

3.13 Energy Use and Climate Change

This section of the EIR describes current energy use and identifies how implementation of the proposed Lemoore General Plan may contribute to global climate change through changes in transportation, energy usage, and industrial activity. In addition, the analysis describes the potential impacts of climate change on future residents, workers, and visitors, and the Planning Area's natural resources. This section also identifies proposed Plan policies and actions that will help to minimize impacts on energy use and climate change.

ENVIRONMENTAL SETTING

Global climate change refers to alterations in temperature, wind patterns, precipitation, and other climatic conditions that occur across the earth. Of particular concern is the gradual increase in average temperatures and associated changes in environmental conditions. In California these may include, but are not limited to: decreased air quality; more severe heat; increased wildfires; shifting vegetation; declining forest productivity; decreased spring snowpack; water shortages; a potential reduction in hydropower; a loss of winter recreational opportunities; agricultural damage from heat, pests, pathogens, and weeds; and rising sea levels resulting in shrinking beaches; disruptions in estuarine habitats and fresh water supply, and increased coastal flooding.

Although there is increasing acceptance of the concept that human activity has an impact on the earth's weather, the extent of the change and the exact contribution from human-caused sources remains in debate. Furthermore, the connection between local land use decisions and global climate change is not well understood and is not reflected in climate modeling. Nevertheless, there is agreement that certain changes that can occur as a consequence of large-scale land use decisions, such as an increase in vehicle emissions associated with an increase in vehicle trips, may have a cumulative impact on global climate change when combined with emissions throughout California, the nation, and across the globe.

PHYSICAL SETTING

The climate change-related environmental conditions most likely to impact the Lemoore Planning Area are decreased air quality, more severe heat, and water shortages. More severe heat can have multiple impacts such as increased frequency of wildfires, reduced agricultural production, water quality problems, and other public health impacts. Reduced snowpack in the Sierra Nevada will have a direct effect on the Planning Area and may lead to water shortages. These various issues are addressed throughout Chapter 3 based on current knowledge and data available.

Greenhouse Gases

Gases that trap heat in the Earth's atmosphere are called greenhouse gases (GHGs). These gases play a critical role in determining the Earth's surface temperature. Part of the solar radiation that enters Earth's atmosphere from space is absorbed by the Earth's surface. The Earth reflects this radiation back toward space, but GHGs absorb some of the radiation. As a result, radiation

that otherwise would have escaped back into space is retained, resulting in a warming of the atmosphere. Without natural GHGs, the Earth's surface would be about 61°F cooler. (California Climate Action Team, 2006) This phenomenon is known as the greenhouse effect. However, many scientists believe that emissions from human activities, such as electricity generation and vehicles, have elevated the concentration of these GHGs in the atmosphere beyond naturally-occurring concentrations, contributing to a larger process of global climate change.

Common GHGs include water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxides, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. GHGs have varying potentials to trap heat in the atmosphere, known as global warming potential (GWP), and atmospheric lifetimes. GWP ranges from 1 (carbon dioxide) to 23,900 (sulfur hexafluoride). GHG emissions with a higher GWP have a greater global warming effect on a molecule per molecule basis. For example, one ton of CH₄ has the same contribution to the greenhouse effect as approximately 21 tons of CO₂. (California Climate Action Registry, *General Reporting Protocol*, 2006)

GHG emissions contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. (California Energy Commission (CEC), 2006) Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2004, accounting for more than 40 percent of total GHG emissions. (CEC, 2006) This category was followed by the electric power sector (including both in-state and out-of-state sources) (22 percent) and the industrial sector (21 percent). Out-of-state sources, mostly coal-fired power plants in the Southwest, account for 22 to 32 percent of the total energy used in California but contribute 39 to 57 percent of the GHG emissions associated with electricity consumption. (CEC, 2006)

Existing Air Quality

The San Joaquin Valley Air Pollution Control District (SJVAPCD) does not presently monitor carbon dioxide emissions. They do monitor ozone emissions, another pollutant that contributes to global warming. Although the Valley still has not met State and national standards for ozone, concentrations have dropped. The decrease is primarily attributed to older vehicles being gradually replaced by newer models. In 2005, ozone levels in Kings County exceeded the national 8-hour standard on only 6 days, compared with 29 days in 2002. At the same time, there has been a decrease in the concentration of some volatile organic compounds (VOCs), such as formaldehyde, which are ozone precursors. According to the CARB, it is difficult to accurately determine how VOCs and nitrogen oxide (NO_x), another ozone precursor, contribute to global warming. (California Air Resources Board, 2004)

Emissions from Transportation

Due to limited public transit use opportunities, Lemoore employees and residents traveled 332 million vehicles miles (VMT) in 2006, an average of 14,182 VMT per capita. The topography and warm climate should make walking and biking attractive options for getting around Lemoore. Moreover, the city has good bicycle connections along major transportation corridors. The City offers a variety of bicycle paths, lanes and trails, but these secondary bike routes are not

continuous and rarely connect neighborhoods to important city nodes, such as Downtown or schools. As a result, bicycle trips are, for the most part, recreational and most essential transportation trips are by personal automobile. Additional description and evaluation of bicycle, pedestrian and transit opportunities in Lemoore may be found in *Section 3.2 Transportation*.

Based on current mileage rates, Lemoore drivers consumed over 13 million gallons of gasoline in 2006, an average of 558 gallons a year per capita. Transportation-related emitters of GHG include automobiles, trucks, motorcycles, off-road vehicles (including construction equipment), and airplanes. Carbon dioxide emissions, the primary GHG generated by mobile sources, are directly related to the quantity of fuel consumed. In contrast, the level of emissions of methane and nitrous oxide depends more on the type of vehicle and the emission control technologies it uses. Diesel fuel vehicles have an emissions factor of 9.96 kg per gallon compared with 8.55 kg per gallon for gasoline fuel vehicles. Assuming that about a fifth of the cars and trucks driven in Lemoore use diesel fuel, on-road vehicular traffic now generates an estimated 115,000 metric tons of carbon dioxide a year or about 4.93 metric tons of carbon dioxide per capita. Assuming average emission levels of 0.05 grams per mile for both nitrous oxide and methane, cars and trucks also generate an estimated 17 tons each of nitrous oxide and methane. Including these emissions, the total carbon dioxide equivalent emissions from transportation in Lemoore was about 121,000 metric tons in 2006. (Dowling Associates, 2007; California Climate Action Registry, 2007)

Emissions from Use of Electricity

Lemoore homes and businesses use energy that Pacific Gas & Electric (PG&E) obtains from power plants and natural gas fields in northern California and from energy it purchases from outside its service area. These energy sources include utility companies in other western states, including northwest hydroelectric power sources, and Mexico (CEC, 2003). The combustion of fossil fuels to produce electricity generates greenhouse gases including carbon dioxide and, to a lesser extent, nitrous oxide and methane.

In 2005, Kings County consumed 1,286 million kWh of electricity. Non-residential users were responsible for about 75 percent of all electricity consumption in the County, and users overall (residential and non-residential) consumed an average of 8,858 kWh per capita. Based on the City's estimated population of 23,390 in 2006, this means that Lemoore consumed an estimated 207 million kWh of electrical power. This level of electrical use generates an estimated 76,000 tons of carbon dioxide equivalent emissions a year.

REGULATORY SETTING

FEDERAL

In 1990, Congress passed and the President signed Public Law 101-606, the Global Change Research Act. The purpose of the legislation was:

“...to require the establishment of a United States Global Change Research Program aimed at understanding and responding to global change, including the cumulative effects of human activities and natural processes on the environment, to

promote discussions towards international protocols in global change research, and for other purposes.”

To that end, the Global Change Research Information Office (GCRIO) was established in 1991 to serve as a clearinghouse of information and to provide interagency Global Change Data and Information System (GCDIS) to high level users.

In April 2007, the U.S. Supreme Court found that the EPA has a statutory authority to formulate standards and regulations to address greenhouse gases, which it historically has not done. The EPA is now doing this.

STATE

The Governor of California signed Executive Order S-3-05 on June 1, 2005. The Order recognizes California's vulnerability to climate change, noting that increasing temperatures could potentially reduce snow pack in the Sierra Nevada, which is a primary source of the State's water supply. Additionally, according to this Order, climate change could influence human health, coastal habitats, microclimates, and agricultural yield.

AB 1493-Pavley (amendments to the Health and Safety Code sections 42823 and 43018.5, passed in 2002) requires CARB to develop and adopt regulations that reduce GHG emissions from passenger vehicles and light-duty trucks. CARB has estimated that these regulations would reduce GHG emissions from these light-duty vehicles 18 percent by 2020 and 27 percent by 2030. (CARB, 2004)

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Climate Solutions Act (Health and Safety Code Section 38500 et. seq.). The Act requires the reduction of statewide GHG emissions to 1990 levels by the year 2020. This change, which is equivalent to a 25 percent reduction from current emission levels, will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. The Act also directs the California Air Resource Board (CARB) to develop and implement regulations to reduce statewide GHG emissions from stationary sources and address GHG emissions from vehicles. CARB has stated that the regulatory requirements for stationary sources will be first applied to electricity power generation and utilities, petrochemical refining, cement manufacturing, and industrial/commercial combustion. The second group of target industries will include oil and gas production/distribution, transportation, landfills and other GHG-intensive industrial processes.

Despite existing legislation, California's demand for gasoline and diesel has nearly doubled over the last twenty years. In 2004, the State consumed more than 15 billion gallons of gasoline and almost three billion gallons of diesel fuel, which accounted for almost half of all fossil fuel energy that the State consumed. (CEC, 2005)

To date, the State has not imposed any requirements on local agencies to help achieve GHG emissions reductions. It has, however, adopted several so-called early action GHG reduction measures that will help to reduce GHG emissions from local land use decisions that may generate additional vehicle traffic. These actions include:

- A low-carbon fuel standard that reduces carbon intensity in California fuels;
- Reduction of refrigerant losses during motor vehicle air conditioning system maintenance by restricting the sale of "do-it-yourself" automotive refrigerants; and
- Requiring broader use of state-of-the-art methane capture technologies to increase methane capture from landfills.

CARB has also adopted a requirement, effective in 2009, that requires every new car sold in California to bear a sticker showing the vehicle's smog and greenhouse gas emission characteristics. The label will allow consumers to consider and compare a vehicle's environmental impacts. (CARB, 2007)

REGIONAL

The San Joaquin Valley Air Pollution Control District is the regional agency responsible for implementing State and federal air quality requirements in the eight Central Valley counties including Kings County, where Lemoore is located. The District has permit authority over stationary sources, acts as the primary reviewing agency for environmental documents and develops regulations consistent with State and federal air quality agencies. It does not presently regulate or monitor the emission of carbon dioxide or significant greenhouse gases.

The Kings County Association of Governments (KCAG) also has a role in air quality planning by ensuring its transportation plans, programs, and projects conform to the most recent air quality requirement. KCAG has not yet established standards for evaluating greenhouse gas emissions.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed General Plan would have a potentially significant impact if it would prevent the reduction of statewide greenhouse gas emissions to 1990 levels by the year 2020, as required the California Climate Solutions Act of 2006.

METHODOLOGY AND ASSUMPTIONS

The analysis of impacts on energy use and global climate change is based on information presented in Section 3.7 Air Quality and Section 3.2 Transportation. Using the protocol developed by the California Climate Action Registry, projections of annual electricity usage and vehicle miles traveled were used to estimate total greenhouse gas emissions at buildout for the proposed General Plan.

In contrast to criteria air pollutants and toxic air contaminants which are pollutants of regional and local concern, respectively, GHG are global pollutants. Moreover, neither the federal nor State governments have adopted any standards to which local agencies must adhere. While there are protocols for calculating greenhouse gas emissions at the local level, there are no accepted thresholds for determining the impact of such emissions on global warming or even on climate changes within California. In the absence of such requirements, the following analysis focuses on

measures the city can undertake to reduce greenhouse gas emissions without quantifying the impact of the city’s current or future emissions on global, national, or statewide climate conditions.

SUMMARY OF IMPACTS

The primary sources of GHG emissions related to urban development in Lemoore are anticipated to continue to be from the combustion of fossil fuels by motor vehicles and from electric power generation. To a lesser extent, agricultural activities in the planning area produce GHG that would contribute to global warming. Short-term impacts are also anticipated from construction activity that will occur during buildout under the proposed Plan. Because the GHG generation rate is, for the most part, related to growth, policies that reduce energy consumption and fuel usage can have a positive effect. In addition to promoting development patterns that will reduce the vehicles miles traveled per capita, the Plan proposes a variety of other actions that can reduce emissions, including green building measures, tree planting, energy conservation in new construction, and energy management in public buildings.

Table 3.13-1 Proposed General Plan Annual Greenhouse Gas Emissions (metric tons)

<i>Source</i>	<i>Carbon Dioxide</i>	<i>Carbon Dioxide Equivalent of Nitrous Oxide Emissions</i>	<i>Carbon Dioxide Equivalent of Methane Emissions</i>	<i>Total Carbon Dioxide Equivalent</i>
Electricity generation	155,978	222	27	156,228
Vehicle emissions	324,456	14,940	1,012	340,408
Total	480,434	15,162	1,039	496,626

Source: Dyett & Bhatia, 2007; Dowling Associates, 2007.

IMPACTS AND MITIGATION MEASURES

Impact

- 3.13-1 Development under the proposed General Plan will result in a substantial increase in total vehicle miles traveled (VMT) as well as an increase in VMT per capita, potentially leading to an increase in the per capita generation of greenhouse gases. (*Unknown Significance*)

Implementation of the proposed Plan is projected to result in a substantial increase in Vehicle Miles Traveled (VMT). Assuming the same fuel economy standards, drivers in Lemoore will consume almost three times as much gasoline in 2030 as they were consuming in 2006.

If there is no reduction in emissions from mobile sources, Lemoore drivers would generate over 324,000 metric tons of carbon dioxide in the year 2030 under the proposed Plan. Total of carbon dioxide equivalent emissions including methane and nitrous oxide would be approximately 340,000 tons. Assuming that the State implements the requirements of AB 1493, CARB estimated that the changes would result in a 27 percent reduction in GHG emissions by 2030 from light duty passenger vehicles, or a 20 percent reduction among mobile sources overall. In this scenario, total carbon dioxide equivalent emissions could be reduced to about 272,000 tons. This is still almost two and a half times the current emission level.

The projected increase in VMT within the Lemoore Planning Area must also be evaluated within the larger context of development and regulations within the County and the region. For instance, the transportation conformity budgets described in the San Joaquin Valley Air Pollution Control District 2007 Ozone Plan are designed to help eliminate or reduce the severity and number of exceedances of the National Ambient Air Quality Standards (NAAQS) by calculating an allowable level of emissions by County. These levels show expected reductions over three-year increments to 2023 (the Ozone Plan time horizon), and the conformity budgets take into account emissions reductions from District and CARB control measures. Therefore, from a regulatory perspective, it is not clear whether the projected increase in emissions in the Lemoore Planning Area is or is not already accounted for in the 2007 Ozone Plan.

While Kings Area Regional Transit (KART) service has seen fluctuations in ridership over the past decade, the proposed Plan both anticipates and promotes increased transit use, as well as ongoing expansion of transit opportunities for new and existing residents of Lemoore.

Proposed General Plan Policies and Actions that Reduce the Impact

Implementation of the following proposed General Plan policies would help to reduce the impact of proposed General Plan buildout on global warming and greenhouse gas emissions related to vehicle use:

- C-I-23 Provide incentives for City employees to commute by transit, car-pool or use alternative fuel technology vehicles.

- C-I-24 Offer alternative work hours and telecommuting when appropriate to City employees to reduce VMT and trips to work.
- C-I-25 Purchase hybrid gasoline-electric, bio-diesel fuel or electric vehicles for the City fleet.
- C-I-26 Ensure that new development is designed to make public transit a viable choice for residents. Options include:
- Locate medium-high density development whenever feasible near streets served by public transit; and
 - Link neighborhoods to bus stops by continuous sidewalks or pedestrian paths.
- COS-I-48 Educate employees and department managers about sustainability with a focus on specific operational changes that can be made to reduce greenhouse gas emissions, such as fuel efficient driving and reducing energy use at work.

No additional mitigation is feasible.

Impact

- 3.13-2 **Development under the proposed General Plan will result in a substantial increase in the total amount of electricity energy consumed by residential and non-residential users in Lemoore. (*Unknown Significance*)**

Buildout under the proposed General Plan will increase the total demand for electrical energy in Lemoore. If current trends continued, total consumption of electrical energy would increase from 207 million to 427 million kWh, an increase of 220 million kWh of electrical power. This level of electrical use would generate roughly 156,000 metric tons of carbon dioxide equivalent emissions a year.

Reductions in GHG emissions associated with on-going energy efficient building standards are expected to achieve a reduction of 3 million metric tons of carbon dioxide equivalents statewide by 2020. Emission reductions associated with existing energy efficient appliance standards are expected to result in a reduction of an additional 7 million metric tons of carbon dioxide equivalent emissions by 2020. (California Environmental Protection Agency, 2007) Implementation of these and other State requirements at the local level will reduce projected GHG emissions from electrical generation. Along with specific measures that the Plan proposes, these actions will ensure that the additional energy that homes and businesses consume will not impede achievement of the statewide reduction in emissions mandated by the California Climate Solutions Act of 2006.

Proposed General Plan Policies and Actions that Reduce the Impact

Implementation of the following proposed General Plan policies would help to mitigate the impact of proposed General Plan buildout on electricity use and related greenhouse gas emissions:

- CD-I-58 Require new development to incorporate passive heating and natural lighting strategies to the extent feasible and practical. These strategies should include, but are not limited to, the following:
- Using building orientation, mass and form, including façade, roof, and choice of building materials, color, type of glazing, and insulation to minimize heat loss during winter months and heat gain during the summer months;
 - Designing building openings to regulate internal climate and maximize natural lighting, while keeping glare to a minimum; and
 - Reducing heat-island effect of large concrete roofs and parking surfaces.
- CD-I-60 Incorporate green building standards into the Zoning Ordinance and building code to ensure a high level of energy efficiency in new development, retrofitting projects, and City facilities. These standards should include, but are not limited to, the following:
- Require the use of Energy Star® appliances and equipment in new and substantial renovations of residential development, commercial development, and City facilities;
 - Require all new City facilities and new residential development incorporate green building methods to qualify for the equivalent of LEED Certified “Silver” rating or better (passive solar orientation must be a minimum component);
 - Require all new residential development to be pre-wired for optional photovoltaic roof energy systems and/or solar water heating on south facing roofs; and
 - Require all new projects that will use more than 40,000 kilowatt hours per year of electricity to install photovoltaic energy systems.
- CD-I-61 Adopt a Green Building Design Ordinance.
- Green Building Design Guidelines may include required and recommended "green" design and construction strategies including: Building Site and Form, Natural Heating or Cooling, Transportation, Building Envelope and Space Planning, Building Materials, Water Systems, Electrical Systems, HVAC Systems, Construction Management, and Commissioning.*
- CD-I-62 Facilitate environmentally sensitive construction practices by:
- Restricting use of chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and halons in mechanical equipment and building materials;
 - Promoting use of products that are durable and allow efficient end-of-life disposal (recyclable);
 - Requiring subdivision applications on sites greater than five acres to submit a construction waste management plan for City approval;
 - Promoting the purchase of locally or regionally available materials; and

- Promoting the use of cost-effective design and construction strategies that reduce resource and environmental impacts;

Some building materials, such as certain types of heat insulation, damp proof membrane, glue or paint, are highly toxic. The City will promote the use of sustainable building materials and encourage the purchase of building materials from local or regional sources to reduce the environmental cost of transporting them from far away sources.

CD-I-63 Establish Outdoor Lighting Standards in the Zoning Ordinance where:

- All outdoor lighting fixtures shall be designed, shielded, aimed, located and maintained to shield adjacent properties and to not produce glare;
- New street lighting shall be provided in accordance with the requirements of the California Energy Commission's Outdoor Lighting Standards and follow recommendations put forth by the Illuminating Engineering Society of North America (IESNA) Design of Roadway Lighting (RP-8);
- All outdoor lighting fixtures shall be energy-efficient. Parking lot light fixtures and light fixture on buildings shall be full cut-off fixtures and all permanently installed exterior lighting shall be controlled by either a photocell or an astronomical time switch;
- Lighting design in parking lots, commercial and industrial areas shall be coordinated with the landscape plan to ensure that vegetation growth will not interfere with the intended illumination;
- Light levels in all new development, parking lots, and street lights to not exceed industry and state standards; and
- Lighting along the urban-rural edge should be designed to provide one-half the light standard for urban areas.

All new development is to submit an outdoor lighting plan for approval during the design review process and regular site plan review.

CD-I-65 Do not allow continuous all night outdoor lighting in sports stadiums, construction sites, and rural areas unless they are required for security reasons.

COS-I-38 Compile and update an inventory of greenhouse gas emissions from City operations and track related solid waste, energy, economic, and environmental data.

COS-I-39 Support State efforts to reduce greenhouse gases and emissions through local action that will reduce motor vehicle use, support alternative forms of transportation, require energy conservation in new construction, and energy management in public buildings.

By proposing compact development, mixed use centers, walkable neighborhoods, green building technology, and jobs-housing balance, the City will be helping to implement many of the strategies and programs in the San Joaquin Valley 2007 Ozone Plan.

COS-I-40 Prepare a Greenhouse Gas Emissions Reduction Plan, focusing on feasible actions the City can take to minimize the adverse impacts of Plan implementation on climate change and air quality. The Plan will include but will not be limited to:

- An inventory of all known, or reasonably discoverable, sources of greenhouse gases (GHGs) that currently exist in the City and sources that existed in 1990. In determining what is a source of GHG emissions, the City may rely on the definition of “greenhouse gas emissions source” or “source” as defined in section 38505 of the California Global Warming Solutions Act (“AB 32”) or its governing regulations. The inventory may include estimates of emissions drawing on available information from state and regional air quality boards, supplemented by information obtained by the City.
- A projected inventory of the new GHGs that can reasonably be expected to be emitted in the year 2030 due to the City’s discretionary land use decisions pursuant to the 2030 General Plan Update, as well as new GHGs emitted by the City’s internal government operations. The projected inventories will include estimates, supported by substantial evidence, of future emissions from planned land use and information from state and regional air quality boards and agencies.
- A target for the reduction of those sources of future emissions reasonably attributable to the City’s discretionary land use decisions under the 2030 General Plan and the City’s internal government operations, and feasible GHG emission reduction measures whose purpose shall be to meet this reduction target by regulating those sources of GHG emissions reasonably attributable to the City’s discretionary land use decisions and the City’s internal government operations.

Policy COS-I-48 listed under Impact 3.13-1 also helps to reduce this impact. No other mitigation is feasible.

Table 3.13-2 below provides a summary of policies provided in the proposed General Plan that address global warming, GHG emissions, and other sustainability goals outlined as eight global warming mitigation opportunities. If a policy in the table is not cited in full under impacts 3.13-1 or 3.13-2, the table provides the EIR section where the full policy may be found.

Table 3.13-2 Summary of Proposed GHG Emissions Reduction and Sustainability Policies

<i>Global Warming Mitigation Opportunities</i>	<i>General Plan Policies Provided</i>
(1) Prepare a Greenhouse Gas Reduction Plan and associated programs to quantify, monitor, and reduce emissions.	COS-I-38, COS-I-39, COS-I-40, COS-I-47 (See Section 3.7 Air Quality), COS-I-48
(2) Require all new buildings or major renovations to incorporate green building design principles.	CD-I-58, CD-I-60, CD-I-61, CD-I-62, COS-I-48
(3) Require all new development to incorporate sustainable site design, landscaping design, and maintenance.	CD-I-11, CD-I-59 (See Section 3.6 Hydrology and Water Quality), CD-I-60 PU-I-9, PU-I-11, COS-I-26, COS-I-27, COS-I-28 (existing public buildings), COS-I-29 (water system overall efficiency), COS-I-30, COS-I-31 (public education on water conservation) (See Section 3.3 Public Utilities and Services) COS-I-45 (See Section 3.6 Hydrology and Water Quality) SN-I-8, SN-I-9, SN-I-10, SN-I-11 (See Section 3.6 Hydrology and Water Quality) SN-I-14, SN-I-15, SN-I-16, SN-I-17 (See Section 3.10 Hazardous Materials and Wildfires)
(4) Require site designs for all new development to minimize energy use.	CD-I-58 (site and building), CD-I-62 (reducing energy inputs related to construction and site development), CD-I-65 (outdoor light) C-I-31, C-I-32, C-I-33, C-I-34 (minimize energy associated with navigating/traveling through site) (See Section 3.2 Transportation)
(5) Require developer designs to accommodate and facilitate the installation of self-generation of energy (solar, etc.) in all new homes and buildings.	CD-I-60, CD-I-61
(6) Require all construction projects to use all feasible measures to recycle unused construction materials and demolition projects to reuse building materials.	CD-I-62
(7) Require City fleets to use low emission vehicles.	C-I-26, as well as policies to reduce driving including C-I-24, C-I-25, C-I-27, COS-I-48
(8) Require all new residential and non-residential development to use Energy Star appliances, energy efficient water heaters and air conditioners, and energy efficient lighting.	CD-I-60, CD-I-61, CD-I-63 (outdoor lighting, bullets 3, 4, 5)

Source: Dyett & Bhatia, 2007.