goals.³⁰ On November 15, 2012, CARB approved an amendment that allows manufacturers to comply with the 2017-2025 national standards to meet state law.

(e) Executive Order S-01-07

Executive Order S-01-07 was enacted by the Governor on January 18, 2007. The order mandates the following: (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 (LCFS) for transportation fuels be established in California.

(f) Senate Bill 97 (SB 97, Dutton) (Chapter 185, Statutes of 2007)

Senate Bill (SB) 97 (Chapter 185, Statutes of 2007), enacted in 2007, amended CEQA to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directed the California Office of Planning and Research to develop revisions to the State CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions" and directed the Resources Agency to certify and adopt these revised State CEQA Guidelines by January 2010. The revisions were completed in March 2010 and codified into the California Code of Regulations and became effective within 120 days pursuant to CEQA. The amendments provide regulatory guidance for the analysis and mitigation of the potential effects of GHG emissions. The CEQA Guidelines require:

- Inclusion of GHG analyses in CEQA documents;
- Determination of significance of GHG emissions; and
- If significant GHG emissions would occur, adoption of mitigation to address significant emissions.

(g) Senate Bill 375 (SB 375, Steinberg) (Chapter 728, Statutes of 2008)

SB 375 (Chapter 728, Statutes of 2008), which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. Under SB 375, CARB is required, in consultation with the Metropolitan Planning Organization, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. On September 23, 2010, CARB adopted the vehicular GHG emissions reduction targets for the Southern California Association of Governments (SCAG), which is the Metropolitan Planning Organization for the region in which the County of Los Angeles is located. The target is a per capita reduction of 8 percent for 2020 and 13 percent for 2035 compared to the 2005 baseline. Of note, the proposed reduction targets explicitly exclude emission reductions expected from the AB 1493 and the low carbon fuel standard regulations.

Under SB 375, the target must be incorporated within that region's Regional Transportation Plan (RTP), which is used for long-term transportation planning, in a Sustainable Communities Strategy (SCS). Certain transportation planning and programming activities would then need to be consistent with the SCS;

³⁰ California Air Resources Board, "Advanced Clean Cars Summary," http://www.arb.ca.gov/msprog/clean_cars/acc%20summary-final.pdf. Accessed March 2015.

however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plan) are not required to be consistent with either the RTP or SCS. On April 7, 2016, SCAG adopted the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016 RTP/SCS).³¹ Using growth forecasts and economic trends, the 2016 RTP/SCS provides a vision for transportation throughout the region for the next 25 years. It considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address mobility needs. The 2016 RTP/SCS successfully achieves and exceeds the GHG emission-reduction targets set by CARB by demonstrating an eight percent reduction by 2020, 18 percent reduction by 2035, and 21 percent reduction by 2040 compared to the 2005 level on a per capita basis.

SCAG's Sustainable Communities Strategy provides specific strategies for successful implementation. These strategies include supporting projects that encourage a diverse job opportunities for a variety of skills and education, recreation and culture and a full-range of shopping, entertainment and services all within a relatively short distance; encouraging employment development around current and planned transit stations and neighborhood commercial centers; encouraging the implementation of a "Complete Streets" policy that meets the needs of all users of the streets, roads and highways including bicyclists, children, persons with disabilities, motorists, electric vehicles, movers of commercial goods, pedestrians, users of public transportation, and seniors; and supporting alternative fueled vehicles.

(h) Title 24, Building Standards Code and CALGreen Code

The California Energy Commission first adopted the Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."³² The CALGreen Code is not intended to substitute for or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission. When the CALGreen Code went into effect in 2009, compliance through 2010 was voluntary. As of January 1, 2011, the CALGreen Code is mandatory for all new buildings constructed in the state. The CALGreen Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design and overall environmental

³¹ *Southern California Association of Governments, 2016-2040 RTP/SCS, <http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx>. Accessed June 2016.*

³² *California Building Standards Commission, 2010 California Green Building Standards Code, (2010).*

quality.³³ The CALGreen Code was most recently updated in 2013 to include new mandatory measures for residential as well as nonresidential uses; the new measures took effect on January 1, 2014 (the energy provisions took effect on July 1, 2014).³⁴

(i) Senate Bill 1078 (SB 1078, Sher) (Chapter 516, Statutes of 2002) and Senate Bill 107 (SB 107, Simitian) (Chapter 464, Statutes of 2006) and Executive Order S-14-08

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. In November 2008, Governor Schwarzenegger signed Executive Order S-14-08, which expands the State's Renewables Portfolio Standard to 33 percent renewable power by 2020. Pursuant to Executive Order S-21-09, CARB was also preparing regulations to supplement the Renewables Portfolio Standard with a Renewable Energy Standard that will result in a total renewable energy requirement for utilities of 33 percent by 2020. But on April 12, 2011, Governor Jerry Brown signed SB X1-2 to increase California's RPS to 33 percent by 2020.

(j) California Senate Bill 1368

California SB 1368, a companion bill to AB 32, requires the California Public Utilities Commission (CPUC) and the CEC to establish GHG emission performance standards for the generation of electricity. These standards will also generally apply to power that is generated outside of California and imported into the State. SB 1368 provides a mechanism for reducing the emissions of electricity providers, thereby assisting CARB to meet its mandate under AB 32. On January 25, 2007, the CPUC adopted an interim GHG Emissions Performance Standard, which is a facility-based emissions standard requiring that all new long-term commitments for baseload generation to serve California consumers be with power plants that have GHG emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO₂ per megawatt-hour. Further, on May 23, 2007, the CEC adopted regulations that establish and implement an identical Emissions Performance Standard of 1,100 pounds of CO₂ per megawatt-hour.

(k) Executive Order B-30-15

On April 29, 2015, Governor Jerry Brown issued Executive Order B-30-15, which:

- Established a new interim Statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030,
- Ordered all State agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets, and
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

CARB subsequently expressed its intention to initiate the Climate Change Scoping Plan update during the summer of 2015, with adoption scheduled for 2016.

³³ California Building Standards Commission, *2010 California Green Building Standards Code*, (2010).

³⁴ California Energy Commission, *Building Standards Information Bulletin 13-07*, December 18, 2013.

(I) Cap-and-Trade Program

The Climate Change Scoping Plan identifies a Cap-and-Trade Program as one of the strategies California will employ to reduce GHG emissions. CARB asserts that this program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by the year 2020, and ultimately achieving an 80 percent reduction from 1990 levels by 2050. Under Cap-and-Trade, an overall limit on GHG emissions from capped sectors is established and facilities subject to the cap will be able to trade permits to emit GHGs.

CARB designed and adopted a California Cap-and-Trade Program³⁵ pursuant to its authority under AB 32. The development of this Program included a multi-year stakeholder process and consideration of potential impacts on disproportionately impacted communities. The Cap-and-Trade Program is designed to reduce GHG emissions from major sources (deemed “covered entities”) by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32’s emission-reduction mandate of returning to 1990 levels of emissions by 2020. The statewide cap for GHG emissions from the capped sectors³⁶ (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the Program’s duration.

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities that emit more than 25,000 MTCO₂e per year must comply with the Cap-and-Trade Program.³⁷ Triggering of the 25,000 MTCO₂e per year “inclusion threshold” is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (Mandatory Reporting Rule or “MRR”).³⁸

Each covered entity with a compliance obligation is required to surrender “compliance instruments”³⁹ for each MTCO₂e of GHG they emit. Covered entities are allocated free allowances in whole or part (if eligible), buy allowances at auction, purchase allowances from others, or purchase offset credits. A “compliance period” is the time frame during which the compliance obligation is calculated. The years 2013 and 2014 are the first compliance period, the years 2015–2017 are the second compliance period, and the third compliance period is from 2018–2020. At the end of each compliance period, each facility will be required to surrender compliance instruments to CARB equivalent to their total GHG emissions throughout the compliance period. There also are requirements to surrender compliance instruments covering 30 percent of the prior year’s compliance obligation by November of each year. For example, in November 2014, a covered entity was required to submit compliance instruments to cover 30 percent of its 2013 GHG emissions.

The Cap-and-Trade Regulation provides a firm cap, ensuring that the 2020 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade Program is that it does not guarantee GHG emissions

³⁵ 17 CCR §§ 95800 to 96023.

³⁶ See generally 17 CCR §§ 95811, 95812.

³⁷ 17 CCR § 95812.

³⁸ 17 CCR §§ 95100-95158.

³⁹ Compliance instruments are permits to emit, the majority of which will be “allowances,” but entities also are allowed to use CARB-approved offset credits to meet up to 8 percent of their compliance obligations.

reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by CARB in its First Update to the Climate Change Scoping Plan:

*The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. **But as the cap declines, aggregate emissions must be reduced.***⁴⁰

In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program. However, as climate change is a global phenomenon and the effects of GHG emissions are considered cumulative in nature, a focus on aggregate GHG emissions reductions is warranted.

Further, the reductions in GHG emissions that will be achieved by the Cap-and-Trade Program inherently are variable and, therefore, impossible to quantify with precision:

*The Cap-and-Trade Regulation is different from most of the other measures in the Scoping Plan. The [R]egulation sets a hard cap, instead of an emission limit, so the emission reductions from the program vary as our estimates of “business as usual” emissions in the future are updated. In addition, the Cap-and-Trade Program works in concert with many of the direct regulatory measures—providing an additional economic incentive to reduce emissions. Actions taken to comply with direct regulations reduce an entity’s compliance obligation under the Cap-and-Trade Regulation. So, for example, increased deployment of renewable electricity sources reduces a utility’s compliance obligation under the Cap-and-Trade Regulation.*⁴¹

If California’s direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California’s direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. In other words, the Cap-and-Trade Program functions sort of like an insurance policy for meeting California 2020’s GHG emissions reduction mandate:

The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the “capped sectors.” Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the [Low Carbon Fuel Standard] LCFS, and the 33 percent [Renewables Portfolio Standard] RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together,

⁴⁰ CARB, *First Update to the Climate Change Scoping Plan: Building on the Framework*, at 86 (May 2014) (emphasis added).

⁴¹ *Ibid.*

*direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap.*⁴²

*[T]he Cap-and-Trade Regulation provides assurance that California's 2020 limit will be met because the regulation sets a firm limit on 85 percent of California's GHG emissions.*⁴³

In sum, the Cap-and-Trade Program will achieve aggregate, rather than site-specific or project-level, GHG emissions reductions. Also, due to the regulatory architecture adopted by CARB under AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures.

The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported.⁴⁴ Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program.

The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period.⁴⁵ While the Cap-and-Trade Program technically covered fuel suppliers as early as 2012, they did not have a compliance obligation (i.e., they were not fully regulated) until 2015:

*Suppliers of natural gas, suppliers of RBOB [Reformulated Gasoline Blendstock for Oxygenate Blending] and distillate fuel oils, suppliers of liquefied petroleum gas, and suppliers of liquefied natural gas specified in sections 95811(c), (d), (e), (f), and (g) that meet or exceed the annual threshold in section 95812(d) **will have a compliance obligation beginning with the second compliance period.***⁴⁶

As of January 1, 2015, the Cap-and-Trade Program covered approximately 85 percent of California's GHG emissions.

The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported. The point of regulation for transportation fuels is when they are "supplied" (i.e., delivered into commerce). However, transportation fuels that are "supplied" in California, but can be demonstrated to have a final destination outside California, do not generate a compliance obligation. The underlying concept here is that CARB is seeking to capture tailpipe GHG emissions from the combustion of transportation fuels supplied to California end-users. Accordingly, as with stationary source GHG emissions and GHG emissions attributable to electricity use, virtually all, if not all, of

⁴² CARB, *First Update to the Climate Change Scoping Plan: Building on the Framework*, at 88 (May 2014)

⁴³ *Id.* at 86-87.

⁴⁴ 17 CCR § 95811(b).

⁴⁵ 17 CCR §§ 95811, 95812(d).

⁴⁶ *Id.* at § 95851(b)(emphasis added).

GHG emissions from CEQA projects associated with vehicle-miles traveled (VMT) are covered by the Cap-and-Trade Program.

(3) Regional

The Medical Center Campus is located in the South Coast Air Basin (Air Basin), which consists of Orange County, Los Angeles County (excluding the Antelope Valley portion), and the western, non-desert portions of San Bernardino and Riverside Counties, in addition to the San Geronio Pass area in Riverside County. The South Coast Air Quality Management District (SCAQMD) is responsible for air quality planning in the Air Basin and developing rules and regulations to bring the area into attainment of the ambient air quality standards. This is accomplished through air quality monitoring, evaluation, education, implementation of control measures to reduce emissions from stationary sources, permitting and inspection of pollution sources, enforcement of air quality regulations, and by supporting and implementing measures to reduce emissions from motor vehicles. After AB 32 was passed, SCAQMD formed a Climate Change Committee along with a Greenhouse Gases CEQA Significance Thresholds Working Group and the SoCal Climate Solutions Exchange Technical Advisory Group. On September 5, 2008, the SCAQMD Board approved the SCAQMD Climate Change Policy, which outlines actions the SCAQMD will take to assist businesses and local governments in implementing climate change measures, decrease the agency's carbon emissions, and provide information to the public regarding climate change. On December 5, 2008, the Board approved interim CEQA GHG significance thresholds for stationary source projects where it is the lead agency. The threshold is a tiered approach to determine a project's significance, with 10,000 metric tons (MT) of CO₂e as a screening numerical threshold for stationary source projects. In order to provide guidance to local lead agencies on determining the significance of GHG emissions identified in CEQA documents, the GHG CEQA Significance Threshold Working Group drafted thresholds with the intent of capturing 90 percent of development projects.⁴⁷ Under Tiers 1 and 2, projects that are exempt from CEQA or consistent with an approved local GHG reduction plan can be found to be less than significant. Under Tier 3, a project's GHG emissions are compared to the draft screening thresholds. At present, the SCAQMD has not formally adopted thresholds for use by other lead agencies, but recommends that industrial projects utilize the 10,000 MTCO₂e screening level that has been adopted for SCAQMD projects. The GHG CEQA Significance Threshold Working Group has drafted a significance indicator of 3,000 MTCO₂e for mixed-use or all land use projects, but it has not been formally adopted. Under Tier 4, a project's GHG emissions are compared to a performance standard, such as achieving a percentage reduction in GHG emissions from a base case scenario or achieving a project-level efficiency target of 4.8 MTCO₂e per service population.

(4) Local

(a) County of Los Angeles General Plan

The Los Angeles County 2035 General Plan provides the fundamental basis for the County's land use and development policy, and addresses all aspects of development including public health, land use, community character, transportation, economics, housing, air quality, and other topics. The General Plan sets forth objectives, policies, standards, and programs for land use and new development, Circulation and Public access, and Service Systems for the Community as a whole. Measures related to GHG emissions that would

⁴⁷ South Coast Air Quality Management District, "Greenhouse Gases (GHG) CEQA Significance Thresholds," GHG Meeting 15 Main Presentation, September 28, 2010, <http://www.aqmd.gov/ceqa/handbook/GHG/2010/sept28mtg/sept29.html>. Accessed March 2015.

be applicable to the Master Plan Project are contained in the Los Angeles County 2035 General Plan Conservation and Open Space element. Project consistency with the General Plan is discussed in Section 4.H., Land Use and Planning.

(b) County of Los Angeles Community Climate Action Plan

The County of Los Angeles has adopted a Community Climate Action Plan (CCAP),⁴⁸ a component of the General Plan, which sets a target to reduce GHG emissions from community activities in the unincorporated areas of Los Angeles County by at least 11 percent below 2010 levels by 2020. The CCAP shows clearly that the reductions are not expected to occur uniformly from all sources or sectors of GHG emissions (refer to Table 4-1 of the CCAP). The CCAP describes the County's plan for achieving this goal, including specific strategy areas for each of the major emissions sectors, and provides details on the 2010 and projected 2020 emissions in the unincorporated areas. The actions in the CCAP are priority actions and intended for near-term implementation, such that the County can achieve its GHG reduction goal for 2020 for the unincorporated areas of Los Angeles County.

The CCAP includes 26 local actions to reduced GHG emissions and are grouped into the following five strategy areas. The percent of the local emissions reductions from 2010 levels are also provided (reductions achieved by state programs are not included in the percentages):

- Green Building and Energy (approximately 36 percent of local emissions reductions);
- Land Use and Transportation (approximately 34 percent of local emissions reductions);
- Water Conservation and Wastewater (approximately 4 percent for the water sector and 22 percent for the building energy sector of local emissions reductions);
- Waste Reduction, Reuse, and Recycling (approximately 3 percent of local emissions reductions); and
- Land Conservation and Tree Planting (less than 1 percent of local emissions reductions).

The County considers many of the local actions to be cost effective, particularly in the green building and energy strategy area. In addition to reducing GHG emissions, all local actions have many co-benefits, such as improved public health, improved air quality, energy savings, increased mobility, and enhanced community well-being.

3. ENVIRONMENTAL IMPACTS

a. Methodology

The evaluation of potential impacts to GHG emissions that may result from the construction and long-term operations of the Master Plan Project is conducted as follows:

⁴⁸ *County of Los Angeles, Final Unincorporated Los Angeles County Community Climate Action Plan 2020, (August 2015).*

(1) Greenhouse Gas Emissions

(a) Existing Project Site Emissions

Existing Hospital operational emissions have been estimated using CalEEMod (Version 2013.2.2) software, an emissions inventory model recommended by the SCAQMD for land use development projects. CalEEMod was used to forecast the daily regional emissions from mobile, area, and stationary sources. In calculating mobile-source emissions, an operational year of 2015 was used in the Master Plan Project traffic study⁴⁹ and the trip length values were based on the distances provided in CalEEMod. The trip distances were applied to the maximum daily trip estimates, based on standard Institute of Transportation Engineers (ITE) trip generation rates, for each Existing Hospital land use provided by the Project traffic study⁵⁰ to estimate the total vehicle miles traveled (VMT).

Emissions of GHGs from on-site natural gas combustion and off-site electricity generation are based on usage data from the CEC's *California Commercial End Use Survey* (CEUS), which lists energy demand by building type.⁵¹ The data from the CEUS is from 2002 and represents actual usage rates from survey respondents, covering a wide range of building ages. Since 1978, the CEC has established building energy efficiency standards, which are updated periodically. As discussed previously, the Existing Hospital buildings on the Medical Center Campus were built in 1943 and 1962. Thus, the use of the CEUS 2002 survey data to represent the electrical demand for the existing Medical Center Campus is appropriate and represents the best available data. The CEUS provides data on a limited statewide basis or for each of the four largest investor- or publicly-owned utilities (Pacific Gas & Electric, Southern California Edison (SCE), Sacramento Municipal Utility District, and San Diego Gas & Electric). For the purposes of this assessment, natural gas usage factors for SCE were used as most representative of the existing Medical Center Campus. Emission factors for GHGs due to electrical generation to serve the demands of the existing Medical Center Campus were obtained from the Los Angeles Department of Water and Power (LADWP) *2012 Power Integrated Resource Plan*, which accounts for the generation mix using renewable and non-renewable sources.⁵² LADWP provides 20 percent of electricity via renewable sources.⁵³

Emissions of GHGs from solid waste disposal are calculated using the CalEEMod software. The emissions are based on the waste disposal rate for the land uses, the waste diversion rate, and the GHG emission factors for solid waste decomposition. The GHG emission factors, particularly for CH₄, depend on characteristics of the landfill, such as the presence of a landfill gas capture system and subsequent flaring or energy recovery. The default values, as provided in CalEEMod, for landfill gas capture (e.g., no capture, flaring, energy recovery), which are statewide averages, are used in this assessment.

Emissions of GHGs from water and wastewater are due to the energy required to supply, distribute and treat. Wastewater also results in emissions of GHGs from wastewater treatment systems. Emissions are calculated using the CalEEMod tool and are based on the water usage rate for the land uses, the electrical intensity

⁴⁹ Fehr & Peers, *Traffic Impact Analysis for the Harbor-UCLA Medical Center Master Plan Project*, (2016).

⁵⁰ *Ibid.*

⁵¹ California Energy Commission, *California Commercial End-Use Survey*, <http://capabilities.itron.com/CeusWeb/Chart.aspx>. Accessed November 2013.

⁵² Los Angeles Department of Water and Power, *2012 Power Integrated Resource Plan*, (2012) C-11.

⁵³ Los Angeles Department of Water and Power, *2012 Power Integrated Resource Plan*, (2012) 111.

factors for water supply, treatment, and distribution and for wastewater treatment, the GHG emission factors for the electricity utility provider, and the emission factors for the wastewater treatment process. The CalEEMod software uses the electrical intensity factors from the 2006 CEC report *Refining Estimates of Water-Related Energy Use in California*.⁵⁴ The emissions of GHGs associated with the wastewater treatment process emissions are also calculated using the CalEEMod software as described in the *California Emissions Estimator Model User's Guide, Appendix A*.⁵⁵ As stated in the *User's Guide*, the GHGs emitted from each type of wastewater treatment are based on the CARB's *Local Government Operations Protocol*,⁵⁶ which are in turn based on USEPA methodologies.⁵⁷

(b) Project-Related Emissions (Provided for Informational Purposes)

For the purposes of this EIR, total GHG emissions from the Master Plan Project were quantified for disclosure purposes to provide information to decision makers and the public regarding the level of the Project's annual GHG emissions.

The CCAR has prepared the General Reporting Protocol for calculating and reporting GHG emissions from a number of general and industry-specific activities.⁵⁸ No specific protocols are available for land use projects, so the General Reporting Protocol has been adapted to address GHG emissions from the Project. The information provided in this section is consistent with the General Reporting Protocol minimum reporting requirements. The General Reporting Protocol recommends the separation of GHG emissions into three categories that reflect different aspects of ownership or control over emissions. They include:

- Scope 1: Direct, on-site combustion of fossil fuels (e.g., natural gas, propane, gasoline, and diesel).
- Scope 2: Indirect, off-site emissions associated with purchased electricity or purchased steam.
- Scope 3: Indirect emissions associated with other emissions sources, such as third-party vehicles and embodied energy.⁵⁹

CARB believes that consideration of so-called indirect emissions provides a more complete picture of the GHG footprint of a facility: "As facilities consider changes that would affect their emissions – addition of a cogeneration unit to boost overall efficiency even as it increases direct emissions, for example – the relative impact on total (direct plus indirect) emissions by the facility should be monitored. Annually reported indirect energy usage also aids the conservation awareness of the facility and provides information" to CARB to be considered for future strategies by the industrial sector.⁶⁰ For these reasons, CARB has proposed requiring the calculation of direct and indirect GHG emissions as part of the AB 32 reporting requirements.

⁵⁴ California Energy Commission, *Refining Estimates of Water-Related Energy Use in California, PIER Final Project Report, CEC-500-2006-118, (2006)*.

⁵⁵ California Air Pollution Control Officers Association, *California Emissions Estimator Model User's Guide, (2013)*.

⁵⁶ California Air Resources Board, *Local Government Operations Protocol, Chapter 10: Wastewater Treatment Facilities, (2008)*.

⁵⁷ United States Environmental Protection Agency, *Inventory of US Greenhouse Gas Emissions and Sinks: 1990-2006, Chapter 8: Waste, (2008)*.

⁵⁸ California Climate Action Registry, *General Reporting Protocol Version 3.1, (2009)*.

⁵⁹ Embodied energy includes energy required for water pumping and treatment for end-uses.

⁶⁰ California Air Resources Board, *Initial Statement of Reasons for Rulemaking, Proposed Regulation for Mandatory Reporting of Greenhouse Gas Emissions Pursuant to the California Global Warming Solutions Act of 2006 (AB 32), (2007)*.

Additionally, the Office of Planning and Research directs lead agencies to “make a good-faith effort, based on available information, to calculate, model, or estimate...GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage and construction activities.”⁶¹ Therefore, direct and indirect emissions have been calculated for the Master Plan Project.

For purposes of this analysis, it is considered reasonable and consistent with criteria pollutant calculations to consider those GHG emissions resulting from Project-related incremental (net) increase in the use of on-road mobile vehicles, electricity, and natural gas compared to existing conditions. This includes Project construction activities such as demolition, hauling, and construction worker trips. This analysis also considers indirect GHG emissions from water conveyance, wastewater generation, and solid waste handling. Since potential impacts resulting from GHG emissions are long-term rather than acute, GHG emissions are calculated on an annual basis. In order to report total GHG emissions using the CO₂e metric, the GWP ratios corresponding to the warming potential of CO₂ over a 100-year period is used in this analysis.

(i) Construction Emissions

Construction emissions are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source emissions factors. The emissions are estimated using the CalEEMod (Version 2013.2.2) software, an emissions inventory software program recommended by the SCAQMD. CalEEMod is based on outputs from OFFROAD2011 and EMFAC2011, which are emissions estimation models developed by CARB and used to calculate emissions from construction activities, including on- and off-road vehicles. The output values used in this analysis were adjusted to be Project-specific based on equipment types and the construction schedule. These values were then applied to the same construction phasing assumptions used for the criteria pollutant analysis (see Section 4.B., *Air Quality*, in this Draft EIR) to generate GHG emissions values for each construction year for CO₂, CH₄, N₂O, and CO₂e. The values are derived from factors published in the *2006 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories*.⁶² These values are then converted to metric tons for consistency. The CO₂e emissions are calculated for the construction period and future Master Plan Project buildout conditions in order to estimate the net change in GHG emissions for Project construction and operation. In accordance with SCAQMD guidance, GHG emissions from construction have been amortized over the 30-year lifetime of the Project (i.e., total construction GHG emissions were divided by 30 to determine an annual construction emissions estimate comparable to operational emissions). Detailed construction GHG emissions calculations are provided in Appendix D of this Draft EIR.

(ii) Operational Emissions

Mobile source emission calculations associated with operation of the Master Plan Project are also calculated using the CalEEMod model. In calculating mobile-source emissions, the trip length values for the Project are based on CalEEMod provided defaults for the relevant land uses (e.g., hospital land uses). The trip distances for the various operational activities were multiplied by the average daily trip estimates for each land use based on the data provided by the Project traffic study to estimate the average daily VMT.⁶³ Since GHG

⁶¹ *Office of Planning and Research, Technical Advisory*, p. 5.

⁶² *Intergovernmental Panel on Climate Change, 2006 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories*, (2006).

⁶³ *Fehr & Peers, Traffic Impact Analysis for the Harbor-UCLA Medical Center Master Plan Project*, (2016).

emission impacts are assessed on an annual basis, the average daily VMT for each land use were multiplied by the number of days each land use would be in operation in a year. CalEEMod may not adequately reflect future year GHG emissions because it does not incorporate the emission factors for the 2017-2025 vehicle emissions standards. The national policy for fuel efficiency and emissions standards for the United States auto industry requires that new passenger cars and light-duty trucks achieve an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO₂ per mile by model year 2016 (Phase I standards), based on USEPA calculation methods. In August 2012, more stringent phased-in standards were adopted for new model year 2017 through 2025 passenger cars and light-duty trucks. By 2020, new vehicles are projected to achieve 41.7 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 213 grams of CO₂ per mile (Phase II standards). By 2023, new vehicles are projected to achieve 49.4 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 180 grams of CO₂ per mile (Phase II standards). By 2025, new vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO₂ per mile (Phase II standards). CARB staff has provided future year CO₂ emission factors for on-road mobile sources in California that may be used if the project's mobile sources include "all vehicle classifications."⁶⁴ With respect to the Project, all vehicle types including passenger vehicles, light-duty trucks, and vendor/delivery trucks, would visit the Medical Center Campus. Therefore, this assessment uses the CO₂ emission factors provided by CARB staff to estimate the future year interim and buildout (2023 and 2030) GHG emissions from mobile sources. Emissions of CH₄ and N₂O were estimated based on the direct result outputs from the CalEEMod tool for years 2023 and 2030. The CO₂, CH₄, and N₂O mobile source emissions were added together, using the appropriate GWP values, to obtain emissions in units of MTCO₂e.

With regard to energy usage, the consumption of fossil fuels to generate electricity and to provide heating and hot water generates GHG emissions. Future fuel consumption rates are estimated based on specific square footage of the hospital land uses, as well as predicted water supply needs of the Master Plan Project. Energy usage (off-site electricity generation and on-site natural gas consumption) for the Project is calculated within CalEEMod using the CEC's CEUS data set.⁶⁵ This data set provides energy intensities of different land uses throughout the state and different climate zones. However, since the data from the CEUS is from 2002, the CalEEMod software incorporates correction factors to account for compliance with the Title 24 Building Standards Code. This assessment also includes electricity-related GHG emissions from the proposed enclosed parking structure, which would include elevators, lighting, and a ventilation system.

Water and wastewater generated from the Master Plan Project require energy to supply, distribute and treat. The CalEEMod software uses the electrical intensity factors from the 2006 CEC report *Refining Estimates of Water-Related Energy Use in California*.⁶⁶ The emissions of GHGs associated with the wastewater treatment process emissions are also calculated using the CalEEMod software as described in the *California Emissions Estimator Model User's Guide, Appendix A*.⁶⁷

⁶⁴ California Air Resources Board, *Statewide Emission Factors (EF)*, March 2014.

⁶⁵ California Energy Commission, *California Commercial End-Use Survey*, <http://capabilities.itron.com/CeusWeb/Chart.aspx>. Accessed December 2013.

⁶⁶ California Energy Commission, *Refining Estimates of Water-Related Energy Use in California, PIER Final Project Report, CEC-500-2006-118, (2006)*.

⁶⁷ California Air Pollution Control Officers Association, *California Emissions Estimator Model User's Guide, (2013)*.

Emissions from solid waste handling generated from the Project are also accounted for in the GHG emissions inventory. The GHG emission factors, particularly for CH₄, are based on default values, as provided in CalEEMod, for landfill gas capture (e.g., no capture, flaring, energy recovery).

Other sources of GHG emissions from operation of the Project include equipment used to maintain landscaping, such as lawnmowers and trimmers. The CalEEMod tool uses landscaping equipment GHG emission factors from the CARB OFFROAD2011 model and the CARB *Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment (6/13/2003)*.⁶⁸ The CalEEMod software estimates that landscaping equipment operate for 250 days per year in the South Coast Air Basin.

(2) Consistency with Greenhouse Gas Reduction Plans

The CCAP is a resource for the unincorporated areas of the County. Public agencies and private developers can also use the CCAP to comply with project-level review requirements pursuant to CEQA. CEQA Guidelines specify that CEQA project evaluation of GHG emissions can “tier off” a programmatic analysis of GHG emissions, provided that the programmatic analysis (or climate action plan) does the following (CEQA Guidelines Section 15183.5):

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

The CCAP meets CEQA Guidelines Section 15183.5 listed above by: (1) quantifying all primary sectors of GHG emissions within the unincorporated areas for 2010 and 2020; (2) including a reduction target that is consistent with the recommendations in the AB 32 Scoping Plan for municipalities to support the overall AB 32 reduction targets; (3) analyzing community emissions for the unincorporated areas as a whole and including predicted growth expected by 2020; (4) including specific measures to achieve the overall reduction target; (5) including periodic monitoring of plan progress; and (6) submitting the CCAP to be adopted in a public process following compliance with CEQA. Therefore, the Project is evaluated for consistency with the CCAP.

⁶⁸ California Air Resources Board, *OFFROAD Modeling Change Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment, (6/13/2003)*, http://www.arb.ca.gov/msei/2001_residential_lawn_and_garden_changes_in_eqpt_pop_and_act.pdf. Accessed November 2013.

As discussed previously, the County adopted Title 31 of the County's Code of Ordinances (the Los Angeles County Green Building Standards Code) in November 2013, which adopts by reference the CALGreen code except as changed or modified in Title 31. The County Department of Regional Planning is working on an ordinance to repeal the Green Building and Drought Tolerant Landscaping requirements from Title 22 (Planning and Zoning Code). Additionally, the ordinance will update the Green Building Program's tree requirements in order to increase shade to sidewalks and parking lots for human comfort, and to shade buildings to conserve energy used for air conditioning. In addition, the County of Los Angeles General Plan provides recommendations for emission reduction strategies for reducing GHG emissions. Thus, if the Master Plan Project is designed in accordance with these policies and regulations, it would result in a less than significant impact, since it would be consistent with the overarching local and regional plans and regulations for reducing GHG emissions.

b. Thresholds of Significance

The potential for greenhouse gas emissions impacts is based on thresholds derived from the County's Initial Study Checklist questions, which are based in part on Appendix G of the State CEQA Guidelines. These questions are as follows:

(VII) Greenhouse Gas Emissions. Would the project:

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

(1) Direct or Indirect Project GHG Emissions

The *State CEQA Guidelines* do not provide numeric or qualitative thresholds of significance for GHG emissions. However, AB 32 requires GHGs emitted in California to be reduced to 1990 levels by 2020 and 80% below 1990 levels by 2050. The Technical Advisory on CEQA and Climate Change from OPR suggests that, in absence of regulatory guidance or standards, lead agencies, such as the County, must undertake project-by-project analyses consistent with available guidance and current CEQA practice to ascertain project impacts under CEQA. In the latest *State CEQA Guidelines* amendments, which went into effect on March 18, 2010, OPR encourages lead agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. The County has prepared a CCAP which meets *State CEQA Guidelines* Section 15183.5 and provides goals and strategies that would achieve a reduction target of at least 11 percent below 2010 levels for unincorporated areas of the County, which is consistent with the recommendations in the AB 32 Scoping Plan.⁶⁹

Although GHG emissions can be quantified, CARB, SCAQMD and the County have yet to adopt project-level numerical significance thresholds for GHG emissions that would be applicable to the Master Plan Project. Assessing the significance of a project's contribution to cumulative global climate change involves: (1)

⁶⁹ *County of Los Angeles, Department of Regional Planning, Final Unincorporated Los Angeles County Community Climate Action Plan, (August 2015).*

developing pertinent inventories of GHG emissions, and (2) considering project consistency with applicable emission reduction strategies and goals, such as those set forth in the County of Los Angeles CCAP. Because the CCAP meets CEQA Guidelines Section 15183.5, project-specific environmental documents that incorporate applicable CCAP actions may “tier off” the EIR certified for the County General Plan and CCAP to meet project-level CEQA evaluation requirements for GHG emissions. Projects that demonstrate consistency with applicable CCAP actions can be determined to have a less than significant cumulative impact on GHG emissions and climate change (notwithstanding substantial evidence that warrants a more detailed review of project-level GHG emissions). Based on the above factors, a project that generates GHG emissions, either directly or indirectly, would have a significant impact on GHG Emissions if it would result in the following:

GHG-1 Would the Project result in GHG emissions that are not consistent with the County of Los Angeles *Community Climate Action Plan*?

(2) Consistency with Greenhouse Gas Reduction Plans

As part of AB 32, the County and State recommend general policies and measures to minimize and reduce GHG emissions from land use development project. Thus, if the project is designed in accordance and not in conflict with these policies and measures, it would result in a less than significant impact since it would be consistent with the County’s strategies and local actions on reducing GHG emissions (County of Los Angeles CCAP). Therefore, a significant impact would occur if:

GHG-2 The Project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

c. Project Characteristics or Design Features

(1) Project Characteristics

The Master Plan Project includes characteristics consistent with the CAPCOA guidance document⁷⁰ for mitigating or reducing emissions from land use development projects. The Project would renovate the existing healthcare facilities to implement the County’s strategy to respond to the Affordable Care Act of 2010 and modernize and integrate healthcare delivery and update facilities to modern standards by constructing new buildings that meet or exceed the energy standards in the Title 24 Building Standards Code and repurposing/remodeling existing buildings on the campus to improve operational efficiencies. The Project would provide and encourage employees, patients, and visitors to utilize alternative modes of transportation which would reduce vehicle trips and VMT. More specifically, the Project would be located within a quarter-mile of public transportation, including existing Torrance Transit System bus routes (e.g., routes 1, 3, and Rapid 3) with stops on South Vermont Street and West Carson Street, and Los Angeles Metro bus routes (e.g., routes 205 and 550) with stops on South Vermont Street. In addition, the western two-thirds of the Campus is designated as a Transit Overlay District (TOD) due to proximity to the Metro Silver Line Transit Station on Carson Street approximately 0.10 miles to the east, adjacent to the Harbor Freeway. While the Medical Center Campus’ transit accessibility would result in a corresponding reduction in transportation-related GHG emissions, the emissions calculations do not incorporate reductions from the transit accessibility characteristics. As a result, the emissions calculations are considered to be conservative and may overestimate actual emissions.

⁷⁰ California Air Pollution Control Officers Association, *Quantifying Greenhouse Gas Mitigation Measures*, (2010).

(2) Project Design Features

The Master Plan Project would achieve the applicable objectives of the Los Angeles County General Plan Framework Element, SCAG Regional Transportation Plan, and SCAQMD Air Quality Management Plan for establishing a regional land use pattern that promotes sustainability. The Project would support pedestrian activity on the Medical Center Campus, and incorporate energy efficient and water efficient measures.

The Project would be designed to meet the standards for Leadership in Energy and Environmental Design (LEED) Silver Certification by the U.S. Green Building Council (USGBC) through the incorporation of green building techniques and other sustainability features. A sustainability program would be prepared and monitored by a LEED-accredited design consultant to provide guidance in project design, construction and operations; and to provide performance monitoring during Master Plan Project operations to reconcile design and energy performance and enhance energy savings. The Project would also be designed to comply with the Los Angeles County Green Building Standards Code. The following Project Design Features would be incorporated into the bid document requirements for the design and construction of future development projects under the Master Plan Project, implementation of which would reduce GHG emissions as well as air pollutant emissions:

PDF-AQ-1, Green Building Measures: The Master Plan Project would be designed and operate to meet or exceed the applicable green building, energy, water, and waste requirements of the State of California Green Building Standards Code and the Los Angeles County Green Building Ordinance and meet the standards of the USGBC LEED Silver Certification level or its equivalent. Green building measures would include, but are not limited to the following:

- The Project would implement a construction waste management plan to recycle and/or salvage nonhazardous construction debris that meets or exceeds the County's adopted Construction and Demolition Debris Recycling and Reuse ordinance.
- The Project would be designed to optimize energy performance and reduce building energy cost by 5 percent or more for new construction and 3 percent or more for major renovations compared to ASHRAE 90.1-2010, Appendix G and the Title 24 (2013) Building Standards Code.
- The Project would reduce indoor and outdoor water use by a minimum of 20 percent compared to baseline standards by installing water fixtures that exceed applicable standards. The reduction in potable water would be achieved through the installation of high-efficiency water faucets, high efficiency toilets, flushless urinals, water-efficient irrigation systems, planting native or drought-tolerant plant species, using recycled water for landscaping, or other similar means.
- The Project would include lighting controls with occupancy sensors to take advantage of available natural light.
- The Project shall install cool roofs for heat island reduction and strive to meet the CALGreen Tier 1 Solar Reflectance Index (SRI) or equivalent.
- Project buildings shall be constructed with solar-ready rooftops that would allow for the future installation of on-site solar photovoltaic (PV) or solar water heating (SWH) systems. The building design documents shall show an allocated Solar Zone and the pathway for interconnecting the PV or SWH system with the building electrical or plumbing system. The Solar Zone is a section of the roof that has been specifically

designated and reserved for the installation of a solar PV system, SWH system, and/or other solar generating system. The Solar Zone must be kept free from roof penetrations and have minimal shading.

- The Project would be design and operated with mechanically ventilated areas that would utilize air filtration media for outside and return air prior to occupancy that provides at least a Minimum Efficiency Reporting Value (MERV) of 15 as required for hospital inpatient care.
- To encourage carpooling and the use of electric vehicles by Project employees and visitors, the Applicant shall designate a minimum of eight (8) percent on on-site parking for carpool and/or alternative-fueled vehicles and shall pre-wire, or install conduit and panel capacity for, electric vehicle charging stations for a minimum of five (5) percent of on-site parking spaces.
- The Project shall incorporate appropriate bicycle infrastructure including bicycle parking and “end-of-trip” facilities in compliance with the applicable portions of the County’s Healthy Design Ordinance (HDO) (Los Angeles County Code, Title 22, Section 22.52.1225).

d. Project Impacts

(1) Greenhouse Gas Emissions

Threshold GHG-1: Would the Project result in GHG emissions that are not consistent with the Los Angeles County *Community Climate Action Plan*?

Impact Statement GHG-1: *Impacts from short- and long-term increases in GHG emissions would be less than significant. The Master Plan Project would generate GHG emissions due to construction and operational activities; however, the net increase in annual GHG emissions, directly and indirectly, would be consistent with the Los Angeles County Community Climate Action Plan.*

(a) Project Consistency with CCAP

The Master Plan Project’s significance with respect to GHG emissions is evaluated based on its consistency with applicable GHG reduction strategies in the County of Los Angeles CCAP. **Table 4.E-3, *Consistency with Applicable Community Climate Action Plan Greenhouse Gas Reduction Strategies***, contains a list of GHG-reducing strategies applicable to the Project. The project-level analysis describes the consistency of the Project with these GHG emissions reduction strategies. As discussed in Table 4.E-3, the Master Plan Project is consistent with the applicable strategies in the County of Los Angeles CCAP. Therefore, in accordance with CEQA Guidelines Section 15183.5, which specifies that CEQA project evaluation of GHG emissions can “tier off” a programmatic analysis of GHG emissions such as the Los Angeles County *Community Climate Action Plan*, the Master Plan Project would result in less than significant GHG emissions.

Table 4.E-3

Consistency with Applicable Community Climate Action Plan Greenhouse Gas Reduction Strategies

Strategy	Category / Description	Consistency Analysis
Green Building and Energy		
BE-1: Green Building Development	Promote and incentivize at least Tier 1 voluntary standards within CALGreen for all new residential and nonresidential buildings. Develop a heat island reduction plan and facilitate green building development by removing regulatory and procedural barriers.	<p>Consistent. According to the County’s CCAP, adoption of the CALGreen Tier 1 standards is voluntary, but would result in approximately 10 percent less energy use than the 2013 Title 24 standard for commercial development, which is prerequisite for LEED for typical commercial buildings. However, for health care facilities, LEED requires a 5 percent reduction in energy for new construction, in consideration of the specific electricity needs of hospitals and other health care facilities. Therefore, the Project would be considered to be generally consistent with this measure as the Project would achieve at a minimum the LEED prerequisite for health care facilities as required in PDF-AQ-1, which states that the Project would be designed to optimize energy performance and reduce building energy cost by 5 percent for new construction and 3 percent for major renovations compared to ASHRAE 90.1-2010, Appendix G, and the Title 24 Building Standards Code.</p> <p>The Project shall install cool roofs for heat island reduction and strive to meet the CALGreen Tier 1 Solar Reflectance Index (SRI) or equivalent.</p> <p>The Project is consistent with the GHG reductions under this strategy.</p>
BE-2: Energy Efficiency Programs	Energy efficiency retrofits for at least 25 percent of existing commercial buildings over 50,000 square feet and at least 5 percent of existing single family residential buildings.	Not Applicable. The proposed Project is not an existing building; therefore, this strategy does not apply to the Project. The Project would not conflict with or impede the County’s ability to implement this strategy for existing buildings.
BE-3: Solar Installations	Promote and incentivize solar installations for new and existing homes, commercial buildings, carports and parking areas, water heaters, and warehouses. (Emissions reductions assume implementation of solar photovoltaics; however, project applicants can install other solar technologies, such as solar thermal, as feasible, which may increase GHG reductions, relative to standard photovoltaics systems.)	Consistent. Project buildings shall be constructed with solar-ready rooftops that provide for the installation of on-site solar PV or SWH systems. The building design documents shall show an allocated Solar Zone and the pathway for interconnecting the PV or SWH system with the building electrical or plumbing system. The Solar Zone is a section of the roof that has been specifically designated and reserved for the installation of a solar PV system, SWH system, and/or other solar generating system. The Solar Zone must be kept free from roof penetrations and have minimal shading.
BE-4: Alternative Renewable Energy	Implement pilot projects for currently feasible wind, geothermal, and other	Not Applicable. The proposed Project is not a utility project; therefore, this strategy does not

Table 4.E-3 (Continued)

Consistency with Applicable Community Climate Action Plan Greenhouse Gas Reduction Strategies

Strategy	Category / Description	Consistency Analysis
Programs	<p>forms of alternative renewable energy. (Potential future forms of non-GHG energy could include nuclear fusion, which is being researched by many parties, including the Lockheed Martin Skunk Works in Palmdale, but which has not yet been experimentally proven as a viable commercial energy source. As new technologies become proven, the County will consider how they can support further development and deployment of such technologies.)</p> <p>Note: GHG emissions reductions from this strategy have not been quantified or counted toward attainment of the County's CCAP target.</p>	apply to the Project. The Project would not conflict with or impede the County's ability to implement this strategy for utility pilot projects.
BE-5: Wastewater Treatment Biogas	<p>Encourage renewable biogas projects.</p> <p>Note: GHG emissions reductions from this strategy have not been quantified or counted toward attainment of the County's CCAP target.</p>	Not Applicable. The proposed Project is not a biogas project; therefore, this strategy does not apply to the Project. The Project would not conflict with or impede the County's ability to implement this strategy for biogas projects.
BE-6: Energy Efficiency Retrofits of Wastewater Equipment	<p>Encourage the upgrade and replacement of wastewater treatment and pumping equipment.</p> <p>Note: GHG emissions reductions from this strategy have not been quantified or counted toward attainment of the County's CCAP target.</p>	Not Applicable. The proposed Project is not a wastewater treatment or pumping project; therefore, this strategy does not apply to the Project. The Project would not conflict with or impede the County's ability to implement this strategy for wastewater treatment and pumping projects.
BE-7: Landfill Biogas	<p>Partner with the owners and operators of landfills with at least 250,000 tons of waste-in-place to identify incentives to capture and clean landfill gas to beneficially use the biogas to generate electricity, produce biofuels, or otherwise offset natural gas or other fossil fuels.</p> <p>Note: GHG emissions reductions from this strategy have not been quantified or counted toward attainment of the County's CCAP target.</p>	Not Applicable. The proposed Project is not a landfill project; therefore, this strategy does not apply to the Project. The Project would not conflict with or impede the County's ability to implement this strategy for landfill projects.
Land Use and Transportation		
LUT-1: Bicycle Programs and Supporting Facilities	Construct and improve bicycle infrastructure to increase biking and bicyclist access to transit and transit stations/hubs. Increase bicycle parking	Consistent. The Project would promote and support local, regional, and State mobility objectives to reduce vehicle miles traveled and infrastructure costs. Bicycle infrastructure

Table 4.E-3 (Continued)

Consistency with Applicable Community Climate Action Plan Greenhouse Gas Reduction Strategies

Strategy	Category / Description	Consistency Analysis
	and “end-of-trip” facilities.	<p>including bicycle parking and “end-of-trip” facilities would comply with the applicable portions of the County’s HDO (Los Angeles County Code, Title 22, Section 22.52.1225). The HDO requires the following number of bicycle parking spaces for commercial buildings:</p> <ul style="list-style-type: none"> ▪ Short-term (two hours or less): <ul style="list-style-type: none"> ○ General Retail/Restaurants: One space per each 5,000 square feet of gross floor area (two space minimum). ○ Office: One space per each 20,000 square feet of gross floor area (two space minimum). ▪ Long-term (two hours or longer): <ul style="list-style-type: none"> ○ General Retail/Restaurants: One space per each 12,000 square feet of gross floor area (two space minimum). ○ Office: One space per each 10,000 square feet of gross floor area (two space minimum). <p>In addition, the HDO requires that all new commercial and industrial buildings with 75,000 or more square feet of gross floor area install showers and changing facilities that shall at a minimum be accessible to employees.</p>
LUT-2: Pedestrian Network	Construct and improve pedestrian infrastructure to increase walking and pedestrian access to transit and transit stations/hubs. Program the construction of pedestrian projects toward the goal of completing 15,000 linear feet of new pedestrian improvements/amenities per year.	Consistent. The Project would locate related hospital uses in close proximity to each other, which would encourage pedestrian activity. The Project would enhance the pedestrian experience through the provision of landscaped pedestrian walkways through the Medical Center Campus.
LUT-3: Transit Expansion	Collaborate with the Los Angeles County Metropolitan Transportation Authority (Metro) on a transit program that prioritizes transit by creating bus priority lanes, improving transit facilities, reducing transit-passenger time, and providing bicycle parking near transit stations. Construct and improve bicycle, pedestrian and transit infrastructure to increase bicyclist and pedestrian access to transit and transit stations/hubs.	Not Applicable. The Project is not a transit expansion project; therefore, this strategy does not apply to the Project. The Project would not conflict with or impede the County’s ability to implement this strategy for transit expansion projects.
LUT-4: Travel Demand Management	Encourage ride- and bike-sharing programs and employer-sponsored vanpools and shuttles. Encourage market-based bike sharing programs	Consistent. The Project would provide on-site bicycle parking and end-of-trip facilities are required by County’s HDO. The Project would also provide parking spaces designed for carpool

Table 4.E-3 (Continued)

Consistency with Applicable Community Climate Action Plan Greenhouse Gas Reduction Strategies

Strategy	Category / Description	Consistency Analysis
	that support bicycle use around and between transit stations/hubs. Implement marketing strategies to publicize these programs and reduce commute trips.	or alternative fueled vehicles which will encourage Project employees and visitors to carpool or use less emitting vehicles.
LUT-5: Car-Sharing Program	Implement a car-sharing program to allow people to have on-demand access to a shared fleet of vehicles.	Consistent. The Project would provide parking spaces designed for carpool or alternative fueled vehicles which will encourage Project employees and visitors to carpool or use less emitting vehicles.
LUT-6: Land Use Design and Density	Promote sustainability in land use design, including diversity of urban and suburban developments.	Consistent. The Project would be designed to incorporate sustainability and energy efficiency measures and achieve LEED certification. The Project would promote and support local, regional, and State mobility objectives to reduce vehicle miles traveled by providing bicycle parking and end-of-trip facilities. The Medical Center Campus is also accessible to existing public transportation routes.
LUT-7: Transportation Signal Synchronization Program	Improve the network of traffic signals on the major streets throughout LA County.	Consistent. The Project’s traffic impact analysis includes an impact assessment of Project traffic. Details of the analysis are provided in Section 4.L., <i>Transportation and Traffic</i> , and in Appendix I of this Draft EIR. Required improvements to the network of traffic signals in the Project area would be made in accordance with the findings and recommendations of the traffic impact analysis.
LUT-8: Electric Vehicle Infrastructure	Install 500 electric vehicle (EV) charging facilities at County-owned public venues (e.g., hospitals, beaches, stand-alone parking facilities, cultural institutions, and other facilities) and ensure that at least one-third of these charging stations will be available for visitor use.	Consistent. The Project shall pre-wire, or install conduit and panel capacity for, electric vehicle charging stations for a minimum of five (5) percent of on-site parking spaces.
LUT-9: Idling Reduction Goal	Encourage idling limits of 3 minutes for heavy-duty construction equipment, as feasible within manufacturer’s specifications.	Consistent. Section 2485 in Title 13 of the California Code of Regulations limits the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction to five minutes at any location. The Project shall comply with this regulatory requirement and would encourage construction contractors to further limit idling to 3 minutes or less when practicable and feasible. Construction contractors shall be required to submit a construction vehicle management plan that includes the following information: idling time goals; requiring hour meters on equipment; and documenting the serial number, horsepower, age, and fuel of all onsite

Table 4.E-3 (Continued)

Consistency with Applicable Community Climate Action Plan Greenhouse Gas Reduction Strategies

Strategy	Category / Description	Consistency Analysis
LUT-10: Efficient Goods Movement	<p>Support regional efforts to maximize the efficiency of the goods movement system throughout the unincorporated areas.</p> <p>Note: GHG emissions reductions from this strategy have not been quantified or counted toward attainment of the County's CCAP target.</p>	<p>equipment.</p> <p>Not Applicable. The Project is not a goods movement project; therefore, this strategy does not apply to the Project. This emission reduction strategy would primarily be implemented by Los Angeles County's Department of Public Works by supporting efforts to evaluate zero and/or near-zero emission freight corridors and working with appropriate agencies and partners to identify and replace at-grade railroad crossings to reduce freight delay and vehicle idling (CCAP, p. C-13). The Project would not conflict with or impede the County's ability to implement this strategy to maximize the efficiency of the goods movement system.</p>
LUT-11: Sustainable Pavements Program	<p>Reduce energy consumption and waste generation associated with pavement maintenance and rehabilitation.</p> <p>Note: GHG emissions reductions from this strategy have not been quantified or counted toward attainment of the County's CCAP target.</p>	<p>Consistent. Although the County has indicated this measure has not been quantified or counted toward attainment of the County's CCAP target, the Project would strive to reduce waste from the re-pavement/maintenance of roadways directly adjacent to Project construction site areas that are degraded by construction activity and heavy-duty equipment usage. Recycled/reused materials shall be used to the extent available and feasible.</p>
LUT-12: Electrify Construction and Landscaping Equipment	<p>Utilize electric equipment wherever feasible for construction projects. Reduce the use of gas-powered landscaping equipment.</p> <p>Note: GHG emissions reductions from this strategy have not been quantified or counted toward attainment of the County's CCAP target.</p>	<p>Consistent. Although the County has indicated this measure has not been quantified or counted toward attainment of the County's CCAP target, the Project would utilize electric equipment for construction equipment where feasible. Candidate equipment includes electric cranes, which have been demonstrated as feasible and have been used in other construction projects in the region. The Project shall also prioritize the use of landscaping contractor(s) with electric-powered equipment where available and feasible.</p>
Water Conservation and Wastewater		
WAW-1: Per Capita Water Use Reduction Goal	<p>Meet the State established per capita water use reduction goal as identified by SB X7-7 for 2020. (The State goal is a 20 percent reduction in per capita water use compared to baseline levels.)</p>	<p>Consistent. As stated in PDF-AQ-1, the Project would reduce indoor water use by a minimum of 20 percent by installing water fixtures that exceed applicable standards.</p>
WAW-2: Recycled Water Use, Water Supply Improvement Programs, and Stormwater Runoff	<p>Promote the use of wastewater and gray water to be used for agricultural, industrial, and irrigation purposes consistent with the appropriate provisions of Title 22 and approval of the California Department of Health Services. Manage stormwater, reduce potential treatment, and protect local</p>	<p>Not Applicable. As noted by the County, this measure has not been quantified or counted toward attainment of the County's CCAP target.</p>

Table 4.E-3 (Continued)

Consistency with Applicable Community Climate Action Plan Greenhouse Gas Reduction Strategies

Strategy	Category / Description	Consistency Analysis
	<p>groundwater supplies.</p> <p>Note: GHG emissions reductions of larger efforts to promote the use of wastewater and gray water have not been quantified or counted toward attainment of the County's CCAP target.</p>	
Waste Reduction, Reuse, and Recycling		
SW-1: Waste Diversion Goal	For the County's unincorporated areas, adopt a waste diversion goal to comply with all state mandates to divert at least 75 percent of waste from landfill disposal by 2020.	Consistent. The Project would exceed this requirement as part of its compliance with the County's requirements, the CALGreen Code, and the USGBC LEED Silver Certification process and recycle or reuse 75 percent of nonhazardous construction and demolition debris. Project-generated solid waste would be collected by private waste services providers that would process mixed waste that yields diversion results comparable to source separation and would achieve the County's goal of 75 percent waste diversion by 2020. Medical waste would be disposed of in accordance with applicable regulations.
Land Conservation and Tree Planting		
LC-1: Develop Urban Forests	Support and expand urban forest programs within the unincorporated areas.	<p>Consistent. The Landscape Master Plan, which is included in the Harbor-UCLA Medical Center Campus Master Plan, would provide a campus-like setting where the use of landscape would help reduce dependency on natural resources by capturing and cleaning stormwater runoff and shading buildings to help reduce cooling demands. Landscaped outdoor spaces would accommodate active social gatherings and passive gardens for contemplation and relaxation. Landscaped areas for exercise would be provided to serve staff and educate the public regarding preventative healthcare.</p> <p>The Landscape Master Plan recommends the planting of a landscape buffer along the Harbor-UCLA Medical Center Campus perimeter that includes trees lining the Medical Center Campus street frontages and major landscape groupings identifying entrances to the Medical Center Campus. Throughout the Medical Center Campus interior, the Master Plan Project proposes landscaped courtyard gardens and plazas and a network of walkways or trails that form a continuous circulation system, allowing staff and</p>

Table 4.E-3 (Continued)

Consistency with Applicable Community Climate Action Plan Greenhouse Gas Reduction Strategies

Strategy	Category / Description	Consistency Analysis
		guests to reach their destinations with minimized opportunities for pedestrian/vehicular conflicts. The Project would also use drought-tolerant and water-efficient landscaping.
LC-2: Create New Vegetated Open Space	Restore and revegetate previously disturbed land and/or unused urban and suburban areas.	Consistent. See discussion under LC-1.
LC-3: Promote the Sale of Locally Grown Foods and/or Products	Establish local farmers markets and support locally grown food. Note: GHG emissions reductions from this strategy have not been quantified or counted toward attainment of the County's CCAP target.	Not Applicable. As noted by the County, this measure has not been quantified or counted toward attainment of the County's CCAP target.
LC-4: Protect Conservation Areas	Encourage the protection of existing land conservation areas. Note: GHG emissions reductions from this strategy have not been quantified or counted toward attainment of the County's CCAP target.	Not Applicable. The Medical Center Campus is not an existing land conservation area; therefore, this strategy does not apply to the Project. The Project would not conflict with or impede the County's ability to implement this strategy for existing land conservation areas.

Source: PCR Services Corporation, 2016

(b) Construction Emissions

In order to provide additional information to decision makers and the public, the emissions of GHGs associated with construction of the Master Plan Project were calculated for each year of construction activity. Detailed emissions calculations are provided in Appendix D. Results of the GHG emissions calculations are presented on **Table 4.E-4, Unmitigated Construction Greenhouse Gas Emissions**. Although GHGs generated during construction are considered one-time emissions, it is important to include them when assessing all of the long-term GHG emissions associated with a project. The CCAP includes goals and strategies that address construction-related GHG emissions including LUT-9 (idling reduction goal) and LUT-12 (electrification of equipment as feasible). As previously discussed in Table 4.E-3, the Project would be consistent with these measures. As a result, while the Project would result in one-time construction GHG emissions, the Project would be consistent with applicable measures and would therefore not conflict with achievement of the County's GHG emissions reduction target.

(c) Operations

In order to provide additional information to decision makers and the public, the emissions of GHGs associated with operation of the Master Plan Project were calculated. The Project must comply with the portions of the County's Green Building Standards applicable to health care facilities. The Project would incorporate Project Design Features in a manner to achieve the USGBC LEED Silver Certification or equivalent. Additionally, physical and operational Project characteristics for which sufficient data are

Table 4.E-4

Unmitigated Construction Greenhouse Gas Emissions

Emission Source	CO ₂ e (Metric Tons) ^a
Construction Phase M	742
Construction Phase C	5,597
Construction Phase 1	1,845
Construction Phase 2	1,563
Construction Phase 3	2,707
Construction Phase 4	12,008
Construction Phase 5	11,342
Construction Phase 6	7,607
Construction Phase LA Biomed	1,017
Total	44,428

^a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix D.

Source: PCR Services Corporation, 2016

available to quantify the reductions from building energy and resource consumption have been included in the quantitative analysis. However, specific measures for achieving LEED Silver Certification are not finalized; therefore, the Project's GHG emissions analysis provided herein does not fully account for all GHG reductions that would occur from Project implementation. Therefore, the GHG emissions analysis conservatively overestimates the Project's emissions and it is likely that actual GHG emissions from the Project would be lower than shown in this analysis. The conservatively estimated maximum annual net GHG emissions resulting from motor vehicle, energy (i.e., electricity, natural gas), water conveyance, and waste sources were calculated for Project buildout and are shown in **Table 4.E-5, Annual Greenhouse Gas Emissions**. The net annual emissions from the Project amounts to approximately 0.09 percent of the County's total estimated GHG emissions target for 2020 (6,440 MTCO₂e for the Project compared to 7,104,621 MTCO₂e for the County).

The County's CCAP provides goals and strategies that would achieve a reduction target of at least 11 percent below 2010 levels for unincorporated areas of the County. The reduction target is specifically a County-wide target and not a mandated reduction target for individual projects. The CCAP does not require reductions to occur uniformly from all sources or sectors of GHG emissions. Based on the conservatively estimated GHG emissions, the Project would result in a net increase in GHG emissions from 2010 levels. However, the potential increase is extremely small compared to the County's total inventory. As discussed in Table 4.E-3, the Project would be consistent with applicable CCAP measures, which would minimize the increase in GHG emissions that would otherwise occur without implementation of the various sustainability, energy efficiency, water efficiency, solid waste, and transportation reduction measures. Furthermore, one of the Project objectives is to secure timely compliance with the Alquist Hospital Facilities Seismic Safety Act (also known as Senate Bill [SB] 1953) to maintain critical trauma services in the South Bay service region of the County of Los Angeles. Achieving this objective by redeveloping an existing hospital site would be more GHG efficient (i.e., result in fewer GHG emissions) than developing a new hospital campus on a greenfield site. Therefore, while the Project results is conservatively estimated to result in a minimal net increase in GHG emissions, the Project would be consistent with applicable CCAP measure to minimize its GHG emissions and the Project would not be expected to conflict with the County's ability to achieve the CCAP target reduction.

**Table 4.E-5
Annual Greenhouse Gas Emissions (2030)**

Emissions Sources	CO ₂ e (Metric Tons per Year) ^a		
	Existing	Project	Net Change
Mobile Sources	26,255	29,551	3,296
Area	< 1	< 1	—
Energy (Electricity and Natural Gas)	5,959	7,428	1,469
Water/Wastewater Conveyance	867	2,030	1,163
Waste	2,209	2,721	512
Subtotal	35,290	41,730	6,440

^a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix D of this Draft EIR.

^b

Source: PCR Services Corporation, 2016

(2) Greenhouse Gas Reduction Plans

Threshold GHG-2: Would the Project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Impact Statement GHG-2: *Construction and operation of the Master Plan Project would not conflict with applicable GHG emissions reductions plans, policies, or regulations. As a result, construction and operation of the Project would not have a significance impact with respect to consistency with GHG reduction plans, and impacts would be less than significant.*

Due to the complex physical, chemical, and atmospheric mechanisms involved in global climate change, there is no basis for concluding that the Project's GHG emissions would actually cause a measurable increase in global GHG emissions necessary to influence global climate change. Newer construction materials and practices, current energy efficiency requirements, and newer appliances tend to emit lower levels of air pollutant emissions, including GHGs, as compared to those built years ago; however, the net effect is difficult to quantify. Thus, the estimated net increase in emissions resulting from implementation of the Project presented above may be an over- or underestimation. The GHG emissions of the Project alone would not likely cause a direct physical change in the environment.

According to CAPCOA, “GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective.”⁷¹ It is global GHG emissions in their aggregate that contribute to climate change, not any single source of GHG emissions alone. However, given 1) the lack of evidence indicating that those emissions would cause a measurable increase in global GHG emissions necessary to exacerbate global climate change and 2) the fact that the Project incorporates physical and operational

⁷¹ California Air Pollution Control Officer’s Association, *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, January 2008.*

Project characteristics and Project Design Features that would reduce potential GHG emissions to a less-than-significant level, the Project is considered not to conflict with the GHG reduction goals of AB 32.

As discussed previously, the Project incorporates a Project Design Feature (PDF-AQ-1) that would reduce GHG emissions by increasing energy-efficiency beyond requirements, reducing indoor and outdoor water demand, and incorporating waste reduction measures. The Project would also incorporate characteristics that would reduce transportation-related GHG emissions by providing bicycle and end-of-trip facilities, and by being located within one-quarter mile of transit, thereby encouraging alternative forms of transportation.

The Project would be constructed and operated in a manner consistent with a Silver Certification from the USGBC's LEED program. The LEED features that would be incorporated in the Project would include building efficiency measures to reduce energy consumption, water-saving measures, and waste reduction measures. The Project would be designed to optimize energy performance and reduce building energy cost by a minimum of 5 percent for new construction and 3 percent for major renovations. Trees planted on the Medical Center Campus as part of the planned landscaping would sequester CO₂ as they age (not included in the quantitative analysis). The average tree can sequester approximately 330 pounds of carbon dioxide from the atmosphere every year. The Project would reduce indoor water use by a minimum of 20 percent with water fixtures that exceed applicable standards.

In accordance with the County's Green Building Program and CALGreen, the Project would incorporate the following features supportive of goals to reduce GHG emissions:

- **Energy Conservation:** Buildings must reduce energy demand at least 15 percent below Title 24 (2008 State of California Energy Efficiency Standards). The Project would meet this objective by achieving LEED Silver Certification and exceeding the Title 24 (2013) standards.
- **Outdoor Water Conservation:** A smart irrigation controller must be installed for any landscaped area of the Project. Sixty-five percent of the total landscaped areas shall use drought-tolerant plant species selected from the County's Drought-Tolerant Plant List.
- **Resource Conservation:** At least 65 percent of construction waste (by weight) must be recycled, reused, or diverted. The project would recycle, reuse, or divert 75 percent of its non-hazardous construction waste.
- **Tree Planting:** A minimum of one 15-gallon tree must be planted and maintained for every 10,000 square feet of developed area. At least 65 percent of the trees must be listed on the County's Drought Tolerant Plant List.
- **High-Efficiency Toilets:** New toilets must be rated high efficiency.

Consistency with GHG reduction strategies is an important priority, and reasonable reduction efforts should be taken. As discussed previously in Table 4.E-3, the Master Plan Project is consistent with the applicable GHG reductions strategies and local actions in the County of Los Angeles CCAP. Additionally, the Project is consistent with GHG reduction measures from other applicable plans. **Table 4.E-6, *Consistency with Applicable Greenhouse Gas Reduction Strategies***, contains a list of GHG-reducing strategies potentially applicable to the Project. The Project-level analysis describes the consistency of the Project with these strategies.

Table 4.E-6

Consistency with Applicable Greenhouse Gas Reduction Strategies

Source	Category / Description	Consistency Analysis
AB 1493 (Pavley Regulations)	Reduces greenhouse gas emissions in new passenger vehicles from 2012 through 2016. Also reduces gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020.	Consistent. The Project would be consistent with this regulation and would not conflict with implementation of the vehicle emissions standards.
SB 1368	Establishes an emissions performance standard for power plants within the State of California.	Consistent. The Project would be consistent with this regulation and would not conflict with implementation of the emissions standards for power plants.
Low Carbon Fuel Standard	Establishes protocols for measuring life-cycle carbon intensity of transportation fuels and helps to establish use of alternative fuels.	Consistent. The Project would be consistent with this regulation and would not conflict with implementation of the transportation fuel standards.
California Green Building Standards Code Requirements	All bathroom exhaust fans shall be ENERGY STAR compliant.	Consistent. The Project would utilize energy efficiency appliances and equipment and would exceed the energy standards in ASHRAE 90.1-2010, Appendix G and the Title 24 Building Standards Code.
	HVAC Systems will be designed to meet ASHRAE standards.	Consistent. The Project would utilize energy efficiency appliances and equipment and would exceed the energy standards in ASHRAE 90.1-2010, Appendix G and the Title 24 Building Standards Code.
	Energy commissioning shall be performed for buildings larger than 10,000 square feet.	Consistent. The Project would be commissioned as part of its USGBC LEED Silver Certification process.
	Air filtration systems are required to meet a minimum of MERV 8 or higher.	Consistent. The Project would meet or exceed this requirement as part of its compliance with the County's requirements, the CALGreen Code, and the USGBC LEED Silver Certification process.
	Refrigerants used in newly installed HVAC systems shall not contain any CFCs.	Consistent. The Project would meet this requirement as part of its compliance with the County's requirements, the CALGreen Code, and the USGBC LEED Silver Certification process.
	Parking spaces shall be designed for carpool or alternative fueled vehicles. Up to eight percent of total parking spaces will be designed for such vehicles.	Consistent. The Project would meet this requirement as part of its compliance with the County's requirements, the CALGreen Code, and the USGBC LEED Silver Certification process.
	Long-term and short-term bike parking shall be provided for up to five percent of vehicle trips.	Consistent. The Project would provide bicycle parking and end-of-trip facilities in accordance with the applicable portion of the County's HDO.
	Stormwater Pollution Prevention Plan (SWPPP) required.	Consistent. The Project would meet this requirement.

Table 4.E-6 (Continued)

Consistency with Applicable Greenhouse Gas Reduction Strategies

Source	Category / Description	Consistency Analysis
	Indoor water usage must be reduced by 20% compared to current California Building Code Standards for maximum flow.	Consistent. The Project would exceed this requirement as part of its compliance with the County’s requirements, the CALGreen Code, and the USGBC LEED Silver Certification process and reduce indoor water usage by a minimum of 20 percent.
	All irrigation controllers must be installed with weather sensing or soil moisture sensors.	Consistent. The Project would meet this requirement as part of its compliance with the County’s requirements, the CALGreen Code, and the USGBC LEED Silver Certification process.
	Wastewater usage shall be reduced by 20 percent compared to current California Building Standards.	Consistent. The Project would exceed this requirement as part of its compliance with the County’s requirements, the CALGreen Code, and the USGBC LEED Silver Certification process and reduce indoor water usage by a minimum of 20 percent.
	Requires a minimum of 50% recycle or reuse of nonhazardous construction and demolition debris.	Consistent. The Project would exceed this requirement as part of its USGBC LEED Silver Certification process and recycle or reuse 75 percent of nonhazardous construction and demolition debris.
	Requires documentation of types of waste recycled, diverted or reused.	Consistent. The Project would meet this requirement as part of its compliance with the County’s requirements, the CALGreen Code, and the USGBC LEED Silver Certification process.
	Requires use of low VOC coatings consistent with AQMD Rule 1168.	Consistent. The Project would be consistent with this regulation and would meet or exceed the low VOC coating requirements.
	100 percent of vegetation, rocks, soils from land clearing shall be recycled or stockpiled on-site.	Consistent. The Project would exceed this requirement as part of its compliance with the County’s requirements, the CALGreen Code, and the USGBC LEED Silver Certification process. The Project would recycle or reuse 75 percent of total nonhazardous construction and demolition debris (including 100 percent of nonhazardous vegetation, rocks, and soils).
Climate Action Team	Reduce diesel-fueled commercial motor vehicle idling.	Consistent. The Project would be consistent with the CARB Air Toxics Control Measure (ATCM)) to limit heavy duty diesel motor vehicle idling to no more than 5 minutes at any given time (see Section 4.B., <i>Air Quality</i> , of this Draft EIR).

Table 4.E-6 (Continued)

Consistency with Applicable Greenhouse Gas Reduction Strategies

Source	Category / Description	Consistency Analysis
	Achieve California's 50 percent waste diversion mandate (Integrated Waste Management Act of 1989) to reduce GHG emissions associated with virgin material extraction.	Consistent. The Project would exceed this requirement as part of its compliance with the County's requirements, the CALGreen Code, and the USGBC LEED Silver Certification process and recycle or reuse 75 percent of nonhazardous construction and demolition debris. Project-generated solid waste would be collected by private waste services providers that would process mixed waste that yields diversion results comparable to source separation and would achieve the County's goal of 75 percent waste diversion by 2020. Medical waste would be disposed of in accordance with applicable regulations.
	Plant five million trees in urban areas by 2020 to effect climate change emission reductions.	Consistent. The Project would provide appropriate landscaping on the Medical Center Campus including vegetation and trees.
	Implement efficient water management practices and incentives, as saving water saves energy and GHG emissions.	Consistent. The Project would, as part of its compliance with the County's requirements, the CALGreen Code, and the USGBC LEED Silver Certification process, reduce indoor water usage by a minimum of 20 percent.
	Reduce GHG emissions from electricity by reducing energy demand. The California Energy Commission updates appliance energy efficiency standards that apply to electrical devices or equipment sold in California. Recent policies have established specific goals for updating the standards; new standards are currently in development.	Consistent. The Project would utilize energy efficiency appliances and equipment and would exceed the energy standards in ASHRAE 90.1-2010, Appendix G and the Title 24 Building Standards Code.
	Apply strategies that integrate transportation and land-use decisions, including but not limited to promoting jobs/housing proximity, high-density residential/ commercial development along transit corridors, and implementing intelligent transportation systems.	Consistent. The Project would incorporate physical and operational Project characteristics that would reduce vehicle trips and VMT and encourage alternative modes of transportation for patrons and employees.
	Reduce energy use in private buildings.	Consistent. The Project would utilize energy efficiency appliances and equipment and would exceed the energy standards in ASHRAE 90.1-2010, Appendix G and the Title 24 Building Standards Code.
Los Angeles County Green Building Ordinance	Install a smart irrigation controller and require 65 percent of the landscaped area to use drought-tolerant plant species.	Consistent. The Project would meet this requirement as part of its compliance with the County's requirements, the CALGreen Code, and the USGBC LEED Silver certification.

Table 4.E-6 (Continued)

Consistency with Applicable Greenhouse Gas Reduction Strategies

Source	Category / Description	Consistency Analysis
	Achieve 65 percent waste diversion for construction waste.	Consistent. The Project would exceed this requirement as part of its compliance with the County’s requirements, the CALGreen Code, and the USGBC LEED Silver Certification process and recycle or reuse 75 percent of nonhazardous construction and demolition debris.
	Minimum of one 15-gallon tree must be planned for every 10,000 feet of developed area.	Consistent. The Project would meet this requirement as part of its compliance with the County’s requirements.
	Install high efficiency toilets	Consistent. The Project would exceed this requirement as part of its compliance with the County’s requirements, the CALGreen Code, and the USGBC LEED Silver Certification process and reduce indoor water usage by a minimum of 20 percent.
Los Angeles County Low Impact Development (LID) Standards	All Designated Projects (required) must retain 100 percent of Stormwater Design Volume on-site through infiltration, evapotranspiration, stormwater runoff harvest, or a combination thereof.	Consistent. The Project would implement stormwater BMPs consistent with the County’s requirements.
<p>Source: PCR Services Corporation, 2016</p>		

Since the Project would implement Project Design Features intended to achieve the equivalent of LEED Silver Certification and would incorporate water conservation, energy conservation, tree planting, and other features consistent with the County’s Green Building Standards Code, the Project would not conflict with any applicable plan, policy, or regulation to reduce GHG emissions and impacts would be less than significant.

(a) Consistency with Executive Orders S-3-05 and B-30-15

At the State level, Executive Orders S-3-05 and B-30-15 are orders from the State’s Executive Branch for the purpose of reducing statewide GHG emissions. Executive Orders S-3-05’s goal to reduce GHG emissions to 1990 levels by 2020 was codified by the Legislature as the 2006 Global Warming Solutions Act (AB 32). As analyzed above, the Master Plan Project is consistent with AB 32. Therefore, the Project does not conflict with this component of the Executive Orders.

The Executive Orders also establish the goals to reduce GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. These goals have not yet been codified. However, studies have shown that, in order to meet the 2030 and 2050 targets, aggressive technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. In its *Climate Change Scoping Plan*, CARB acknowledged that the “measures needed to meet the 2050 are too far in the

future to define in detail.”⁷² In the First Update, however, CARB generally described the type of activities required to achieve the 2050 target: “energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately.”⁷³ Due to the technological shifts required and the unknown parameters of the regulatory framework in 2030 and 2050, quantitatively analyzing the Project’s impacts further relative to the 2030 and 2050 goals currently is speculative for purposes of CEQA. Moreover, CARB has not calculated and released the BAU emissions projections for 2030 or 2050, which are necessary data points for quantitatively analyzing a CEQA project’s consistency with these targets.

Although the Project’s emissions levels in 2030 and 2050 cannot yet be reliably quantified, Statewide efforts are underway to facilitate the State’s achievement of those goals and it is reasonable to expect the Project’s incremental emissions to decline as the regulatory initiatives identified by CARB in the First Update are implemented, and other technological innovations occur. Stated differently, the Project’s emissions total at New Hospital Tower buildout represents the maximum emissions inventory for the Project as California’s emissions sources are being regulated (and foreseeably expected to continue to be regulated in the future) in furtherance of the State’s environmental policy objectives. As such, given the reasonably anticipated decline in Project emissions once fully constructed and operational, the Project is consistent with the Executive Orders’ goals.

As discussed previously, CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. The Cap-and-Trade Program is designed to reduce GHG emissions from major sources (deemed “covered entities”) by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32’s emission-reduction mandate of returning to 1990 levels of emissions by 2020. As of January 1, 2015, the Cap-and-Trade Program covered approximately 85 percent of California’s GHG emissions. While the 2020 cap would remain in effect post-2020,⁷⁴ the Cap-and-Trade Program is not currently scheduled to extend beyond 2020 in terms of additional GHG emissions reductions. However, CARB has expressed its intention to extend the Cap-and-Trade Program beyond 2020 in conjunction with setting a mid-term target. The “recommended action” in the First Update to the Climate Change Scoping Plan for the Cap-and-Trade Program is: “Develop a plan for a post-2020 Cap-and-Trade Program, including cost containment, to provide market certainty and address a mid-term emissions target.”⁷⁵ The “expected completion date” for this recommended action is 2017.⁷⁶ In addition to CARB’s First Update, in January 2015, during his inaugural address, Governor Jerry Brown expressed a commitment to achieve “three ambitious goals” that he would like to see accomplished by 2030 to reduce the State’s GHG emissions: (1) increasing the State’s Renewable Portfolio Standard from 33 percent in 2020 to 50 percent in 2030, (2) cutting the petroleum use in cars and

⁷² *California Air Resources Board, Climate Change Scoping Plan, December 2008, page 117.*

⁷³ *California Air Resources Board, First Update to the Climate Change Scoping Plan, May 2014, page 32.*

⁷⁴ *California Health & Safety Code § 38551(a) (“The Statewide greenhouse gas emissions limit shall remain in effect unless otherwise amended or repealed.”).*

⁷⁵ *CARB, First Update to the Climate Change Scoping Plan, op. cit., page 98.*

⁷⁶ *Ibid.*

trucks in half, and (3) doubling the efficiency of existing buildings and making heating fuels cleaner.⁷⁷ These expressions of Executive Branch policy may be manifested in adopted legislative or regulatory action through the State agencies and departments responsible for achieving the State's environmental policy objectives, particularly those relating to global climate change.

Further, recent studies shows that the State's existing and proposed regulatory framework can allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the Statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the study could allow the State to meet the 2030 and 2050 targets.⁷⁸

For the reasons described above, the Project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the establishment of the 2030 and 2050 targets.

4. CUMULATIVE IMPACTS

The emissions of a single project will not cause or exacerbate global climate change. It is possible that a substantial increase in GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. CEQA requires that lead agencies consider evaluating the cumulative impacts of GHGs from even relatively small (on a global basis) increases in GHG emissions. Small contributions to this cumulative impact (from which significant effects are occurring and are expected to worsen over time) may be potentially considerable and therefore significant. A cumulatively considerable impact is the impact of a proposed project in addition to the related projects. However, in the case of global climate change, the proximity of the project to other GHG-generating activities is not directly relevant to the determination of a cumulative impact. Although the State requires Metropolitan Planning Organizations and other planning agencies to consider how region-wide planning decisions can impact global climate change, there is currently no established non-speculative method to assess the cumulative impact of proposed independent private-party development projects.

The land use sector can accommodate growth and still be consistent with statewide plans to reduce GHG emissions. To that end, various agencies have developed programs to guide future building and transportation development towards minimized resource consumption and lowered resultant pollution. The County's CCAP provides goals and strategies that would achieve a reduction target of at least 11 percent

⁷⁷ Transcript: Governor Jerry Brown's January 5, 2015, Inaugural Address, www.latimes.com/local/political/la-me-pc-brown-speech-text-20150105-story.html#page=1. Accessed March 2, 2015.

⁷⁸ Energy and Environmental Economics (E3), "Summary of the California State Agencies' PATHWAYS Project: Long-term Greenhouse Gas Reduction Scenarios," April 2015; Greenblatt, Jeffrey, Energy Policy, "Modeling California Impacts on Greenhouse Gas Emissions," Vol. 78, pages 158-172. The California Air Resources Board, California Energy Commission, California Public Utilities Commission, and the California Independent System Operator engaged E3 to evaluate the feasibility and cost of a range of potential 2030 targets along the way to the state's goal of reducing GHG emissions to 80 percent below 1990 levels by 2050. With input from the agencies, E3 developed scenarios that explore the potential pace at which emission reductions can be achieved as well as the mix of technologies and practices deployed. E3 conducted the analysis using its California PATHWAYS model. Enhanced specifically for this study, the model encompasses the entire California economy with detailed representations of the buildings, industry, transportation, and electricity sectors.

below 2010 levels for unincorporated areas of the County, although the reductions are not expected to occur uniformly from all sources or sectors of GHG emissions (refer to Table 4-1 of the CCAP). This target is consistent with the recommendations in the AB 32 Scoping Plan. Additionally, the County continues to develop programs to reduce GHG emissions including the Green Building Code and LID Ordinance.

Additionally, CARB has set targets specific to the transportation sector (land use-related transportation emissions), for example, and under SB 375 SCAG must incorporate these GHG-reduction goals into the Regional Transportation Plan and demonstrate that its Sustainable Communities Strategy or Alternative Planning Strategy is consistent with the Regional Housing Needs Assessment. One of the goals of this process is to ensure that the efforts of State, regional and local planning agencies accommodate the contemporaneous increase in population and employment with a decrease in overall GHG emissions. For example, adopting zoning designations that reduce density in areas which are expected to experience growth in population and housing needs, is seen as inconsistent with anti-sprawl goals of sustainable planning. Although development under a reduced density scenario results in lower GHG emissions from the use of that land compared to what is currently or hypothetically allowed (by creating fewer units and fewer attributable vehicle trips), total regional GHG emissions will likely fail to decrease at the desired rate or, worse, increase if regional housing and employment needs of an area are met with a larger number of less-intensive development projects. Additionally, many of the Project-related GHG emissions source sectors, such as electricity generated in-state or imported and combustion of transportation fuels, are covered-entities under the Cap-and-Trade Program and would be reduced sector-wide. Therefore, it is not simply a cumulative increase in regional development or the resultant GHG emissions that threatens GHG reduction goals.

As discussed in Table 4.E-3 and Table 4.E-6, the Project would be consistent with applicable GHG reduction strategies recommended by the County and State. In addition, the project would support and be consistent with relevant and applicable GHG emission reduction strategies in SCAG's Sustainable Communities Strategy. These strategies include locating uses within a relatively short distance of existing transit stops; providing employment near current transit stops; and improving the Medical Center Campus to be more pedestrian and bicycle friendly. As a result, the project would be consistent with the County and State goals. Furthermore, the overwhelming majority of the Project-related GHG emissions are from source sectors that include electricity generated in-state or imported and the combustion of transportation fuels. These sectors are already covered entities under the Cap-and-Trade Program and as such would be reduced sector-wide in accordance with the goals of AB 32, in addition to the previously discussed GHG emissions reductions from the Project-specific energy efficiency design features and VMT-reducing characteristics. Given that the Project would generate GHG emissions that are less than significant, and given that GHG emission impacts are cumulative in nature, the project's incremental contribution to cumulatively significant GHG emissions would be less than cumulatively considerable, and impacts would be less than significant.

5. MITIGATION MEASURES

The Master Plan Project would result in less than significant impacts with respect to emissions of GHGs and consistency with applicable GHG emissions reductions plans, policies, or regulations. Therefore, no mitigation measures would be required.

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts regarding emissions of GHGs and consistency with applicable GHG emissions reductions plans, policies, or regulations would be less than significant.