3.7 GREENHOUSE GAS EMISSIONS

3.7.1 INTRODUCTION

This section of the PEIR presents a discussion of the current regulatory framework related to global climate change in California. Impacts related to global climate change are analyzed and mitigation measures are provided for any potentially significant impacts.

3.7.2 ENVIRONMENTAL SETTING

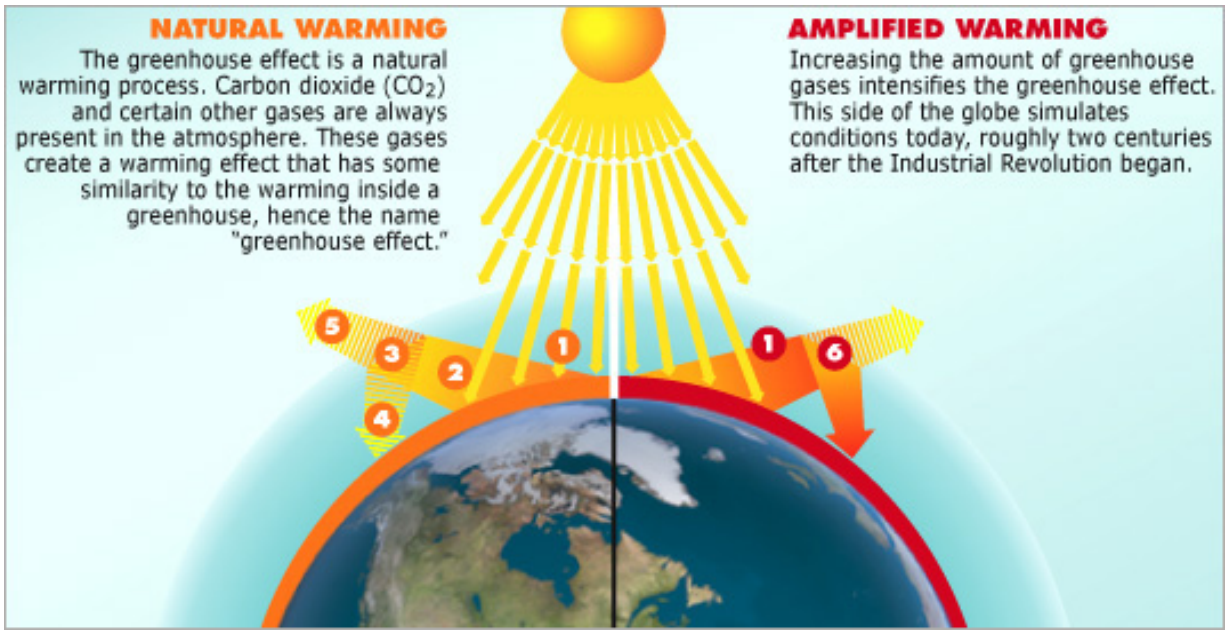
The information contained in this Environmental Setting section is based upon information contained in the City of Lake Elsinore Climate Action Plan, which is summarized below and incorporated herein by reference. The Climate Action Plan is attached as Appendix G of this PEIR.

GREENHOUSE GASES AND GLOBAL WARMING/CLIMATE CHANGE

Energy from the Sun drives the Earth's weather and climate. The Earth absorbs energy from the Sun and also radiates energy back into space. According to the U.S. Environmental Protection Agency (USEPA), a greenhouse gas (GHG) is any gas that absorbs this energy in the Earth's atmosphere. This absorption traps heat within the atmosphere, maintaining Earth's surface temperature at a level higher (by about 60°F) than would be the case in the absence of GHGs (see **Figure 3.7-1, The Greenhouse Effect**). GHGs include water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), hydrochlorofluorocarbons (HCFCs), and ozone (O_3). Naturally occurring GHGs include water vapor, CO_2, CH_4, N_2O, and O_3. Human activities add to the levels of most of these naturally occurring GHGs (Intergovernmental Panel on Climate Change [IPCC], 2007). Other GHGs (e.g., HFCs and PFCs) are created and emitted solely through human activities. The principal GHGs that enter the atmosphere because of human activities are discussed later in this section.

Increasing levels of GHGs in the atmosphere result in an increase in the temperature of the Earth's lower atmosphere, a phenomenon which is commonly referred to as "global warming." Warming of the Earth's lower atmosphere induces a suite of additional changes including changes in: global precipitation patterns; ocean circulation, temperature and acidity; wind patterns; and storms. These large-scale changes over an extended period of time are collectively referred to as "climate change ".

Figure 3.7-1, The Greenhouse Effect



NATURAL WARMING

The greenhouse effect is a natural warming process. Carbon dioxide (CO_2) and certain other gases are always present in the atmosphere. These gases create a warming effect that has some similarity to the warming inside a greenhouse, hence the name "greenhouse effect."

AMPLIFIED WARMING

Increasing the amount of greenhouse gases intensifies the greenhouse effect. Higher concentrations of CO_2 and other greenhouse gases trap more infrared energy in the atmosphere than occurs naturally. The additional heat further warms the atmosphere and Earth's surface.

1. Sunlight brings energy into the climate system; most of it is absorbed by the oceans and land.

THE GREENHOUSE EFFECT:

2. Heat (infrared energy) radiates outward from the warmed surface of the Earth.
3. Some of the infrared energy is absorbed by greenhouse gases in the atmosphere, which re-emit the energy in all directions.
4. Some of the infrared energy further warms the Earth.
5. Some of the infrared energy is emitted into space.

AMPLIFIED GREENHOUSE EFFECT:

6. Higher concentrations of CO_2 and other "greenhouse" gases trap more infrared energy in the atmosphere than occurs naturally. The additional heat further warms the atmosphere and Earth's surface.

Source: Marian Koshland Science Museum of the National Academy of Sciences (www.koshland-science-museum.org/exhibitgcc/index.jsp)

In 1988, the United Nations Environment Programme and the World Meteorological Organization established the Intergovernmental Panel on Climate Change (IPCC) established to assess scientific, technical and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. As the leading authority on climate change science, the IPCC draws upon hundreds of the world's expert scientists as authors and thousands as expert reviewers. According to the IPCC's Fourth Assessment Report (2007), over the past 150 years, since the industrial era, activities such as the use of fossil fuels (i.e., coal, natural gas, oil and gasoline) to power cars, factories, utilities and

appliances have substantially added to the amount of GHGs in the atmosphere. For example, carbon dioxide concentrations rose from 280 parts per million (ppm) in 1750 to over 391 ppm in 2011, and are rising at on average 1.66 ppm per year (IPCC, 2007; National Oceanic and Atmospheric Association [NOAA], 2011). The annual growth rate of carbon dioxide has also increased, averaging about 1.43 ppm per year before 1995 and 1.91 ppm per year thereafter. This increase in carbon dioxide and other GHGs - including methane, nitrous oxide, and fluorinated gases - correlates with the recent increase in global average temperature (which has risen approximately 1.4°F since the early 20th century) (IPCC, 2007; NOAA, 2009).

The principal GHGs that enter the atmosphere as a result of human activities include:

Carbon dioxide (CO_2) is released into the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle. Since the Industrial Revolution in the 1700's, human activities, such as the burning of oil, coal and gas, and deforestation, have increased CO2 concentrations in the atmosphere. In 2005, global atmospheric concentrations of CO2 were 35% higher than they were before the Industrial Revolution. CO_2 is one of the six greenhouse gases identified in the California Global Warming Solutions Act.

Methane (CH_4) is emitted from a variety of both human-related (anthropogenic) and natural sources. Human-related activities include fossil fuel production, animal husbandry (enteric fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of methane to the atmosphere. It is estimated that more than 50 percent of global methane emissions are related to human-related activities. Natural sources of methane include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. CH_4 is one of the six greenhouse gases identified in the California Global Warming Solutions Act.

Nitrous oxide (N_2O) is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. Nitrous oxide is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. Nitrous oxide emission levels from a source can vary significantly from one country or region to another, depending on many factors such as industrial and agricultural production characteristics, combustion technologies, waste management practices, and climate. N_2O is one of the six greenhouse gases identified in the California Global Warming Solutions Act.

Fluorinated gases (i.e., hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) are emitted from a variety of industrial processes including aluminum production, semiconductor manufacturing, electric power transmission, magnesium production and processing, and the production of HCFC-22. In addition, some high GWP gases are being used to replace ozone-depleting substitutes (i.e., chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and

halons) allowing the rapid phase out of these gases. These gases are typically emitted in smaller quantities but are generally very strong GHGs.

- **Hydro-Fluorocarbons (HFCS)** - These HFC chemicals were introduced as alternatives to ozone-depleting substances in many industrial, commercial, and personal products. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are powerful greenhouse gases with a GWP ranging from 140 (HFC-152a) to 12,100 (HFC-23). HFCS are one of the six greenhouse gases identified in the California Global Warming Solutions Act.

- **Per-Fluorocarbons (PFCS)** - PFCs are a group of human-made chemicals composed of carbon and fluorine only: CF4 and C2F6. These chemicals, specifically CF4 and C2F6, were introduced as alternatives to ozone-depleting substances. In addition, they are emitted as by-products of industrial processes and are also used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they are powerful greenhouse gases. CF4 has a GWP of 6,300 and C2F6 has a GWP of 12,500. PFCS are one of the six greenhouse gases identified in the California Global Warming Solutions Act.

- **Sulfur Hexafluoride (SF_6)** - SF_6 is generally emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. SF_6 is a colorless, odorless, nonflammable liquefied gas. SF_6 is typically emitted in smaller quantities, but because it is a potent greenhouse gas, it is sometimes referred to as a High Global Warming Potential gas. SF_6 is one of the six greenhouse gases identified in the California Global Warming Solutions Act.

Global Warming Potentials

Each of the GHGs listed above differs in its ability to absorb heat in the atmosphere, or in its "global warming potential." The global warming potential of the various GHGs is based upon a comparison with carbon dioxide, which is set at one. For example, methane absorbs 21 times more heat per molecule than carbon dioxide and nitrous oxide absorbs 310 times more heat per molecule than carbon dioxide. Therefore, it is common practice to report emissions in terms of carbon dioxide equivalents (CO_2e) by multiplying the amount of each GHG by its global warming potential.

Greenhouse gases with relatively long atmospheric lifetimes (e.g., CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) tend to be evenly distributed throughout the atmosphere, and consequently global average concentrations can be determined. The short-lived gases such as water vapor, carbon monoxide, tropospheric ozone, ozone precursors (e.g., NOx, and VOCs), and tropospheric aerosols (e.g., SO2 products and carbonaceous particles), however, vary regionally, and consequently it is difficult to quantify their global impacts. No GWP values are attributed to these gases that are short-lived and spatially inhomogeneous in the atmosphere.

Table 3.7-1, Global Warming Potentials and Atmospheric Lifetimes, shows the global warming potential and atmospheric lifetimes of various greenhouse gases with relatively long atmospheric lifetimes.

Table 3.7-1, Global Warming Potentials and Atmospheric Lifetimes

GAS	ATMOSPHERIC LIFETIME (YEARS)	GLOBAL WARMING POTENTIAL (100-YEAR TIME HORIZON)
Carbon Dioxide (CO_2)	50-200	1
Methane (CH_4)	12±3	21
Nitrous Oxide (N^2O)	120	310
Hydrofluorocarbons		
HFC-23	264	11,700
HFC-32	5.6	650
HFC-125	32.6	2,800
HFC-134a	14.6	1,300
HFC-143a	48.3	3,800
HFC-152a	1.5	140
HFC-227ea	36.5	2,900
HFC-236fa	209	6,300
HFC-4310mee	17.1	1,300
Perfluoromethane (CF_4)	50,000	6,500
Perfluoroethane (C_2F_6)	10,000	9,200
Perfluorobutane (C_4F_{10})	2,600	7,000
Perfluorohexane (C_6F_{14})	3,200	7,400
Sulfur Hexaflouride (SF_6)	3,200	23,900
Source: U.S. EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks, Table 1-2		

Effects of Climate Change

Greenhouse gas concentrations in the atmosphere will increase during the next century unless GHG emissions decrease substantially from present levels. Increased GHG concentrations are very likely[1] to raise the Earth's average temperature, influence precipitation and some storm patterns and raise sea levels (IPCC, 2007). The magnitude of these changes, however, is uncertain.

The amount and speed of future climate change will ultimately depend on:

- Whether GHGs and aerosol concentrations increase, stay the same or decrease.

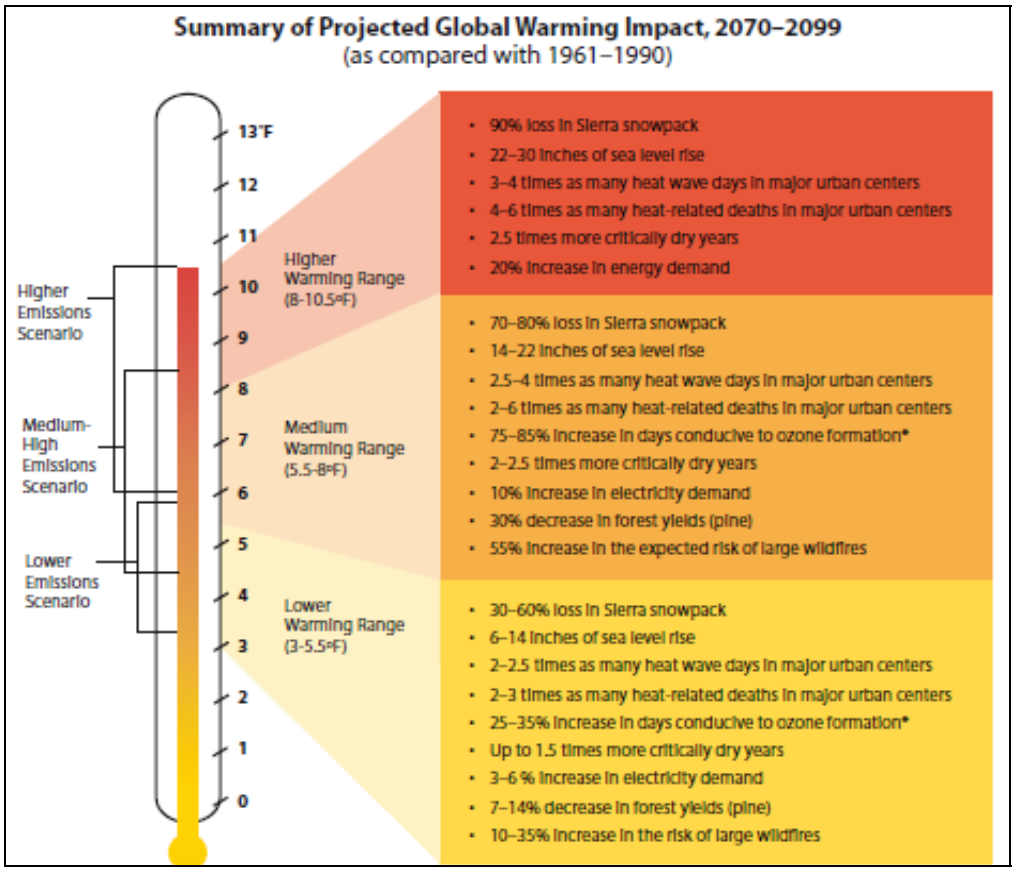
[1] The use of "very likely" conveys a 90-99% chance the result is true. Other terms used to communicate confidence include "extremely likely" (greater than 95% chance the result is true); "likely" (greater than 66% chance the result is true). These judgmental estimates originate from the Intergovernmental Panel on Climate Change (IPCC, 2007).

- How strongly features of the climate (e.g. temperature, precipitation and sea level) respond to changes in GHG concentrations.
- How much the climate varies as a result of natural influences (e.g. from volcanic activity and changes in the sun's intensity) and its internal variability (referring to random changes in the circulation of the atmosphere and oceans).

Nonetheless, a diverse set of scenarios can offer insight into the range of possible future atmosphere conditions. Long-term scenarios (through 2100) developed by the IPCC indicate that the carbon dioxide concentration will continue to rise, likely reaching between two and three times its early-20th-century level of 300 ppm by 2100 (535 to 983 ppm), depending on the level and timeliness of preventative actions taken around the world. In addition, the IPCC estimates that the average surface temperature of the Earth is likely to increase by 2 to 11.5°F by the end of the 21st century, relative to 1980-1990, with a best estimate of 3.2 to 7.2°F. The average rate of warming over each inhabited continent is very likely to be at least twice as large as that experienced during the 20th century, which would have significant consequences worldwide that will vary in nature and severity depending on location (IPCC, 2007).

To determine potential future impacts of climate change on California, advanced climate modeling was performed for the California Energy Commission under three different scenarios: a low emissions scenario that assumes aggressive action is taken to reduce GHG emissions, a medium emissions scenario assuming a moderate level of GHG reductions, and a high emissions scenario that assumes little action is taken to reduce emissions. The scenarios and associated impacts are summarized in **Figure 3.7-2, Summary of Projected Global Warming Impact**, and described in the paragraphs that follow.

Figure 3.7-2, Summary of Projected Global Warming Impact



Source: CEC 2006a

Higher Temperature

The average temperature in California has increased by approximately 1.5°F over the past century (California Climate Action Team [CAT] 2010). As the atmospheric concentration of GHGs increases, California's average annual temperature is projected to rise by 1 to 2°F in the next few decades and by as much as 10°F by the end of the century. In addition, extreme heat events are also projected to increase in frequency, magnitude and duration from the historical period (CAT 2010). Historically, heat waves in California have mostly occurred in July and August, but these events are predicted to appear earlier in the season and continue through the fall. As a result, California could face a corresponding rise in illness and death from extreme heat.

Precipitation

Most of California, including Lake Elsinore, is characterized by a Mediterranean precipitation pattern, with most of the annual precipitation falling in the cooler parts of the year between November and March. Current projections indicate that California is likely to retain this typical seasonal pattern of relatively cool, wet winters and hot, dry summers (California Natural Resources Agency [CRNA], 2009). The model-driven climate simulations, however, predict a high degree of variability from year to year in annual precipitation with increased vulnerability to drought by the mid-21st century (CNRA, 2009). If precipitation levels remain unchanged over the 21st century, the potential of higher temperatures would increase evaporative water loss, producing overall drier conditions, as well as increased drought conditions. Additional reductions in precipitation would exacerbate the challenges associated with increased evaporative water loss.

Water Supply

During the winter, snow accumulates in a deep pack high in the Sierra Nevada mountain range. If winter temperatures are warmer, more precipitation will fall as rain, decreasing the size of the snowpack. The result would likely be reductions in spring runoff from a smaller snowpack, which would reduce the amount of water available. According to the California Climate Change Center (May 2009), evidence of this impact already exists. Throughout the 20th century, annual April to July spring runoff in the Sierra Nevada range has been decreasing, with water runoff declining by about ten percent over the last 100 years. The Sierra snowpack accounts for approximately 60% of the water supply for Southern California. Reductions in and early melting of the snowpack would aggravate the state's already overstretched water resources and cause increased flooding. Sierra snowpack could potentially be reduced by as much as 25 to 40% by 2050 (California Climate Change Center, March 2009).

Sea Level Rise

According to the California Climate Change Center (March 2009), the sea level along California's coasts has risen nearly 8 inches in the past century. In addition, the total sea level rise and rate of rise in future decades are expected to increase substantially. By 2050, sea levels could rise 16 inches higher than 2000 levels, and by 2100, 3.3 to 4.75 feet higher. A 4.6 foot sea level rise could put 480,000 people at risk of flooding by 2100 and threaten $100 billion in property and infrastructure, including roadways, buildings, hazardous waste sites, power plants and other facilities.

As sea levels rise, erosion along California's coastlines and saltwater intrusion into the State's delta and levee systems will increase. Saltwater contamination of the Sacramento/San Joaquin Delta will threaten wildlife and the source of drinking water for 20 million Californians. In addition, coastal erosion could lead to a loss of more than half a million beach visits annually by 2100 and have a significant impact on California's ocean-dependent economy, which is estimated to be $46 billion per year.

Air Quality

Higher temperatures are conducive to an increase in air pollution as more fuel evaporates, engines work harder, and demands for electric power increase. Higher temperatures, strong sunlight and a stable air mass are ideal conditions for ground-level ozone formation, the most health-damaging component of smog. Climate model projections of future temperature rise combined with the historical ozone trends indicate that the number of days with high ozone conditions will markedly increase.

If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. Today's fire season in the western United States already lasts for 78 days, 64% longer that it did during the 1970s and 1980s. Large wildfires that were once a week in duration are now much more frequent and burn for up to five weeks. The frequency and size of forest fires is likely to increase, perhaps several fold, by the end of the century. 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 (CAT, 2010).

Agriculture and Food Supply

California has a $30 billion agricultural industry that produces half of the country's fruits and vegetables. Higher carbon dioxide 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, thereby affecting their quality (CAT, 2006).

Ecosystems and Biodiversity

Climate change will adversely affect plant and wildlife habitats and the ability of the state's varied ecosystems to support clean water supplies, wildlife, fish, timber, and other goods and services important for human well-being. These impacts are already occurring: the lower edge forests in the Sierra Nevada have been retreating upslope over the past 60 years; in Yosemite National Park, small mammals are now found at different elevations compared to earlier in the century; and butterflies in the Central Valley have been arriving earlier in the spring over the past four decades (CAT, 2010). Habitat modification and destruction also impacts ecosystem processes, such as carbon cycling and storage.

WORLDWIDE, NATIONAL AND STATEWIDE GHG EMISSIONS

Table 3.7-2, Worldwide, National and Statewide GHG Emissions, presents estimated GHG emissions from California, the United States, and from worldwide sources. The results are presented in units of million metric tons per year of CO_2 equivalents (MMTCO2Eq).

Table 3.7-2, Worldwide, National and Statewide GHG Emissions ($MMTCO_2Eq$)

GEOGRAPHIC REGION	CO_2	CH_4	N_2O	HFCS	PCFS	SF_6
Worldwide GHG Emissions for Calendar Year 2005[1]	27,568.6	6,407.5	3,285.6	380.6	107.9	59.5
United States GHG Emissions for Calendar Year 2009[2]	5,505.2	686.3	295.6	125.7	5.6	14.8
California GHG Emissions for Calendar Year 2004[3]	355.9	27.9	33.3	14.2		

$MMTCO_2Eq$ means million metric tons per year of CO_2 equivalent, using Global Warming Potential (GWP) values provided by IPCC in its Fourth Assessment Report (TAR) as shown in **Table 3.7-1**.

[1] Worldwide GHG emissions taken from Climate Analysis Indicators Tool (CAIT) version 8.0. Washington, DC: World Resources Institute, 2010. Available at http://cait.wri.org/.

[2] United States GHG emissions taken from United States Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2009*, Table ES-2.

[3] California GHG emissions taken from *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004*, Table 6.

California Emissions of Greenhouse Gases

In 2002, California was estimated to be the 16th largest emitter of CO_2 and was responsible for approximately 2 percent of the world's CO_2 emissions. The California Energy Commission's Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 estimated that California was the second largest emitter of GHG emissions of the United States behind Texas. (CEC 2006b)

In 2004 California produced 492 million metric tons of CO2-equivalent GHG emissions, including emissions associated with imported electricity. Of this total, 81 percent were emissions of CO_2 from fossil fuel combustion, 2.8 percent were from other sources of CO_2, 5.7 percent were from methane, and 6.8 percent were from nitrous oxide. The remaining source of GHG emissions was high GWP gases, 2.9 percent. (CEC 2006b)

CITY OF LAKE ELSINORE GHG EMISSIONS

Community-Wide GHG Emissions Inventory

In 2008, the community of Lake Elsinore emitted 506,727 metric tons (MT) CO_2e from the energy (residential, commercial, and industrial uses), transportation, solid waste, and recreation

sectors. This equates to 8.5 MT CO_2e per resident or employee in the City's service population[2]. The transportation sector was the largest emitter of GHG emissions, producing 60.6% of the total community-wide emissions. Transportation-related emissions include emissions from gasoline and diesel vehicles traveling on local and state roads and highways. Gasoline vehicles accounted for 94.4% of transportation-related emissions, and diesel vehicles constituted the remaining 5.6% of emissions.

The energy sector (residential, commercial, and industrial uses) generated 32.4% of the total community-wide emissions. Energy-related emissions include emissions from the combustion of fossil fuels to produce electricity and natural gas consumed within Lake Elsinore. These emissions are primarily attributed to energy consumption that occurs in residential, commercial, and industrial buildings. Residential uses accounted for 53.1% of the energy sector emissions; commercial uses accounted for 41.7% of the energy sector emissions; and industrial uses accounted for 5.3% of the energy sector emissions.

The solid waste sector contributed to 4.3% of the total community-wide emissions. This includes GHG emissions from organic waste sent to landfills. The recreation sector accounted for the remaining 2.7% of the total community-wide emissions. Emissions in this sector are attributed to fuel consumption from boats on Lake Elsinore. **Table 3.7-3, Community-Wide Emissions by Sector (2008)**, shows community-wide GHG emissions from all major sectors and the percentage each contributed to the total community-wide emissions in 2008.

Table 3.7-3, Community-Wide Emissions by Sector (2008)

SECTOR	MT CO_2E	PERCENTAGE OF TOTAL
Energy	**164,311**	**32.4%**
Residential	87,196	17.2%
Commercial	68,461	13.5%
Industrial	8,654	1.7%
Transportation	**306,955**	**60.6%**
Local Roads	85,871	16.9%
State Highways	221,084	43.6%
Solid Waste	**21,622**	**4.3%**
Recreation	**13,839**	**2.7%**
TOTAL	**506,727**	**100.0%**
Emissions per Service Population	**8.5**	**100.0%**
Source: Appendix G (City of Lake Elsinore Climate Action Plan, Table 3-2).		

[2] In 2008, the City of Lake Elsinore's service population was 59,815, with 49,528 residents (California Department of Finance, 2010) and 10,287 jobs (Southern California Association of Governments, May 2009).

Municipal Operations

In 2008, Lake Elsinore's municipal operations generated 4,324 MT CO_2e. This constitutes 0.9% of Lake Elsinore's total emissions. The majority of the City's municipal emissions are related to energy use for City-operated buildings and facilities, which represent 83.9% of the total emissions (refer to **Table 3.7-4, Municipal Emissions by Sector (2008)**, for municipal emissions by sector).

Table 3.7-4, Municipal Emissions by Sector (2008)

SECTOR	MT CO_2E	PERCENTAGE OF TOTAL
Buildings and Facilities	**3,627**	**83.9%**
Buildings and Other Facilities	2,340	54.1%
Parks, Recreation, Landscape, Irrigation	803	18.6%
Streetlights, Safety lights	484	11.2%
Transportation	**697**	**16.1%**
Vehicle Fleet	349	8.1%
Employee Commute	348	8.0%
TOTAL	**4,324**	**100.0%**
Source: Appendix G (City of Lake Elsinore Climate Action Plan, Table 3-3).		

3.7.3 REGULATORY SETTING

FEDERAL

Supreme Court Ruling

The USEPA is the Federal agency responsible for implementing the Clean Air Act. The United States Supreme Court ruled in its decision in *Massachusetts et al. v. Environmental Protection Agency et al*. ([2007] 549 U.S. 05-1120), issued on April 2, 2007, that carbon dioxide is an air pollutant as defined under the Clean Air Act and that the EPA has the authority to regulate emissions of GHGs as pollutants. To date, the EPA has not developed a regulatory program for GHG emissions.

Energy Independence and Security Act

The Energy Independence and Security Act of 2007 includes several key provisions that will increase energy efficiency and the availability of renewable energy, which will reduce GHG emissions as a result. First, the Act sets a Renewable Fuel Standard that requires fuel producers to use at least 36 billion gallons of biofuel by 2022. Second, it increased Corporate Average Fuel Economy (CAFE) Standards to require a minimum average fuel economy of 35 miles per gallon

for the combined fleet of cars and light trucks by 2020. Third, the adopted bill includes a variety of new standards for lighting and for residential and commercial appliance equipment. The equipment includes residential refrigerators, freezers, refrigerator-freezers, metal halide lamps, and commercial walk-in coolers and freezers.

STATE

Executive Order S-3-05

Executive Order S-3-05, issued in 2005, was the first comprehensive state policy to address climate change. It established ambitious GHG reduction targets for the state: reduce GHG emissions to 2000 levels by 2010, to 1990 levels by 2020 and to 80% below 1990 levels by 2050. These targets reflect the worldwide emission reduction trajectory identified by the IPCC as being necessary to avert dangerous climate change (IPCC, 2007).

This Executive Order is binding only for state agencies and has no force of law for local governments. However, S-3-05 is important for two reasons. First, it obligated state agencies to implement GHG emission reduction strategies. Second, the signing of the Order sent a clear signal to the Legislature about the framework and content for legislation to reduce GHG emissions as a necessary step toward climate stabilization.

Assembly Bill 32 (California Global Warming Solutions Act of 2006)

AB 32 codified the State's 2020 GHG emissions target by directing the California Air Resources Board (CARB) to reduce California's statewide emissions to 1990 levels by 2020. In December 2007, CARB identified the 2020 target (equal to statewide emissions in 1990) of 426.6 million metric tons of carbon dioxide equivalent (MMT CO_2E) gases.

In addition to identifying the 2020 target, AB 32 also required CARB to develop a policy plan for reaching the 2020 emissions target and to adopt and enforce regulations to implement the plan. The resulting AB 32 *Climate Change Scoping Plan* (herein referred to as "Scoping Plan") was adopted by CARB in December 2008. Key elements of the plan for achieving the 2020 target include:

- Adopting and implementing measures pursuant to existing state laws and policies, including California's goods movement measures and the Low Carbon Fuel Standard;
- Expanding energy efficiency programs and green building practices;
- Reducing methane emissions at landfills;
- Developing a California cap-and-trade program;
- Establishing and seeking to achieve reduction targets for transportation-related GHG emissions;
- Increasing waste diversion, composting, and commercial recycling toward zero-waste;
- Strengthening water efficiency programs; and

- Preserving forests that sequester carbon dioxide.

Although the Scoping Plan does not identify specific reductions for local governments, it identifies overall reductions from local government operations and land use decisions as a strategy to meet the 2020 target. The Scoping Plan states that land use planning and urban growth decisions will play an important role in the state's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions. It further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. However, AB 32 stopped short of setting mandatory targets for local government compliance. It encourages local governments to adopt a reduction target for municipal and community-wide emissions that parallels the AB 32 goal. Given that identifying 1990 emissions levels can be difficult for some local governments, a reduction of approximately 15% below 2005 levels is given as a rough equivalency where a local government has grown roughly at the same rate as the State (1% per year).

Senate Bill 1078, Senate Bill 107, and Senate Bill 2X (Renewables Portfolio Standard)

Established in 2002 under SB 1078, and accelerated in 2006 under SB 107, California's Renewables Portfolio Standard (RPS) required investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources by at least 1% of their retail sales annually, until they achieved 20% by 2010. SB 2X raises the target from the current 20%, requiring private and public utilities to obtain 33% of their electricity from renewable energy sources by 2020. Increased use of renewable energy sources will decrease California's reliance on fossil fuels, reducing emissions of GHGs from the energy sector.

Assembly Bill 1493 (Pavley Regulations)

AB 1493 (referred to as Pavley I) required CARB to develop and adopt standards for vehicle manufacturers to reduce GHG emissions coming from passenger vehicles and light-duty trucks at a "maximum feasible and cost effective reduction" by January 1, 2005. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" will cover 2017 to 2025. Fleet average emission standards would reach 22% reduction by 2012 and 30% by 2016.

Executive Order S-1-07 (Low Carbon Fuel Standard)

This 2007 order will require fuel providers (e.g., producers, importers, refiners, and blenders) to ensure that the mix of fuels they sell in California meets the statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10% by the 2020 target.

Senate Bill 1368

SB 1368 (2006) directs the California Energy Commission and the California Public Utilities Commission to adopt a performance standard for GHG emissions for the future electricity used in California, regardless of whether it is generated in-state or purchased from other states.

California Green Building Code

The California Green Building Code (2008) referred to as "CalGreen," is the first statewide green building code. It was developed to provide a consistent, approach for green building within California. Taking effect January 2011, it lays out minimum requirements for newly constructed buildings in California, which will reduce GHG emissions through improved efficiency and process improvements. It requires builders to install plumbing that cuts indoor water use by as much as 20%, to divert 50% of construction waste from landfills to recycling, and to use low-pollutant paints, carpets, and floors.

Senate Bill 1 (Million Solar Roofs)

SB 1 (2006) sets a goal to install 3,000 megawatts of new solar capacity by 2017 - moving the state toward a cleaner energy future and helping lower the cost of solar systems for consumers. The Million Solar Roofs Program is a ratepayer-financed incentive program aimed at transforming the market for rooftop solar systems by driving down costs over time. It provides up to $3.3 billion in financial incentives that decline over time.

Assembly Bill 811

AB 811 (2008) authorizes California cities and counties to designate districts within which willing property owners may enter into contractual assessments to finance the installation of renewable energy generation and energy efficiency improvements that are permanently fixed to the property. These financing arrangements would allow property owners to finance renewable energy generation and energy efficiency improvements through low-interest loans that would be repaid as an item on the property owner's property tax bill.

Senate Bill 375

SB 375, signed in 2008, supports implementation of AB 32 by aligning regional transportation planning efforts with land use and housing allocations in order to reduce transportation-related GHG emissions. Specifically, SB 375 directed CARB to set regional GHG emissions targets for passenger vehicles and light trucks for the years 2020 and 2035 for each Metropolitan Planning Organization (MPO) region, which were adopted in February 2011. For the Southern California Association of Governments (SCAG), the City of Lake Elsinore's MPO, CARB issued an 8% per capita reduction target from 2005 levels by 2020 and a 13% per capita reduction target from 2005 levels by 2035. These targets apply to the SCAG region as a whole, and not to individual cities or subregions. Furthermore, SB 375 requires each MPO to prepare a "sustainable communities strategy (SCS)" that demonstrates how the region will meet its GHG reduction target through integrated land use, housing and transportation planning. If the combination of measures in the

SCS will not meet the region's target, the MPO must prepare a separate "alternative planning strategy (APS)" to meet the target.

Senate Bill 97

SB 97 (2007) acknowledges that climate change is a prominent environmental issue that requires analysis under the California Environmental Quality Act (CEQA). SB 97 directed the Governor's Office of Planning and Research to develop CEQA-required guidelines for the mitigation of GHG emissions or the effects of GHG emissions, which were adopted on December 30, 2009.

Executive Order S-13-08

Executive Order S-13-08, signed on November 14, 2008, directs California to develop methods for adapting to climate change impacts through preparation of a statewide plan. In response to this order, the California Natural Resources Agency developed the California Climate Adaptation Strategy, which was adopted in September 2009. This document summarizes the best known science on climate change impacts in seven specific sectors and provides recommendations on how to manage against those threats.

LOCAL

Southern California Association of Governments

The City of Lake Elsinore is part of the Southern California Association of Governments (SCAG). SCAG undertakes planning and policy initiatives that affect the greater Southern California region with the goal of encouraging a more sustainable Southern California. In 2004, SCAG adopted its *Compass Blueprint Growth Vision Report* to encourage sustainable development that reduces GHG emissions. The Compass Blueprint is a preferred vision for growth for the region; it has been incorporated into immediate housing allocation and transportation planning decisions. It provides a framework to help SCAG jurisdictions address growth management cooperatively and coordinate regional land use and transportation planning.

SCAG's 2008 *Regional Comprehensive Plan* is an advisory document to local agencies that builds on the Compass Blueprint's vision and addresses important regional issues such as housing, traffic/transportation, water, air quality, and energy throughout the six-county area. The Regional Comprehensive Plan includes goals, outcomes, and policies that address regional compliance with AB 32, as well as other state and federal regulations, including green building standards, regional fossil fuel consumption, and other CARB measures discussed above.

South Coast Air Quality Management District

Lake Elsinore is also located within the South Coast Air Basin. The South Coast Air Quality Management District (SCAQMD) is the agency principally responsible for comprehensive air pollution control in the Basin. In 2008, SCAQMD released its *Draft Greenhouse Gas Guidance Document* to provide emissions analysis guidance to local jurisdictions within the Basin. This document proposes a tiered approach, whereby the level of detail and refinement needed to

determine significance increases with a project's total GHG emissions. The tiered approach defines projects that are exempt from conducting GHG analyses under CEQA and projects that are within a GHG emissions reduction plan, or climate action plan, as less than significant. In September 2010, SCAQMD staff proposed to change the Tier 4 performance standards for plan-level projects, recommending the use of a 6.6 MT CO_2E/SP target for 2020, as well as a year 2035 target of 4.1 MT CO_2E/SP.

The SCAQMD recently adopted Rule 2702, which creates a voluntary GHG reduction program within the District. Through this rule, the District will fund projects through contracts in response to requests for proposals or purchase reductions from other parties. Reductions obtained by the program may be purchased by persons for a variety of uses.

City of Lake Elsinore Climate Action Plan

The Climate Action Plan (CAP) is the City of Lake Elsinore's long-range plan to reduce local greenhouse gas emissions that contribute to climate change. The CAP will identify the activities in Lake Elsinore that generate greenhouse gas emissions, will quantify these emissions, and project their future trends. It will also describe local greenhouse gas emissions targets for the years 2020 and 2030, consistent with the State of California's emissions reduction targets, as well as strategies and measures to meet these targets.

Implementation of the CAP will guide Lake Elsinore's actions to reduce its contribution to climate change and will support the State of California's emissions reduction targets. The CAP is also intended to support tiering and streamlining of future projects within Lake Elsinore pursuant to CEQA Guidelines Sections 15152 and 15183.5.

The City of Lake Elsinore Climate Action Plan, which is summarized within this section of the PEIR and is incorporated herein by reference. The Climate Action Plan is attached as Appendix G of this PEIR.

3.7.4 General Plan Update Goals & Policies

The City of Lake Elsinore General Plan Update addresses Greenhouse Gas Emissions in Chapter 4.0 (Resource Protection and Preservation. The goals, policies and implementation programs listed in **Table 3.7-5, General Plan Greenhouse Gas Emissions Goals, Policies and Implementation Programs**, apply to this issue. There are no special greenhouse gas emissions policies in any of the District Plans.

Table 3.7-5, General Plan Greenhouse Gas Emissions Goals, Policies and Implementation Programs

GENERAL PLAN GOALS, POLICIES AND IMPLEMENTATION PROGRAMS
Chapter 4.0 - Resource Protection and Preservation (Section 4.9 – Sustainable Environment)
Goal 14 Reduce greenhouse gas emissions from all activities within the City boundaries to support the State's efforts under AB-32 and to mitigate the impact of climate change on the City, State and world.
Policy 14.1 By 2020, the City will reduce greenhouse gas emissions from within its boundaries to 1990 levels consistent with AB 32.
Policy 14.2 Measures shall be established that aim to reduce emissions generated from City uses, community uses (community actions) and new development (City discretionary actions).
Policy 14.3 The City shall strive to increase public awareness of climate change and climate protection challenges.
Policy 14.4 The City will participate in the Sustainable Communities Strategy/Regional Blueprint Planning effort to ensure that local plans are consistent with the Regional Plan.
Implementation Program The City shall prepare, adopt and implement a Climate Action Plan that provides a baseline greenhouse gas emissions inventory for municipal facilities and operations and community-wide activities, analyzes the cost and benefits of methodologies for reduction, and establishes measures to meet State-wide reduction goals.

The proposed project includes the City's Climate Action Plan. The Climate Action Plan includes strategies and measures that the City of Lake Elsinore will implement to achieve its GHG emissions targets over the next two decades. As described in the Climate Action Plan, the strategies and measures were selected to build on the policy direction set forth by the proposed General Plan, capitalize on existing emission reduction opportunities within the community, and maintain consistency with the AB 32 Scoping Plan. They were developed taking into consideration existing community conditions, planned City capital improvements, policies and strategies of neighboring jurisdictions and regional agencies, regional and statewide best practices, costs and future savings, City staff input, public comments, and other information provided by residents and stakeholders during the public outreach process. These Strategies and Measures are listed in **Table 3.7-6, Climate Action Plan Strategies and Measures**, and described in more detail in Chapter 5.0 of the Climate Action Plan, which is located in Appendix G of this PEIR.

Table 3.7-6, Climate Action Plan Strategies and Measures

CLIMATE ACTION PLAN'S STRATEGIES AND MEASURES
Strategy T-1: Increase bicycle, pedestrian and public transit travel
Measure T-1.1: Safe Routes to School. Continue to pursue and utilize grant funding when needed to construct safe pedestrian and bicycle routes within a two mile radius of schools where applicable.
Measure T-1.2: Pedestrian Infrastructure. Through the development review process, require the installation of sidewalks along new and reconstructed streets. Also require new subdivisions and large developments to provide sidewalks or paths to internally link all uses where applicable and provide connections to neighborhood activity centers, major destinations, and transit facilities contiguous with the project site; implement through conditions of approval.
Measure T-1.3: Street and Sidewalk Maintenance and Improvements. Continue, through the Pavement Management and Curb, Gutter, and Sidewalk Repair programs, to preserve the pedestrian and bicycle circulation system by annually identifying and scheduling street and sidewalk improvement and maintenance projects.
Measure T-1.4: Bicycle Infrastructure. Through the development review process, require new development, as applicable, to implement and connect to the network of Class I, II and III bikeways, trails and safety features identified in the General Plan, Bike Lane Master Plan, Trails Master Plan and Western Riverside County Non-Motorized Transportation plan; implement through conditions of approval. The City will also continue to pursue and utilize funding when needed to implement portions of these plans.
Measure T-1.5: Bicycle Parking Standards. Through the development review process, enforce the following short-term and long-term bicycle parking standards for new non-residential development (consistent with 2010 California Green Building Code [CalGreen], Section 5.106.4), and implement through conditions of approval.
Measure T-1.6: Public Transit Incentives. Coordinate with the Riverside Transit Agency to implement regional transit strategies in Lake Elsinore, expand transit routes, and provide public transit incentives to residents and employees, such as free or reduced-cost monthly transit passes.
Strategy T-2: Manage vehicle parking
Measure T-2.1: Designated Parking for Fuel-Efficient Vehicles. Amend the Municipal Code to require that new non-residential development designate 10% of total parking spaces for any combination of low-emitting, fuel-efficient and carpool/vanpool vehicles (consistent with CalGreen Tier 1, Sections A5.106.5.1 and A5.106.5.3), and implement through conditions of approval. Parking stalls shall be marked "Clean Air Vehicle."
Strategy T-3: Increase in efficiency of land use patterns
Measure T-3.1: Mixed-Use, High Density, Infill and Transit Oriented Development. As part of the General Plan Update process, revise the Land Use Map and Municipal Code to allow for and/or increase the amount of mixed-use, high density, infill and transit oriented development. Mixed-use projects should be targeted in the Historic and Ballpark Districts, as well as other areas where services are within walking distance. High density projects should be located in urbanized areas adjacent to services and transportation. Update the Municipal Code for consistency between zoning regulations and General Plan land use designations.

CLIMATE ACTION PLAN'S STRATEGIES AND MEASURES
Measure T-3.2: Mixed-Use, Infill, and Transit Oriented Development Incentives. Identify and provide incentives to promote mixed-use, infill and transit oriented development, such as: a streamlined permitting process, less restrictive parking requirements, less restrictive height limits, lower permit fees and/or reduced impact fees.
Measure T-3.3: Density Bonus Incentive. Amend the Municipal Code to allow for a Density Bonus Incentive for a residential project that is located within 1,500 feet of a regular bus stop or rapid transit system stop; is located within a quarter mile from a public park or community center; or is located within a half mile from school grounds/facilities open to the general public, a full-service grocery store, hospital, medical clinic, or pharmacy.
Measure T-3.4: Neighborhood Commercial Centers. Identify potential neighborhood commercial center sites and rezone identified areas to Neighborhood Commercial as part of the General Plan Update.
Strategy T-4: Reduce trips
Measure T-4.1: Commute Trip Reduction Program. Amend the Municipal Code to institute a commute trip reduction program for employers with fewer than 100 employees (below the requirements of the existing Transportation Demand Management Program). Provide information, training, and incentives to encourage participation.
Strategy T-5: Increase the use of low- and zero-emissions vehicles
Measure T-5.1: Hybrid and Fuel-Efficient Vehicle Incentives. Facilitate the voluntary replacement of inefficient vehicles with hybrids, plug-in electric, and other low- and zero-emissions vehicles by connecting residents and businesses with technical and financial assistance through the City's website.
Measure T-5.2: Municipal Fleet Vehicle Purchasing Policy. Develop and adopt a low- and zero-emissions replacement/purchasing policy for new and replaced official City vehicles and equipment.
Strategy E-1: Reduce energy demand of new construction
Measure E-1.1: Tree Planting Requirements. Through the development review process, require new development to plant at minimum one 15-gallon non-deciduous, umbrella-form tree per 30 linear feet of boundary length near buildings, per the Municipal Code. Trees shall be planted in strategic locations around buildings or to shade pavement in parking lots and streets.
Measure E-1.2: Cool Roof Requirements. Amend the City Municipal Code to require new non-residential development to use roofing materials having solar reflectance, thermal emittance or Solar Reflectance Index (SRI)3 consistent with CalGreen Tier 1 values (Table A5.106.11.2.1), and implement through conditions of approval.
Measure E-1.3: Energy Efficient Building Standards. Adopt an ordinance requiring that all new construction exceed the California Energy Code requirements, based on the 2008 Energy Efficiency Standards by 15% (consistent with CalGreen Tier 1), through either the performance based or prescriptive approach described in the California Green Building Code; implement through conditions of approval. Alternately, a solar photovoltaic system and/or solar water heating may be used to assist in meeting all or a portion of the 15% requirement.
Strategy E-2: Increase energy efficiency of existing buildings

CLIMATE ACTION PLAN'S STRATEGIES AND MEASURES
Measure E-2.1: Energy Efficiency Upgrades and Retrofits. Facilitate voluntary energy efficiency upgrades and retrofits in existing residential, commercial and industrial buildings by connecting residents and businesses with technical and financial assistance through the City website.
Measure E-2.2: Green Business Certification Program. Establish and administer a voluntary Green Business Certification Program to recognize businesses that voluntarily develop and implement energy conservation programs, including energy efficiency improvements, energy-efficient heating and cooling systems, and co-generation systems (e.g., solar energy arrays).
Measure E-2.3: Compact Fluorescent Light Bulb (CFL) Distribution Program. Partner with Southern California Edison or a local business to sponsor a CFL distribution program; distribute at least 4,000 CFLs.
Strategy E-3: Increase energy efficiency of municipal buildings and facilities by 15% by 2020 and 20% by 2030
Measure E-3.1: City HVACs. Upgrade the HVAC systems at City facilities to reduce overall energy use.
Measure E-3.2: Energy Efficient Street and Traffic Signal Lights. Work with Southern California Edison to replace existing high pressure sodium street lights and traffic lights with high efficiency alternatives, such as Low Emitting Diode (LED) lights. Replace existing City owned traffic lights with LED lights. Require any new street and traffic lights to be LED and implement through conditions of approval.
Measure E-3.3: Street Light Automatic Daylighting Control Devices. Work with Southern California Edison to install astronomical time-switch controls on street lights that automatically turns off the outdoor lighting when daylight is available.
Measure: E-3.4: Energy Efficient Lights, Ballasts, and Occupancy Sensors at City Facilities. Install energy efficient lights, ballasts and occupancy sensors at all City facilities.
Measure E-3.5: Municipal Energy Efficiency Upgrades and Purchasing Standards. Develop and adopt a replacement/purchasing policy for City equipment and appliances (i.e., lights, computers, low-flow toilets and faucets, etc.).
Strategy E-4: Decrease water consumption
Measure E-4.1: Landscaping Ordinance. Through the development review process, enforce the City's Assembly Bill 1881 Landscaping Ordinance; implement through conditions of approval.
Measure E-4.2: Indoor Water Conservation Requirements. Amend the City's Uniform Building Code to require development projects to reduce indoor water consumption by 30% (consistent with CalGreen Tier 1, Section A5.303.2.3.1), and implement through conditions of approval.
Strategy E-5: Increase renewable energy opportunities
Measure E-5.1: Renewable Energy Incentives. Facilitate the voluntary installation of small-scale renewable energy systems, such as solar photovoltaic (PV) and solar hot water systems, by connecting residents and businesses with technical and financial assistance through the City website. The City will also revise the permit processes and fees as appropriate to remove barriers to and incentivize the installation of renewable energy systems, in accordance with applicable safety and environmental

CLIMATE ACTION PLAN'S STRATEGIES AND MEASURES
standards.
Strategy S-1: Increase solid waste diversion
Measure S-1.1: Commercial Recycling. Renegotiate the contract with the waste provider to require curbside recycling for all commercial land uses to divert 65% of commercial solid waste by 2020 and 75% of commercial solid waste by 2030.
Measure S-1.2: Tiered Solid Waste Rate Structure. Renegotiate the contract with the waste provider to implement a tiered rate structure for residential waste; divert 65% of residential solid waste by 2020 and 75% of residential solid waste by 2030.
Measure S-1.3: Recycling Receptacles at City Buildings and Facilities. Provide recycling containers at all City buildings and facilities and to all employees; divert 65% of municipal solid waste by 2020 and 75% of municipal solid waste by 2030.
Measure S-1.4: Construction and Demolition Waste Diversion. Amend the Municipal Code to require development projects to divert, recycle or salvage at least 65% of nonhazardous construction and demolition debris generated at the site by 2020 (consistent with CalGreen Tier 1, Section A5.408.3.1). Require all construction and demolition projects to be accompanied by a waste management plan for the project and a copy of the completed waste management report shall be provided upon completion.
Measure S-1.5: Green Waste Program. Renegotiate the contract with the waste provider to provide green waste bins that split off the green waste from the trash stream.
Strategy S-2: Decrease solid waste generated
Measure S-2.1: Municipal Purchasing Policy. Develop and adopt an Environmentally Preferable Purchasing policy for municipal operations.
Strategy EO-1: Expand Community Education and Outreach
Measure EO-1.1: Green Page on City's Website. Create and regularly maintain a "green" page on the City's website to provide educational materials, and information of incentive programs and rebates.
Measure EO-1.2: Quarterly Mailer with Specific Emissions Reduction Information. Create a quarterly mailer to send to residents and business providing educational information, information about what the City is doing to reduce emissions, ways for the public and businesses to reduce emissions, and incentive and rebate programs. Each quarterly mailer will cover a different topic. Topics include Energy Efficiency and Conservation, Alternative Energy, Transportation, Solid Waste Reduction and Recycling, Water Conservation, Mixed-Use and Transit Oriented Development, and Green Building. A portion of each mailer can be used to recognize and publicize actions that local businesses have taken and new developments that implement CAP actions for the particular topic.
Measure EO-1.3: Themed Outreach. Promote different methods for reducing GHG emissions throughout the year. Themes should be integrated into one event each year, as well as the City website, quarterly mailers, informational kiosks, and displays at City facilities. Example themes include: energy efficiency (e.g., partner with local contractors to hold workshops and demonstrations about home and office weatherization techniques and other ways that reduce energy consumption within a home or office) and alternative transportation (e.g., create a cycling and walking commute campaign, or hold

CLIMATE ACTION PLAN'S STRATEGIES AND MEASURES
cycling and walking events and activities, particularly on trails and cycling routes).
Measure EO-1.4: Multi-Modal Transportation Access Guide. Produce a Multi-Modal Transportation Access Guide, which concisely describes and provides maps on how to reach a major destination in Lake Elsinore by foot, bicycle, transit, rideshare, etc. This information can be provided online, at City buildings, and major destinations in Lake Elsinore.

3.7.5 SIGNIFICANCE THRESHOLDS

The City of Lake Elsinore has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. However, Appendix G of the State CEQA Guidelines indicates that impacts related to greenhouse gas emissions may be considered potentially significant if the project would:

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

CRITERIA FOR DETERMINING SIGNIFICANCE

Section 15064.4(b) of the State CEQA Guidelines which sets forth provisions that need to be considered in determining the significance of Greenhouse Gas Emissions impacts states that:

> (b) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:
>
> > (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
> >
> > (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
> >
> > (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

However, SCAQMD does not currently have an adopted threshold of significance for GHG emissions. In the absence of adopted SCAQMD greenhouse gas emission thresholds of significance, the establishment of a threshold to determine the significance of GHG emissions

from the proposed project is based upon GHG reduction targets set forth in the proposed Climate Action Plan.

On June 2, 2010, the Bay Area Air Quality Management District ("BAAQMD") became the first regulatory agency in the nation to approve guidelines that establish thresholds of significance for greenhouse gas ("GHG") emissions from proposed development projects. BAAQMD adopted a threshold of 6.6 MT CO_2e/SP (6.6 metric tons of CO_2 equivalent (CO2e) per service population, i.e., residents plus employees) per year in 2020 which is applicable statewide and has received praise from the California Attorney General's Office (BAAQMD, California Office of the Attorney General, December 2009). It is specifically intended for use in evaluating the significance of GHG emissions from General Plans and their consistency with AB 32 (BAAQMD). In addition, the South Coast Air Quality Management District (SCAQMD), in which Lake Elsinore is included, recommends the use of, and is proposing to adopt, the 6.6 MT CO_2e/SP target for 2020, as well as a year 2035 target of 4.1 MT CO_2e/SP for plan-level projects such as the CAP and General Plan (SCAQMD 2010).

According to Appendix D, *Threshold of Significance Justification* of the BAAQMD CEQA Guidelines (June 2010), BAAQMD's approach to developing a threshold of significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions. If a plan would generate GHG emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact and would be considered significant. If mitigation can be applied to lessen the emissions such that the plan meets its share of emission reductions needed to address the cumulative impact, the project would be considered less than significant. The BAAQMD thresholds were chosen based on the substantial evidence that such thresholds represent quantitative and/or qualitative levels of GHG emissions, compliance with which means that the environmental impact of the GHG emissions will normally not be cumulatively considerable under CEQA (BAAQMD, 2010). Compliance with such thresholds will be part of the solution to the cumulative GHG emissions problem, rather than hinder the state's ability to meet its goals of reduced statewide GHG emissions.

GHG emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change. No single land use project could generate enough GHG emissions to noticeably change the global average temperature. The combination of GHG emissions from past, present, and future projects contribute substantially to the phenomenon of global climate change and its associated environmental impacts and as such is addressed only as a cumulative impact.

3.7.6 IMPACT ANALYSIS

METHODOLOGY

The baseline emissions inventory identifies the categories of activities, or sectors, within the City's jurisdictional boundary that emit GHGs and quantifies the baseline level of emissions

from each of these sectors for the 2008 calendar year. The 2008 inventory includes two components: an analysis of community-wide emissions and an analysis of municipal emissions. The municipal inventory is a subset of the community-wide inventory, meaning that municipal emissions are included within the categories of the community-wide inventory. The community-wide inventory quantifies GHG emissions from activities in the energy (residential, commercial, and industrial uses), transportation, solid waste, and recreation sectors in Lake Elsinore. The municipal inventory quantifies emissions from local government-owned or -operated buildings and fleet vehicles, operations, and employee commute. (See **Table 3.7-3** and **Table 3.7-4**, above.)

The GHG emissions forecast provides a business-as-usual estimate of how emissions will change in the years 2020 and 2030 if consumption trends and behavior continue as they did in 2008, absent of any new policies or actions that would reduce emissions. The forecast as performed by applying household, employment, and population growth rates to 2008 community-wide GHG emissions levels. The forecast estimates growth in GHG emissions that would occur through 2030, accounting for the full extent of the growth permitted under the 2030 General Plan, as shown in **Table 3.7-7, Projected Community-Wide Emissions Forecast by Sector**[3]. The forecast is based on the assumption that the number of drivers, electricity and natural gas use, and solid waste tonnage will increase over time in proportion to population, jobs, and households.

The baseline emissions inventory and forecast were calculated using the Clean Air and Climate Protection (CACP) software, developed by ICLEI (Local Governments for Sustainability). This software estimates GHG emissions – including carbon dioxide, methane, nitrous oxide, and fluorinated gases – derived from energy consumption, transportation, solid waste generation, and other sources of GHG emissions. The CACP software determines emissions using specific factors (or coefficients) according to the type of fuel used or type of solid waste. Emissions are aggregated and reported in terms of equivalent carbon dioxide units, or CO_2e. Converting all emissions to carbon dioxide equivalent units allows for the consideration of different GHGs in comparable terms. For example, methane is 21 times more powerful than carbon dioxide in its capacity to trap heat, so one ton of methane emissions is equal to 21 tons of CO_2e.

Estimating the amount of GHGs generated by various activities requires using a variety of data sources and a diverse set of methodologies. Emissions inventories are, by nature, the reflection of the best available data and the most applicable methods at the time of their compilation. As such, the Lake Elsinore emissions inventory includes emissions sources that can be accurately accounted for using the most current emissions estimation methodology.

[3] In order to comply with CEQA, the GHG emissions forecast accounts for the full extent of the growth permitted by the General Plan Update (California Attorney General's Office, Climate Change, CEQA & General Plans, 2009). In reality, only a portion of this growth will occur by 2030.

Threshold: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Analysis

Projected Greenhouse Gas Emissions

Under forecasted business-as-usual conditions, and accounting for the full extent of the growth permitted under the General Plan, Lake Elsinore's GHG emissions are projected to increase to 1,064,565 MT CO_2e in 2020, which is equivalent to 7.4 MT CO_2e per resident or employee in the City's service population, and to 2,028,819 MT CO_2e in 2030, which equates to 6.7 MT CO_2e per resident or employee in the City's service population. In reality, however, only a portion of the development permitted by the General Plan will occur by 2030; therefore, it is unlikely that Lake Elsinore's emissions will increase to this level. **Table 3.7-7, Projected Community-Wide Emissions Forecast by Sector** shows the projected community-wide emissions by sector.

Table 3.7-7, Projected Community-Wide Emissions Forecast by Sector

SECTOR	MT CO_2E	PERCENTAGE OF TOTAL
TARGET YEAR 2020		
Energy	350,595	32.9%
Residential	189,877	17.8%
Commercial	149,079	14%
Industrial	11,639	1.1%
Transportation	636,472	59.8%
Solid Waste	47,083	4.4%
Recreation	30,415	2.9%
2020 TOTAL	**1,064,565**	**100.0%**
2020 Emissions per Service Population	**7.4**	**100.0%**
TARGET YEAR 2030		
Energy	663,216	32.7%
Residential	363,175	17.9%
Commercial	285,142	14.1%
Industrial	14,899	0.7%
Transportation	1,217,373	60%
Solid Waste	90,056	4.4%
Recreation	58,174	2.9%
2030 TOTAL	**2,028,819**	**100.0%**
2030 Emissions per Service Population	**6.7**	**100.0%**
Source: Appendix G (City of Lake Elsinore Climate Action Plan, Table 3-4).		

Emissions Reduction Strategies and Measures

To meet the emissions reduction targets, the proposed Climate Action Plan (CAP) identifies a combination of state-level regulations and local strategies and measures in the focus areas of Transportation and Land Use, Energy, Solid Waste, and Public Education and Outreach. The strategies and measures were selected to build on the policy direction of the General Plan, and take into consideration planned City capital improvements, policies of neighboring jurisdictions and regional agencies, regional and statewide best practices, public and private costs and savings; co-benefits; measures recommended by the State Attorney General's Office, California Air Resources Board (CARB) and California Air Pollution Control Officers Association (CAPCOA); City staff input, public comments, and other information provided by residents and stakeholders collected during the public outreach process.

Each focus area includes emissions reduction strategies with a series of implementation measures. Measures define the programs, policies, and projects that the City will implement to accomplish its reduction targets. Each measure is presented with its GHG emissions reduction potential, performance criteria to track progress, estimated implementation costs and savings.

Transportation and Land Use

Transportation-related emissions make up the largest part (60.6%) of Lake Elsinore's 2008 GHG emissions inventory. The majority of these emissions result from the use of fuel (e.g., gasoline, diesel, etc.) to power cars and trucks within Lake Elsinore. Factors affecting transportation emissions include vehicle miles traveled, vehicle type and the overall system infrastructure. In addition, these factors are directly influenced by the geographic distribution of people and places, especially the density of development and zoning. Therefore, land use measures are included in this focus area. The transportation and land use emissions reduction measures set forth in the CAP are organized under the following strategies to reduce transportation-related emissions:

- Increase bicycle, pedestrian and public transit travel
- Manage vehicle parking
- Increase efficiency of land use patterns
- Reduce trips
- Increase the use of low- and zero-emissions vehicles

These GHG emissions reduction strategies would reduce emissions by approximately 62,138 MT CO2e/yr (or 0.4 MT CO2e/SP/yr) by 2020 and 124,279 MT CO2e/yr (or 0.4 MT CO2e/SP/yr) by 2030.

Energy

Energy-related emissions make up the second largest part (32.4%) of Lake Elsinore's 2008 emissions inventory. These emissions result from use of fossil fuels, including coal, oil and gas

for energy production, which is used to heat, cool and provide power to residential, commercial and industrial buildings, and other facilities in Lake Elsinore. The energy-related reduction measures set forth in the CAP are organized under the following strategies to reduce energy-related emissions:

- Increase energy efficiency of new construction
- Increase energy efficiency of existing buildings
- Increase energy efficiency of municipal buildings and facilities
- Reduce water consumption
- Increase the use of renewable energy

These GHG emissions reduction strategies would reduce emissions by approximately 89,131 MT CO_2e/yr (0.6 MT CO_2e/SP/yr) by 2020 and 177,817 MT CO_2e/yr (or 0.6 MT CO_2e/SP/yr) by 2030.

Solid Waste

Solid waste results in GHG emissions as it is transported to and decomposes in landfills. As this sector makes up 4.3% of Lake Elsinore's 2008 emissions inventory, reducing the overall amount of solid waste generated and diverting solid waste from landfills can reduce solid waste-related GHG emissions. The solid waste-related reduction measures set forth in the CAP are organized under the following strategies to reduce related emissions:

- Increase solid waste diversion
- Decrease solid waste generated

These GHG emissions reduction strategies would reduce emissions by approximately 8,427 MT CO2e/yr (or 0.1 MT CO2e/SP/yr) by 2020 and 9,525 MT CO2e/yr (or 0.03 MT CO2e/SP/yr) by 2030.

Community Education and Outreach

Education and outreach are key components of climate action planning because of the changes in citizen behavior that are needed to reduce emissions. The community education and outreach measures identified in the CAP are organized under the following strategy:

- Expand community education and outreach

This GHG emissions reduction strategy supports the implementation and effectiveness of the transportation and land use, energy, and solid waste strategies and therefore does not have separate emissions reduction estimates.

State-Level Measures

The AB 32 Climate Change Scoping Plan identifies several state-level regulations and measures that are anticipated to reduce GHG emissions within Lake Elsinore. These include the Pavley Regulations, Low Carbon Fuel Standards, heavy/medium duty and passenger vehicle efficiency regulations, and the Renewable Portfolio Standard. These state-level measures are anticipated to reduce emissions in Lake Elsinore by 239,528 MT CO_2e/yr (or 1.7 MT CO_2e/SP/yr) by 2020 and by 456,484 MT CO_2e/yr (or 1.5 MT CO_2e/SP/yr) by 2030.

Greenhouse Gas Emissions Reduction Total

Table 3.7-8, Summary of Greenhouse Gas Reduction Measure Potential, provides a summary of the GHG reductions that would result from the state-level and local measures listed above in **Table 3.7-6, Climate Action Plan Strategies and Measures**. Together, the measures would reduce emissions by 399,244 MT CO_2e by 2020 and 768,105 MT CO_2e by 2030. As a result, 2020 emissions would be 665,341 MT CO_2e or 4.6 MT CO_2e/SP in 2020 and 1,263,966 MT CO_2e or 4.2 MT CO_2e in 2030. Therefore, GHG reductions would exceed the target reductions (see **Table 3.7-9, Reductions Relative to Targets**); thereby reducing potential greenhouse gas emissions to below the level of significance.

Table 3.7-8, Summary of Greenhouse Gas Reduction Measure Potential

MEASURE NUMBER AND TITLE	2020 GHG REDUCTION POTENTIAL (MT CO_2E)	2030 GHG REDUCTION POTENTIAL (MT CO_2E)
STATE-LEVEL MEASURES		
AB 1493 (Pavley)	118,167	225,199
Low Carbon Fuel Standards	46,841	89,268
Heavy/Medium Duty Efficiency	1,065	2,029
Passenger Vehicle Efficiency	17,033	32,461
Renewable Portfolio Standard	56,422	107,527
TOTAL REDUCTIONS FROM STATE MEASURES	239,528	456,484
LOCAL STRATEGIES AND MEASURES		
Transportation and Land Use Measures		
Strategy T-1: Increase bicycle, pedestrian and public transit travel		
Measure T-1.1: Safe Routes to School	288	576
Measure T-1.2: Pedestrian Infrastructure	557	1,115
Measure T-1.3: Street and Sidewalk Maintenance and Improvements	Contributes to T-1.2 and T-1.4	Contributes to T-1.2 and T-1.4
Measure T-1.4: Bicycle Infrastructure	2,230	4,460
Measure T-1.5: Bicycle Parking Standards	Contributes to T-1.4	Contributes to T-1.4

MEASURE NUMBER AND TITLE	2020 GHG REDUCTION POTENTIAL (MT CO_2E)	2030 GHG REDUCTION POTENTIAL (MT CO_2E)
Measure T-1.6: Public Transit Incentives	2,527	5,055
Strategy T-2: Manage vehicle parking		
Measure T-2.1: Designated Parking for Fuel-Efficient Vehicles	872	1,744
Strategy T-3: Increase efficiency of land use patterns		
Measure T-3.1: Mixed-Use, High Density, Infill and Transit Oriented Development	27,107	54,215
Measure T-3.2: Mixed-Use, Infill, and Transit Oriented Development Incentives	Included in T-3.1	Included in T-3.1
Measure T-3.3: Density Bonus Incentive	Included in T-3.1	Included in T-3.1
Measure T-3.4: Neighborhood Commercial Centers	Included in T-3.1	Included in T-3.1
Strategy T-4: Reduce trips		
Measure T-4.1: Commute Trip Reduction Program	1,608	3,216
Strategy T-5: Increase the use of low- and zero-emissions vehicles		
Measure T-5.1: Hybrid and Fuel-Efficient Vehicle Incentives	26,924	53,848
Measure T-5.2: Municipal Fleet Vehicle Purchasing Policy	25	50
Subtotal Transportation and Land Use	*62,138*	*124,279*
Energy Measures		
Strategy E-1: Reduce energy demand of new construction		
Measure E-1.1: Tree Planting Requirements	378	757
Measure E-1.2: Cool Roof Requirements	5,934	11,868
Measure E-1.3: Energy Efficient Building Standards	41,302	82,604
Strategy E-2: Increase energy efficiency of existing buildings		
Measure E-2.1: Energy Efficiency Upgrades and Retrofits	26,528	53,057
Measure E-2.2: Green Business Certification Program	Included in E-2.1 (2,998)	Included in E-2.1 (5,997)
Measure E-2.3: Compact Fluorescent Light Bulb (CFL) Distribution Program	Included in E-2.1 (60)	Included in E-2.1 (60)
Strategy E-3: Increase in energy efficiency of municipal buildings and facilities by 15% by 2020 and 20% by 2030		
Measure E-3.1: City HVACs	3	3
Measure E-3.2: Energy Efficient Street and Traffic Signal Lights	274	548
Measure E-3.3: Street Light Automatic Daylighting Control Devices	100	100
Measure: E-3.4: Energy Efficient Lights, Ballasts, and Occupancy Sensors at City Facilities	33	33
Measure E-3.5: Municipal Energy Efficiency Upgrades and	471	629

Measure Number and Title	2020 GHG Reduction Potential (MT CO_2E)	2030 GHG Reduction Potential (MT CO_2E)
Purchasing Standards		
Strategy E-4: Reduce water consumption		
Measure E-4.1: Landscaping Ordinance	3,602	7,205
Measure E-4.2: Indoor Water Conservation Requirements	6,940	13,881
Strategy E-5: Increase the use of renewable energy		
Measure E-5.1: Renewable Energy Incentives	3,566	7,132
Subtotal Energy	*89,131*	*177,817*
Solid Waste Measures		
Strategy S-1: Increase solid waste diversion		
Measure S-1.1: Commercial Recycling	6,366	7,074
Measure S-1.2: Tiered Solid Waste Rate Structure	1,696	1,884
Measure S-1.3: Recycling Receptacles at City Buildings and Facilities	<1	1
Measure S-1.4: Construction and Demolition Waste Diversion	152	152
Measure S-1.5: Green Waste Program	212	414
Strategy S-2: Decrease waste generated		
Measure S-2.1: Municipal Purchasing Policy	<1	<1
Subtotal Solid Waste	*8,427*	*9,525*
Public Education and Outreach Measures		
Strategy EO-1: Expand Community Education and Outreach		
Measure EO-1.1: Green Page on City's Webpage	Contribute to transportation, energy, and solid waste measures.	
Measure EO-1.2: Quarterly Mailer with Emissions Reduction Information	Contribute to transportation, energy, and solid waste measures.	
Measure EO-1.3: Themed Events	Contribute to transportation, energy, and solid waste measures.	
Measure EO-1.4: Multi-Modal Transportation Access Guide	Contribute to transportation measures.	
Subtotal Public Education and Outreach	*Not applicable*	
TOTAL REDUCTION FROM LOCAL MEASURES	159,696	311,621
TOTAL REDUCTION FROM STATE AND LOCAL MEASURES	399,224	768,105
Source: Appendix G (City of Lake Elsinore Climate Action Plan, Table 5-3)		

Table 3.7-9, Reductions Relative to Targets

	2020 (MT CO_2E)	2020 (MT CO_2E/ SP[1])	2030 (MT CO_2E)	2030 (MT CO_2E/ SP)
Total Projected Business-as-Usual Emissions	1,064,565	7.4	2,028,819	6.7
Total Reduction from State and Local Measures	399,224	2.8	~~764,853~~ 768,105	2.5
Total Projected Emissions with CAP	665,341	4.6	~~1,263,966~~ 1,260,714	4.2
GHG Emissions Target	944,737	6.6	1,334,243	4.4
Amount Exceeding Target	**279,396**	**2.0**	~~**70,277**~~ **73,529**	**0.2**

Source: Appendix G (City of Lake Elsinore Climate Action Plan, Table 5-4).
[1] SP = Service Population; 2020 service population = 143,142; 2030 service population = 303,237

Mitigation Measures

No mitigation is required.

Level of Significance

Implementation of the strategies and measures set forth in the proposed Climate Action Plan and compliance with the goals, policies and implementation measures set forth in **Table 3.7-5** will reduce potential impacts related to greenhouse gas emissions to less-than-significant levels.

Threshold: Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Analysis

As part of the proposed project, the City of Lake Elsinore has prepared a Climate Action Plan. The City of Lake Elsinore Climate Action Plan (CAP) is a long-range plan to reduce community-wide greenhouse gas (GHG) emissions from activities within the City limits. Specifically, the CAP is designed to:

- Benchmark Lake Elsinore's existing (2008) GHG emissions and projected emissions relative to statewide emissions targets.
- Establish GHG emissions reduction strategies and measures to reduce the City's proportionate share of emissions to meet the statewide targets identified in Assembly Bill (AB) 32 and Executive Order S-3-05.
- Set forth procedures to monitor and verify the effectiveness of the CAP and require amendment if the CAP is not achieving targeted levels of emissions.
- Mitigate Lake Elsinore's GHG emissions impacts (by reducing GHG emissions consistent with the State of California via the California Environmental Quality Act

[CEQA] Guidelines, AB 32, and Executive Order S-3-05). The CEQA Guidelines encourage the adoption of plans or mitigation programs as a means of comprehensively addressing the cumulative impacts of projects (see CEQA Guidelines, Sections 15064(h)(3), 15130(c)).

As shown in **Table 3.7-10, Reduction Target Analysis**, below, the combination of state-level measures and local strategies and measures identified in the CAP will exceed target reductions and allow Lake Elsinore to meet, if not be lower than, the overall service population target of 6.6 MT CO_2e/SP in 2020 and 4.4 MT CO_2e/SP in 2030.

Table 3.7-10, Reduction Target Analysis

REDUCTION FOCUS AREA	2020 REDUCTION POTENTIAL (MT CO_2E)	2020 REDUCTION POTENTIAL (MT CO_2E/SP[1])	2030 REDUCTION POTENTIAL (MT CO_2E)	2030 REDUCTION POTENTIAL (MT CO_2E/SP[1])
Total Reduction from Transportation and Land Use Measures	62,138	0.4	124,279	0.4
Total Reduction from Energy Measures	89,131	0.6	177,817	0.6
Total Reduction from Solid Waste Measures	8,427	0.1	9,525	0.03
Total Reduction from Education and Outreach Measures	Contributes to other measures		Contributes to other measures	
Total Reduction from State-Level Regulations	239,528	1.7	456,484	1.5
Total Reduction from Measures	**399,224**	**2.8**	**768,105**	**2.5**
Projected Emissions with CAP Measures	**665,341**	**4.6**	**~~1,263,966~~ 1,260,714**	**4.2**
GHG Emissions Target	**944,737**	**6.6**	**1,334,243**	**4.4**
Amount Exceeding Target	**279,396**	**2.0**	**~~70,277~~ 73,529**	**0.2**

Source: Appendix G (City of Lake Elsinore Climate Action Plan, Table E-3).
[1] SP = Service Population; 2020 service population = 143,142; 2030 service population = 303,237

As described above, the proposed GPU includes goals, policies and implementation programs regarding greenhouse gas emissions in Section 4.9 (Sustainable Environment) in Chapter 4.0 (Resource Protection and Preservation). These include:

- Goal 14 Reduce greenhouse gas emissions from all activities within the City boundaries to support the State's efforts under AB-32 and to mitigate the impact of climate change on the City, State and world.

- Policy 14.1 By 2020, the City will reduce greenhouse gas emissions from within its boundaries to 1990 levels consistent with AB 32.
- Implementation Program The City shall prepare, adopt and implement a Climate Action Plan that provides a baseline greenhouse gas emissions inventory for municipal facilities and operations and community-wide activities, analyzes the cost and benefits of methodologies for reduction, and establishes measures to meet State-wide reduction goals.

The proposed Climate Action Plan (Appendix G of this PEIR), as summarized above, is consistent with and built upon the goals, policies and implementation programs contained in the proposed GPU. Therefore, the proposed project would be consistent and not conflict with an applicable GHG reduction plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Impacts regarding this threshold will be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance

Implementation of the strategies and measures set forth in the proposed Climate Action Plan and compliance with the goals, policies and implementation measures set forth in **Table 3.7-5** will assure that the potential impacts regarding potential conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases will be less than significant.

3.7.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the strategies and measures set forth in the proposed Climate Action Plan and compliance with the proposed GPU goals, policies and implementation measures will reduce potential greenhouse gas emissions to below target levels and will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Therefore, potential impacts will be less than significant.

3.7.8 REFERENCES

In addition to other reference documents, the following references were used in the preparation of this section of the EIR:

California Air Resources Board, *Proposed Early Actions to Mitigate Climate Change in California*, April 20, 2007. (Available at http://www.arb.ca.gov/cc/ccea/meetings/042307workshop/early_action_report.pdf; accessed on August 19, 2011.)

State of California Legislative Council, *Bill Information: AB32 – California Global Warming Solutions Act of 2006*, September 2006. (Available at http://www.leginfo.ca.gov/cgi-bin/postquery?bill_number=ab_32&sess=0506&house=B&author=nunez; accessed on August 19, 2011.)

California Air Resources Board, *Proposed Early Actions to Mitigate Climate Change in California*, April 20, 2007. (Available at http://www.arb.ca.gov/cc/ccea/meetings/042307workshop/early_action_report.pdf; accessed on August 19, 2011.)

Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*, Updated May 2011. (BAAQMD) (Available at http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_May%202011_5_3_11.ashx; accessed on August 21, 2011.)

California Climate Action Team, *Biennial Report*, April 2010. (CAT 2010)(Available at http://www.climatechange.ca.gov/publications/cat/; accessed on August 19, 2010.)

California Energy Commission, Inventory of California Greenhouse Gas Emissions and Sinks; 1990 to 2004, Publication: CEC-600-2006-013-SF, December 2006. (CEC 2006b) (Available at http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF; accessed on August 21, 2011.)

California Energy Commission, *Our Changing Climate: Assessing the Risks to California*, Publication CEC-500-2006-077, July 2006. (CEC 2006a) (Available at http://www.energy.ca.gov/2006publications/CEC-500-2006-077/CEC-500-2006-077.pdf; access on August 19, 2011.)

California Office of the Attorney General, *Letter to Bay Area Air Quality Management District re: California Environmental Quality Act (CEQA) Air Quality Guidelines, Final Draft (dated November 2009)*; Proposed Thresholds of Significance, December 2, 2009. (Available at http://ag.ca.gov/globalwarming/pdf/comments_BAAQMD_Thresholds_of_Significance.pdf; accessed on August 21, 2011.)

California Office of the Attorney General, *Climate Change, CEQA and General Plan Updates*, September 1, 2009. (Available at http://ag.ca.gov/globalwarming/pdf/CEQA_GP_FAQs.pdf; accessed on August 19, 2011.)

City of Lake Elsinore, *City of Lake Elsinore Climate Action Plan*, prepared by Rincon Consultants, Inc., August 2011. (Appendix G of this PEIR.)

Intergovernmental Panel on Climate Change. (2007). *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge University Press, Cambridge, United Kingdom and New York, NY, (Available at http://www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html; accessed on August 19, 2011.)

Marian Koshland Science Museum of the National Academy of Sciences, *Web Site*. (Available at http://www.koshland-science-museum.org/exhibitgcc/index.jsp; accessed August 19, 2011.)

South Coast Air Quality Management District, *Proposed Tier 4 Performance Standards*, Main Presentation. September 28, 2010. (SCAQMD 2010) (Available at http://www.aqmd.gov/ceqa/handbook/GHG/2010/sept28mtg/sept29.html; accessed on August 21, 2011.)

~~State of California Legislative Council, *Bill Information: AB32 – California Global Warming Solutions Act of 2006*, September 2006. (Available at http://www.leginfo.ca.gov/cgi-bin/postquery?bill_number=ab_32&sess=0506&house=B&author=nunez; accessed on August 19, 2011.)~~

United States Environmental Protection Agency, *Greenhouse Gas Emissions Web Site*. (Available at http://www.epa.gov/climatechange/emissions/index.html; accessed on August 19, 2011.)

United States Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2009, USEPA #430-R-11-005*, April 15, 2011. (Available at http://epa.gov/climatechange/emissions/usinventoryreport.html; accessed on August 19, 2011.)

World Resources Institute, *Climate Analysis Indicators Tool (CAIT), Version 8.0*, Released December 1, 2010. (Available at http://cait.wri.org/; accessed August 21, 2011.)