City of Atascadero
Climate Action Plan

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City of Atascadero

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Executive Summary

The City of Atascadero Climate Action Plan (CAP) is a long-range policy document intended to cost-effectively reduce greenhouse gas (GHG) emissions from City government operations and community activities within Atascadero. The CAP will also help achieve multiple community goals such as lowering energy costs, reducing air pollution, supporting local economic development, and improving public health and quality of life. Specifically this CAP is designed to:

- Benchmark Atascadero’s 2005 baseline GHG emissions and 2020 projected emissions relative to the statewide emissions target established under California Assembly Bill (AB) 32 of 15 percent below 2005 levels by the year 2020.
- Provide a roadmap for achieving the city’s GHG emissions reduction target of 15 percent below 2005 levels by the year 2020 and help Atascadero prepare for anticipated climate change impacts.
- Serve as a qualified and comprehensive plan for addressing the cumulative impacts of GHG emissions within Atascadero (see California Environmental Quality Act [CEQA] Guidelines, Section15183.5, and the San Luis Obispo County Air Pollution Control District [APCD] CEQA Air Quality Handbook, Sections 3.3 and 4.6).
- Support tiering, and streamlining the analysis of GHG emissions for future projects within Atascadero pursuant to State CEQA Guidelines, Sections 15152 and 15183.5.

Atascadero’s GHG Emissions

The City of Atascadero 2005 Greenhouse Gas Emissions Inventory Update (2012) (GHG Emissions Inventory) was prepared to identify the major sources and quantities of GHG emissions produced in Atascadero in 2005 and forecast how these emissions may change over time. The GHG Emissions Inventory provides information on the scale of emissions from various sources and where the...
opportunities to reduce emissions lie. It also provides a baseline against which the City can measure its progress in reducing GHG emissions.

According to the GHG Emissions Inventory, in 2005, the Atascadero community emitted approximately 141,428 metric tons of carbon dioxide equivalent GHG emissions (MT CO\textsubscript{2}e), as a result of activities that took place within the transportation, residential energy use, commercial and industrial energy use, off-road vehicles and equipment, solid waste, and wastewater sectors. As shown in Figure ES-1, the largest contributors of GHG emissions were the transportation (43 percent), residential energy use (29 percent) and commercial/industrial energy use (14 percent) sectors. The remainder of emissions resulted from the solid waste (six percent), off road vehicles and equipment (six percent) and wastewater (two percent) sectors.

**Figure ES-1: Community-wide GHG Emissions by Sector (2005)**

The GHG Emissions Inventory also analyzed emissions from City government operations and facilities. The City government operations inventory is a subset of the community-wide inventory, and is included within the community-wide inventory. In 2005, City government operations generated approximately 4,130 MT CO\textsubscript{2}e. This quantity represents approximately three percent of Atascadero’s total community-wide GHG emissions. As shown in Figure ES-2, the majority of these GHG emissions resulted from the City’s wastewater facilities (71 percent), vehicle fleet (10 percent), and building and facility energy use (eight percent).
The GHG emissions forecast is a projection of how GHG emissions will change in the future with projected changes in population and jobs. The “business-as-usual scenario” provides a forecast of how GHG emissions will change in the year 2020 if consumption trends and behavior continue as they did in 2005, absent any new federal, state, regional, or local policies or actions that would reduce emissions. The year 2020 was selected for the forecast in order to maintain consistency with AB 32.

Under the business-as-usual scenario, Atascadero’s GHG emissions are projected to grow approximately 22 percent above 2005 GHG emissions levels by the year 2020, from 141,428 MT CO₂e to 172,488 MT CO₂e. Emissions associated with the transportation sector will experience the highest level of growth (39 percent). Emission increases for the other sectors will range from eight to 21 percent. Table ES-1 shows the forecast results of the business-as-usual scenario.

Table ES-1: 2020 Business-As-Usual GHG Emissions Forecast

<table>
<thead>
<tr>
<th>Sector</th>
<th>2005 (MT CO₂e)</th>
<th>2020 (MT CO₂e)</th>
<th>Percent Change from 2005 to 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>60,041</td>
<td>83,317</td>
<td>39%</td>
</tr>
<tr>
<td>Off-Road</td>
<td>8,686</td>
<td>10,521</td>
<td>21%</td>
</tr>
<tr>
<td>Commercial / Industrial</td>
<td>20,271</td>
<td>22,049</td>
<td>9%</td>
</tr>
<tr>
<td>Residential</td>
<td>40,690</td>
<td>43,926</td>
<td>8%</td>
</tr>
<tr>
<td>Solid Waste</td>
<td>9,083</td>
<td>9,805</td>
<td>8%</td>
</tr>
<tr>
<td>Wastewater</td>
<td>2,657</td>
<td>2,868</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>141,428</strong></td>
<td><strong>172,488</strong></td>
<td><strong>22%</strong></td>
</tr>
</tbody>
</table>

1 Population and job projections for the year 2020 were obtained from the San Luis Obispo Council of Governments (SLOCOG) 2040 Population, Housing & Employment Forecast (August 2011) (see Chapter 2).
The AB 32 Climate Change Scoping Plan (2008) (AB 32 Scoping Plan), prepared by the California Air Resources Board (CARB) pursuant to AB 32, identifies several State measures that are approved, programmed, and/or adopted and would reduce GHG emissions within Atascadero. These State measures require no additional local action. In addition to the State measures described above, the City of Atascadero has implemented, adopted, and/or programmed a number of local measures since the 2005 baseline inventory year that will reduce the community’s GHG emissions. Therefore, these measures were incorporated into the forecast and reduction assessment to create an “adjusted forecast scenario,” which provides a more accurate picture of future emissions growth and the responsibility of the City once State and local measures to reduce GHG emissions have been implemented.

Under the adjusted scenario, GHG emissions are projected to decrease to 138,951 MT CO$_2$e (approximately 19 percent below the business-as-usual scenario of 172,488 MT CO$_2$e). Table ES-2 summarizes the reduction from state and local measures.

Table ES-2: Summary of Reductions from State and Local Measures and 2020 GHG Emissions

<table>
<thead>
<tr>
<th></th>
<th>GHG Reduction (MT CO$_2$e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020 Business-as-Usual Forecast</td>
<td>172,488</td>
</tr>
<tr>
<td>2020 Reduction from State Measures</td>
<td>-32,622</td>
</tr>
<tr>
<td>2020 Reduction from Local Measures</td>
<td>-915</td>
</tr>
<tr>
<td><strong>Total Reduction from State and Local Measures</strong></td>
<td><strong>-33,537</strong></td>
</tr>
<tr>
<td>2020 Adjusted Forecast</td>
<td>138,951</td>
</tr>
</tbody>
</table>

GHG Emissions Reduction Target

The City is committed to reducing its GHG emissions to 15 percent below 2005 levels by 2020, consistent with AB 32. As shown in Table ES-3, based on the 15 percent reduction target Atascadero would need to reduce its community-wide GHG emissions to 120,214 MT CO$_2$e by 2020. To meet this target, Atascadero will need to reduce its GHG emissions 13 percent below the adjusted forecast level (equivalent to 18,737 MT CO$_2$e) by 2020 through implementation of local measures and actions.

Table ES-3: Atascadero’s GHG Emissions, Target, and Reduction Necessary to Meet Target

<table>
<thead>
<tr>
<th></th>
<th>GHG Emissions (MT CO$_2$e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005 Baseline Emissions</td>
<td>141,428</td>
</tr>
<tr>
<td>2020 Adjusted Forecast</td>
<td>138,951</td>
</tr>
<tr>
<td>Target (15 percent below 2005 levels by 2020)</td>
<td>120,214</td>
</tr>
<tr>
<td><strong>Remaining Gap Necessary to Meet Target</strong></td>
<td><strong>18,737</strong></td>
</tr>
</tbody>
</table>
Climate Action Measures

To achieve the State-recommended target of 15 percent below 2005 levels (120,214 MT CO₂e) by 2020 and prepare for the anticipated effects of climate change, the CAP identifies climate action measures. These measures are organized into the following focus areas: City government operations, energy, transportation and land use, off-road, water, solid waste, and trees and vegetation. The measures were selected based on careful consideration of the emission reductions needed to achieve the target, the distribution of emissions revealed in the GHG Emissions Inventory, goals and policies identified in the City’s General Plan, existing priorities and resources, policies and strategies of neighboring jurisdictions and regional agencies, and the potential costs and benefits of each measure. Collectively, the measures identified in the CAP have the potential to reduce GHG emissions within Atascadero by 28,873 MT CO₂e (22 percent below the 2005 baseline) by 2020 and meet the reduction target. By identifying measures that create total reductions beyond the City’s identified 15 percent reduction target of 18,737 MT CO₂e, the City will have some flexibility in reaching its goal and will not be required to implement every measure exactly as calculated in the CAP. Instead, the City will be able to meet its GHG reduction goal by implementing a combination of the identified measures, as feasible, in order to meet the 15 percent reduction target by 2020.

Implementation and Monitoring

Implementation and monitoring are essential processes to ensure that Atascadero reduces its GHG emissions and meets its target. To facilitate this, each climate action measure identifies implementation actions, departments responsible for implementation and monitoring, cost and savings estimates, the GHG reduction potential, a performance indicator to monitor progress, and an implementation time frame. Measure implementation is separated into three phases: near-term (by 2015), mid-term (2016-2017), and long-term (2018-2020).

In order to ensure that measures are implemented and their progress is monitored, upon adoption of the CAP, the City will establish the City Manager as the CAP Coordinator who will provide essential CAP oversight and coordination of a multi-departmental CAP Implementation Team comprised of key staff in each selected department. The CAP Implementation Team will meet at least one time per year to assess the status of CAP efforts. The City’s CAP Coordinator will be responsible for developing an annual progress report to the City Council that identifies the implementation status of each measure, evaluates achievement of or progress toward performance indicators (where applicable), assesses the effectiveness of various measures and actions included in the CAP, and recommends adjustments to measures or actions, as needed. To evaluate the performance of the CAP as a whole, the City will update the community and City government GHG emissions inventories approximately every five years, as feasible, using the most up-to-date calculation methods, data, and tools. The GHG emissions inventory updates shall be coordinated with surrounding cities and regional bodies, with grant funding identified, in order to make this process cost efficient and feasible for the City to complete.
CHAPTER 1

INTRODUCTION
1.0 Introduction

Although climate change is a global issue, the State of California recognizes that it poses risks to the public health, environment, economic well-being, and natural resources of California, and has taken an active approach to address climate change through the adoption of legislation and policies—In 2005, the governor issued Executive Order S-3-05 to reduce statewide GHG emissions to 1990 levels by 2020 (approximately 15 percent below 2005 levels) and to 80 percent below 1990 levels by 2050. Enactment of several related pieces of climate action legislation followed, including AB 32 (the Global Warming Solutions Act of 2006), which codified the 2020 target, and SB 97 (the CEQA and GHG Emissions bill of 2007), which requires lead agencies to analyze GHG emissions and mitigate climate change impacts under CEQA. These laws together create a framework for GHG emissions reductions and identify local governments as having a vital role to play in assisting the State in meeting these mandates. The AB 32 Scoping Plan, prepared by CARB pursuant to AB 32, notes that local governments have broad influence and, in some cases, exclusive authority over activities that result in GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and City government operations. In recognition of the important role local governments will play in the successful implementation of AB 32, the AB 32 Scoping Plan recommends a GHG emission reduction target for local governments of 15 percent below 2005 levels by 2020 to match the statewide reduction target and to mitigate their impacts on climate change.

Recognizing the important role and responsibility that local governments have in reducing GHG emissions and mitigating their potential climate change impacts, the City has prepared this CAP. This chapter describes the purpose, scope, and content of Atascadero’s CAP. This chapter also summarizes the scientific and regulatory framework under which this plan has been developed.

1.1 Purpose and Scope

The City’s CAP is a long-range plan to reduce GHG emissions from community-wide activities and City government operations within Atascadero to support the State’s efforts under AB 32 and to mitigate the community’s contribution to global climate change. Specifically, the CAP does the following:

1. Summarizes the results of the City of Atascadero 2005 Greenhouse Gas Emissions Inventory Update (2012), which identifies the major sources and quantities of GHG emissions produced within Atascadero and forecasts how these emissions may change over time.
2. Identifies the quantity of GHG emissions that Atascadero will need to reduce to meet the State-identified target of 15 percent below 2005 levels by the year 2020.
3. Sets forth City government and community-wide GHG reduction measures, including performance standards which, if implemented, would collectively achieve the specified emission reduction target.
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3. Identifies proactive strategies that can be implemented to help Atascadero prepare for anticipated climate change impacts.

4. Sets forth procedures to implement, monitor, and verify the effectiveness of the CAP measures and adapt efforts moving forward as necessary.

In addition to reducing Atascadero’s GHG emissions consistent with AB 32, and mitigating the community’s contribution to global climate change, implementation of the CAP will help achieve multiple community-wide goals, such as lowering energy costs, reducing air pollution, supporting local economic development, and improving public health and quality of life. The CAP may also be utilized to tier and streamline the analysis of GHG emissions of future development within Atascadero pursuant to State CEQA Guidelines Sections 15152 and 15183.5 (refer to Section 1.4, Relationship to CEQA).

1.2 Content

The CAP is organized into the following chapters:

1.0 Introduction – describes the purpose, scope, and content of Atascadero’s CAP. It also summarizes the scientific and regulatory framework under which this plan has been developed.

2.0 GHG Emissions and Reduction Target – identifies the sources of GHG emissions in Atascadero, quantifies emissions for a baseline year (2005), and forecasts how emission levels would change through 2020. This chapter also quantifies the GHG emissions reduction target for the year 2020.

3.0 Climate Action Measures – organizes the CAP measures into the following focus areas: City government operations, energy, transportation and land use, off-road, water, solid waste, and trees and vegetation. Each GHG reduction measure is presented with implementation actions, estimated GHG reductions in 2020, and estimated cost and future savings.

4.0 Adaptation – includes a discussion of modeled climate change predictions, an urban system assessment, a vulnerability assessment, and adaptation measures to prepare for and minimize the risk associated with anticipated climate change impacts.

5.0 Implementation and Monitoring – sets forth procedures to implement and monitor the individual CAP measures, evaluate the CAP’s performance, and amend the plan if it is not achieving targeted reduction levels. It also identifies potential sources of funding to implement the CAP.

1.3 Background and Planning Process

In 2007, the San Luis Obispo County Air Pollution Control District (APCD) convened a committee of agency stakeholders (Stakeholder Committee) from the cities of Atascadero, Arroyo Grande, Grover Beach, Morro Bay, Paso Robles, Pismo Beach, and San Luis Obispo and the County of San Luis Obispo to initiate a discussion on climate change, including science,
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policy, funding, mitigation, adaptation, and public engagement. The APCD also coordinated the preparation of GHG emissions inventories for each of the jurisdictions. Both the City and County of San Luis Obispo received federal stimulus funds to support the development of their CAPs. San Luis Obispo County approved its EnergyWise Plan in November 2011, and the City of San Luis Obispo adopted its Climate Action Plan in July 2012. The APCD worked with the remaining six cities to secure funds for individual CAPs, including the City of Atascadero CAP, through the Pacific Gas and Electric Company (PG&E) Green Communities Program, Southern California Gas Company (SoCalGas), and APCD’s mitigation grant funding.

City staff and its consultants worked with members of the community and elected officials to develop the CAP. The public outreach program involved two regional community workshops hosted by the project consultant to introduce the project and gather input and ideas for the document and on potential GHG reduction measures. A virtual town hall also provided an opportunity for community members to evaluate a preliminary set of GHG reduction measures and suggest additional ideas. Public outreach also included posting project information and updates to the main project website (www.centralcoastghgplanning.com) and eNewsletter announcements. In order to facilitate detailed review and obtain input from local residents and decision makers in the City of Atascadero, the Atascadero City Council designated the City’s Planning Commission as the “Climate Action Plan Steering Committee.” The City Council stated that local public input and participation was a vital component of the CAP process, and was crucial to ensure that Atascadero’s unique environment, local viewpoints and community goals were considered and incorporated into the document. As the Steering Committee, the Atascadero Planning Commission met several times to discuss the Climate Action Plan, including three meetings for extensive review and discussion of potential greenhouse gas reduction measures prior to drafting the CAP document. The City Council also held several public meetings to discuss the Climate Action Plan direction, and review the possible reduction measures at all stages of the CAP development. Public comment was encouraged at all of these meetings. The City maintained a local project website at Atascadero.org in order to make draft documents and staff reports easily accessible for review. Press releases, notices in the local newspaper, social media notifications, and televised public meetings were utilized to engage the public and create an open and collaborative CAP development process.

1.4 Relationship to CEQA

According to the California Natural Resources Agency (2009) and the State’s Office of the Attorney General (2009), GHG emissions may be best analyzed and mitigated at the programmatic level (i.e., in a GHG reduction plan/CAP). In 2009, the California Natural Resources Agency amended the State CEQA Guidelines to add a new provision, Section 15183.5, which provides a framework for programmatic GHG emissions reduction plans (i.e., a CAP). Section 15183.5 states a plan for the reduction of GHG emissions should:

- Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
- Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
INTRODUCTION

- Identify and analyze the GHG emissions resulting from sources in the community;
- Identify a suite of specific, enforceable measures that, collectively, will achieve the emissions targets;
- Establish a mechanism to monitor the plan's progress and to require amendment if the plan is falling short; and
- Be adopted in a public process following environmental review.

This CAP was developed to be consistent with State CEQA Guidelines Section 15183.5. Once the CAP is adopted following environmental review, a lead agency may determine that projects that are consistent with the CAP will not have significant GHG-related impacts, thereby shortening the CEQA process, which can save time and money for these projects. Appendix C contains a worksheet that project applicants may use to demonstrate project-level compliance. If a project is found to be inconsistent with the CAP, the APCD thresholds discussed in Section 1.8.3 should be applied.

1.5 Scientific Background

In order to make meaningful and effective decisions regarding the mitigation of GHG emissions and adaptation to anticipated changes in climate, it is important to understand the science under which this CAP has been developed. This section provides a brief introduction to the scientific research efforts to understand how climate change occurs and its implications.

Global climate change refers to changes in the average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and storms. Global warming, a related concept, is the observed increase in average temperature of the Earth’s surface and atmosphere caused by increased GHG emissions, which can contribute to changes in global climate patterns. GHGs, such as water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and ozone (O₃), are gases in the Earth’s atmosphere that play a critical role in determining the Earth’s surface temperature. Specifically, GHGs allow high-frequency solar radiation to enter the Earth’s atmosphere, but trap the low frequency, long wave energy which is radiated back from the Earth to space, resulting in a warming of the atmosphere. The trapping of heat at the Earth’s surface is known as the “greenhouse effect” (refer to Figure 1-1).
GHGs are the result of both natural and anthropogenic activities. The consumption of fossil fuels for power generation and transportation, forest fires, decomposition of organic waste, and industrial processes are the primary sources of GHG emissions. Without human intervention, the Earth maintains an approximate long-term balance between the emission of GHGs into the atmosphere and its storage in oceans and terrestrial ecosystems. Following the industrial revolution, however, increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.) and other industrial processes have contributed to the rapid increase in atmospheric levels of GHGs (refer to Figure 1-2) (NOAA, 2009). This increase in GHGs 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).

This graph, based on the comparison of atmospheric samples contained in ice cores and more recent direct measurements, provides evidence that atmospheric CO₂ has increased since the Industrial Revolution (NASA, 2011).
The principal GHGs that enter the atmosphere as a result of human activities are discussed below.

- **Carbon dioxide (CO₂)** 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., cement production) and deforestation. Carbon dioxide is also removed from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle.

- **Methane (CH₄)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from agricultural practices, such as the raising of livestock, and by the decomposition of organic waste in landfills.

- **Nitrous oxide (N₂O)** is emitted during agricultural and industrial activities, as well as during the burning of fossil fuels and solid waste.

- **Fluorinated gases** (i.e., hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) are synthetic GHGs that are emitted from a variety of industrial processes (e.g., aluminum production) and used in commercial, industrial, and consumer products (e.g., automobile air conditioners and refrigerants). These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as “high global warming potential” gases.

Each GHG has a different potential for trapping heat in the atmosphere, called global warming potential. For example, one pound of methane has 21 times more heat capturing potential than one pound of carbon dioxide. To simplify reporting and analysis of GHGs, GHG emissions are typically reported in metric tons of carbon dioxide equivalent (MT CO₂e) units. When dealing with an array of emissions, the gases are converted to their carbon dioxide equivalents for comparison purposes. The global warming potentials for common GHGs are shown in **Table 1-1**.

**Table 1-1: Global Warming Potential of GHGs**

<table>
<thead>
<tr>
<th>GHG</th>
<th>Global Warming Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Dioxide (CO₂)</td>
<td>1</td>
</tr>
<tr>
<td>Methane (CH₄)</td>
<td>21</td>
</tr>
<tr>
<td>Nitrous Oxide (N₂O)</td>
<td>310</td>
</tr>
<tr>
<td>Hydrofluorocarbons (HFCs)</td>
<td>140-11,700</td>
</tr>
<tr>
<td>Perfluorocarbons (PFCs)</td>
<td>6,500-9,200</td>
</tr>
<tr>
<td>Sulfur Hexafluoride (SF₆)</td>
<td>23,900</td>
</tr>
</tbody>
</table>

Notes: Each of the GHGs listed above differs in its ability to absorb heat in the atmosphere, or in its global warming potential. The values presented above are based on the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report and United Nations Framework Convention on Climate Change reporting guidelines (IPCC, 1996). Although the IPCC Fourth Assessment Report presents different estimates, the current inventory standard relies on the Second Assessment Report’s intensity factors to comply with reporting standards and consistency with regional and national inventories (USEPA, 2010).
1.6 Climate Change Impacts

Increases in the globally averaged atmospheric concentration of GHGs will cause the lower atmosphere to warm, in turn inducing a myriad of changes to the global climate system. These large-scale changes will have unique and potentially severe impacts in the western United States, California, and the central coast region. Current research efforts coordinated through CARB, California Energy Commission, California Environmental Protection Agency (EPA), University of California system, and other entities are examining the specific changes to California’s climate that will occur as the Earth’s surface warms.

The best available climate models indicate that climate change could impact the natural environment in California in the following ways, among others (California Natural Resources Agency, 2009):

- Rising sea levels along the California coastline caused by ocean expansion and glacier melt
- Extreme heat conditions, such as heat waves and very high temperatures, which could last longer and become more frequent
- An increase in heat related human deaths, infectious diseases, and a higher risk of respiratory problems caused by deteriorating air quality
- Reduced snow pack and stream flow in the Sierra Nevada Mountains, affecting winter recreation and water supplies
- Potential increase in the severity and historical pattern of winter storms, affecting peak stream flows and flooding
- Changes in growing season conditions that could affect California agriculture, causing variations in crop quality and yield
- Changes in distribution of plant and wildlife species brought about by changes in temperature, competition from colonizing species, changes in hydrologic cycles, changes in sea levels, and other climate-related effects

1.7 Implications for Atascadero

Rising temperatures affect local and global climate patterns, and these changes are forecasted to manifest themselves in a number of ways that may impact the central coast region. As further discussed in Chapter 4, Adaptation, according ClimateWise: Integrated Climate Change Adaptation Planning in San Luis Obispo County in November 2010 (ClimateWise) potential climate changes that could occur in Atascadero by the end of this century include:
• Increased temperatures
• Changed precipitation
• Increased frequency and severity of storm events
• Increased burn area from wildfires

1.8 Regulatory Background

This section summarizes the federal, state, and regional legislation, regulations, policies, and plans that have guided the preparation and development of this CAP.

1.8.1 Federal

Clean Air Act. The U.S. EPA is the federal agency responsible for implementing the Clean Air Act. The U.S. Supreme Court ruled in its decision in Massachusetts et al. v. Environmental Protection Agency et al., issued on April 2, 2007, that carbon dioxide is an air pollutant as defined under the Clean Air Act and that the U.S. EPA has the authority to regulate emissions of GHGs as pollutants. In 2011, the U.S. EPA began regulating GHG emissions from new power plants and refineries through a set of New Source Performance Standards. These regulations are found in 40 CFR Part 60 and apply to new, modified and reconstructed affected facilities in specific source categories such as manufacturers of glass, cement, rubber tires and wool fiberglass.

Energy Independence and Security Act. The Energy Independence and Security Act of 2007 includes several provisions that will increase energy efficiency and the availability of renewable energy, which in turn will reduce GHG emissions. 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, it includes a variety of new standards for lighting and for residential and commercial appliance equipment, including residential refrigerators, freezers, refrigerator-freezers, metal halide lamps, and commercial walk-in coolers and freezers.

1.8.2 State of California

The State of California has been proactive in working to reduce emissions and has a long history of leadership in addressing energy and climate issues spanning the last 40 years. In 1988, AB 4420 (Sher, Chapter 1506, Statutes of 1988) designated the California Energy Commission as the lead agency for climate change issues in California. Since that time, numerous initiatives in California have addressed climate change and energy efficiency, the majority of legislation passed since 2000. These initiatives have strengthened the ability of entities in California to engage in accurate data collection and have created targets and regulations that will directly lead to reductions in GHG emissions. These initiatives are described below.
**Introduction**

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 percent below 1990 levels by 2050. 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 CARB to reduce California’s statewide emissions to 1990 levels by 2020. 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 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
- Preserving forests that sequester carbon dioxide

Although the AB 32 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 AB 32 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, the AB 32 Scoping Plan stopped short of identifying mandatory targets for local government compliance. Instead, it encourages local governments to adopt a target for City government and community-wide emissions that parallels the State’s AB 32 target and reduces emissions by approximately 15 percent by 2020.

Senate Bill 97. SB 97 (2007) established that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis and required the Governor’s Office of
Planning and Research to develop guidelines to analyze GHG impacts under CEQA. The guidelines were adopted on December 31, 2009, requiring lead agencies to analyze GHG emissions and the effects of GHG emissions during CEQA review.

Assembly Bill 1493 (Pavley Regulations). AB 1493 (referred to as Pavley I) (2002) directed 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 will cover 2017 to 2025. Fleet average emission standards would reach 22 percent reduction by 2012 and 30 percent by 2016.

Executive Order S-1-07 (Low Carbon Fuel Standard). This 2007 order requires fuel providers to reduce the carbon intensity of California’s transportation fuels by at least 10 percent by 2020.

Senate Bill 375. SB 375 (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. The San Luis Obispo Council of Governments (SLOCOG), Atascadero’s MPO, has adopted reduction targets for per capita emissions from passenger vehicles of 8 percent below baseline (2005) for the years 2020 and 2035 (CARB, 2011). These targets apply to the SLOCOG region as a whole, and not to individual cities or sub-regions. In 2008, GHG emissions from passenger vehicles in the San Luis Obispo region were approximately 16.5 pounds CO\textsubscript{2}e per capita. Therefore, SLOCOG must reduce emissions to at least 15.18 pounds CO\textsubscript{2}e per capita by 2020 and maintain or further reduce that level through 2035 to meet the target. SLOCOG’s 2010 Regional Transportation Plan and Preliminary Sustainable Communities Strategy (RTP-PSCS), adopted in 2010, details how the region will meet the target (refer to the discussion of SLOCOG’s 2010 RTP-PSCS in Section 1.8.3 below).

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 required investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources by at least 1 percent of their retail sales annually, until they achieved 20 percent by 2010. SB 2X raises the target from the current 20 percent, requiring private and public utilities to obtain 33 percent of their electricity from renewable energy sources by 2020.

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.

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.

**California Green Building Code.** The California Green Building Code (2008) (the CALGreen Code) is the statewide green building code, which was developed to provide a consistent approach for green building within California. 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 percent, divert 50 percent of construction waste from landfills to recycling, and use low-pollutant paints, carpets, and floors.

**California Code of Regulations Title 24, Part 6.** Although it was not originally intended specifically to reduce GHG emissions, California Code of Regulations Title 24, Part 6: California’s Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California’s energy consumption, which in turn reduces fossil fuel consumption and associated GHG emissions. The standards are updated periodically to allow consideration and possible incorporation of new energy-efficient technologies and methods. The California Energy Commission estimates that the 2008 standards reduce consumption by 10 percent for residential buildings and 5 percent for commercial buildings, relative to the previous standards. For projects implemented after January 1, 2014, the California Energy Commission estimates that the 2013 Title 24 energy efficiency standards will reduce consumption by 25 percent for residential buildings and 30 percent for commercial buildings, relative to the 2008 standards. These percentage savings relate to heating, cooling, lighting, and water heating only and do not include other appliances, outdoor lighting that is not attached to buildings, plug loads, or other energy uses.

**Assembly Bill 341.** AB 341 (2011) establishes a new policy goal of the State of California to divert at least 75 percent of solid waste generated by the year 2020 in an effort to reduce GHG emissions. It also provides for mandatory commercial and multi-family residential recycling, and requires cities and counties to add a commercial and multi-family residential recycling element to their existing resource reduction plans.

### 1.8.3 Regional

**San Luis Obispo County Air Pollution Control District**

The APCD has primary responsibility for the development and implementation of rules and regulations designed to attain the National Ambient Air Quality Standards and California Ambient Air Quality Standards, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations within San Luis Obispo County, which is located within the South Central Coast Air Basin. The APCD regulates most air pollutant sources, except for mobile sources, which are regulated by CARB or California EPA. State and local government projects, as well as projects proposed by the private sector, are subject to APCD requirements if the sources are regulated by the APCD.
INTRODUCTION

The AB 32 Scoping Plan does not provide an explicit role for local air districts in implementing AB 32, but it does state that CARB will work actively with air districts in coordinating emissions reporting, encouraging and coordinating GHG reductions, and providing technical assistance in quantifying reductions. The ability of air districts to control emissions (both criteria pollutants and GHGs) is provided primarily through permitting as well as through their role as CEQA lead or commenting agency, the establishment of CEQA thresholds, and the development of analytical guidance for CEQA documents.

In March 2012, the APCD adopted GHG thresholds in order to help lead agencies meet the GHG reduction goals of AB 32. The APCD’s approach to developing a threshold of significance for GHG emissions was to identify the GHG emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions. Different thresholds were developed to accommodate various development types and patterns and are summarized below in Table 1-2.

<table>
<thead>
<tr>
<th>GHG Emission Source Category</th>
<th>Operational Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential and Commercial Projects</td>
<td>Compliance with Qualified GHG Reduction Strategy OR Bright-Line Threshold of 1,150 MT CO\textsubscript{2}e/yr OR Efficiency Threshold of 4.9 MT CO\textsubscript{2}e/SP*/yr</td>
</tr>
<tr>
<td>(Industrial) Stationary Sources</td>
<td>10,000 MT of CO\textsubscript{2}e/yr</td>
</tr>
</tbody>
</table>

*SP = Service Population (residents + employees). YR = Year

For projects other than stationary sources, compliance with either a Qualified GHG Reduction Strategy, or with the Bright-Line (1,150 CO\textsubscript{2}e/yr) or Efficiency Threshold (4.9 MT CO2e/SP/yr) would result in an insignificant determination, and in compliance with the goals of AB 32. The construction emissions of projects will be amortized over the life of a project and added to the operational emissions. Emissions from construction-only projects (e.g. roadways, pipelines, etc.) will be amortized over the life of the project and compared to an adopted GHG Reduction Strategy or the Bright-Line Threshold only.

The APCD recommends that lead agencies within the county use the adopted GHG thresholds of significance when considering the significance of GHG impacts of new projects subject to CEQA. Further, projects with GHG emissions that exceed the thresholds will need to implement mitigation to reduce the impacts to a less than significant level, which can be accomplished through a Mitigated Negative Declaration or an Environmental Impact Report.

As identified in the APCD thresholds, if a project is consistent with an adopted Qualified GHG Reduction Strategy (e.g., CAP meeting criteria identified in Section 1.4 above) that addresses the project’s GHG emissions, it can be presumed that the project will not have significant GHG emission impacts. This approach is consistent with CEQA Guidelines Section 15183.5. As discussed in Section 1.4 above, this CAP was developed to be consistent with State CEQA Guidelines Section 15183.5 to mitigate emissions and climate change impacts and will therefore serve as a Qualified GHG Reduction Strategy for the City of Atascadero.
SAN LUIS OBISPO COUNCIL OF GOVERNMENTS

SLOCOG is the local Council of Governments with responsibility for regional planning for San Luis Obispo County. SLOCOG’s planning efforts address regional issues relating to transportation, land use and urban form, housing, environment, economic development, regional public facilities, and climate change. Plans that SLOCOG has adopted that support GHG emissions reductions in Atascadero are described below.

Rideshare Program. The Rideshare Program is a division of SLOCOG that focuses on outreach and events to promote bicycling, walking, carpooling, vanpooling, and riding the bus. Some of the major programs include:

- Bike month and Rideshare month.
- Transportation Choices Program – This is a free program in San Luis Obispo County offered to businesses and organizations that encourage their employees to use sustainable transportation. The goal of the Transportation Choices Program is to equip employers with the tools needed promote positive change in employee commuting habits.
- Mobility Management Program - The goal of the program is to bridge the communications gap between Public Transit Operators and Social Services Agencies.
- Safe Routes to School Program - Safe Routes to School is a national and international movement to enable and encourage students to walk and bicycle to school. Through the use of education, encouragement, enforcement, engineering and evaluation, programs and projects are being developed to create a safe, healthy and fun environment for walking and biking to school.
- Senior Transportation Choices Program - Rideshare works hand-in-hand with seniors throughout the county, providing tools and education on how to use public transportation and community transportation services. Through our Senior Transportation Choices Program, we provide transportation information, Transit Field Trips and personalized trip planning.

Planning for Alternative Modes. SLOCOG focuses planning efforts to support the use of the following alternative modes of transportation:

- **Bikes** – SLOCOG supports and promotes bicycling as a viable transportation choice. SLOCOG staff attend Bicycle Advisory Committees in the City of San Luis Obispo and San Luis Obispo County. SLOCOG staff also review and advise jurisdictions on approval of BTA eligible Bicycle Plans.
- **Pedestrians** – SLOCOG is in the process of developing the Northern San Luis Obispo County Salinas River Corridor Anza Trail Master Plan.
- **Bus** – SLOCOG works with all transit providers to coordinate services. The Transit Operators Group is an Ad Hoc committee of transit operators, contractors, and SLOCOG staff. Coordinating projects include the Coordinated Human Services Public
**Transportation Plan, the Region Wide Fare Improvement Study, and the Long Range Transit Plan.**

- **Rail** – SLOCOG coordinates and prepares agendas for the Coast Rail Coordinating Council (CRCC). The purpose of the CRCC is to improve the frequency and speed of passenger trains on the coast route between San Francisco and Los Angeles.

**Community 2050 Regional Blueprint.** Community 2050 is a collaborative planning effort that utilizes scenario planning to study long-range regional growth. Community 2050 outlines a program to improve multimodal mobility through a combination of strategies and investments to accommodate growth in transportation demand and reduce congestion that will contribute to a strong economy.

**2010 Regional Transportation Plan – Preliminary Sustainable Communities Strategy (RTP-PSCS).** The RTP-PSCS, most recently updated in 2010, is a comprehensive plan guiding transportation policy for the region and makes recommendations concerning improvements to the existing transportation network of highways, transit, air, water, rail, and bicycling. The plan helps position the region to achieve smarter, more sustainable growth that meets the transportation needs of the growing population and changing region. The primary purpose of the RTP-SCS is to integrate sustainable communities strategies developed under the Community 2050 Regional Blueprint and continue progress in accomplishing the intermodal mix of policies, programs and projects in the adopted RTP, Vision 2025, adopted in 2005. The 2010 RTP-PSCS contains a “Preliminary” Sustainable Communities Strategy consistent with the purpose and intent of state bills related to GHG emissions GHGs and climate change, including AB 32 and the SB 375.

**2012 SCS-compliant RTP Update.** SLOCOG is currently working to prepare a 2012 SCS-complaint RTP. This update will build upon and further refine the efforts of the 2010 RTP-PSCS to adjust alternatives to satisfy State requirements of SB 375. SLOCOG must reduce per capita GHG emissions from passenger vehicles by 8 percent relative to 2005 levels in 2020 and 2030.

**1.8.4 LOCAL GOVERNMENT ROLES AND RESPONSIBILITIES**

The AB 32 Scoping Plan establishes a framework for achieving statewide GHG reductions required by AB 32. Specifically, the AB 32 Scoping Plan describes a list of measures that the State will undertake, and the anticipated GHG reductions associated by these measures, by 2020. Because the State does not have jurisdictional control over all of the activities that produce GHG emissions in California, the AB 32 Scoping Plan articulates a unique role for local governments in helping to achieve the statewide GHG reduction target, noting their broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and City government operations. As such the AB 32 Scoping Plan recommends that local governments reduce GHG emissions from both their City government operations and community at large.
CHAPTER 2
GHG EMISSIONS AND REDUCTION
2.0 GHG Emissions and Reduction Target

A GHG emissions inventory identifies the major sources and quantities of GHG emissions produced by community-wide activities and City government facilities and operations within a jurisdiction’s boundaries for a given year. Estimating GHG emissions enables local governments to establish an emissions baseline, track emissions trends, identify the greatest sources of GHG emissions within their jurisdiction, set targets for future reductions, and create an informed mitigation strategy based on this information.

This chapter summarizes the results of the GHG Emissions Inventory (2012). The Inventory includes a 2005 baseline inventory of GHG emissions resulting from community-wide activities and City government facilities and operations within Atascadero. It also includes a 2020 business-as-usual forecast of how emissions would change over time as a result of population and job growth if consumption trends and efficiencies remained at their 2005 levels, absent of any new policies or actions that would reduce emissions. Since 2005, there have been several State regulations and local initiatives that have been implemented that will reduce Atascadero’s GHG emissions. Therefore, this chapter also presents a 2020 adjusted forecast to account for the impact of these measures to provide a more accurate picture of future emissions growth in 2020. In addition, this chapter identifies the City’s GHG emissions reduction target for the year 2020 consistent with AB 32. Appendix A contains the complete GHG Emissions Inventory and supporting documentation.

2.1 2005 Baseline GHG Emissions

This section summarizes the methodology used to complete the 2005 baseline inventory of community-wide activities and City government facilities and operations, and the results.

2.1.1 Methodology

The 2005 baseline inventory quantifies the amount of GHG emissions that occurred within the City’s jurisdictional boundary in the year 2005. It includes a community-wide inventory that details the sources and quantities of GHG emissions resulting from activities from the Atascadero community as a whole, and a City government operations inventory that identifies the sources and quantities of emissions resulting from the City of Atascadero’s operations and facilities. The City government operations inventory is a subset of the community-wide inventory, such that the City government’s emissions are included within the community-wide inventory.

The community-wide inventory is divided into the following sectors, or categories of emissions sources: residential energy use, commercial and industrial energy use, transportation, off-road vehicles and equipment, solid waste, and wastewater. The City government operations inventory provides a more detailed analysis of emissions resulting from City-owned or -operated buildings and facilities, fleet vehicles, transit vehicles, and streetlights and traffic signals; employee commute travel; water delivery; wastewater facilities; and solid waste.
The City government operations inventory follows the *Local Government Operations Protocol* (version 1.1), which was adopted in 2010 by CARB and serves as the national standard for quantifying and reporting GHG emissions from local government operations. The community-wide inventory follows the *Association of Environmental Professionals (AEP) California Community-wide GHG Baseline Inventory Protocol (AEP Protocol)* (June 2011) and *ICLEI International Local Government GHG Emissions Analysis Protocol (IEAP)* (October 2009). These protocols provide standard accounting principles, boundaries, quantification methods, and procedures for reporting GHG emissions. Like all emissions inventories, this inventory must rely on the best-available data and calculation methodologies, and therefore, represents a best estimate of GHG emissions following standard methodologies at the time of preparation. As protocols are updated, as better data and calculation methodologies become available, the inventory can be updated and improved. Nevertheless, the findings of this analysis provide a solid basis upon which Atascadero is planning and taking action to reduce its GHG emissions.

The City of Atascadero has prepared this Climate Action Plan in accordance with the accepted Statewide standards for GHG reduction targets and calculations. However, it should be noted that other methods of showing GHG reductions have been considered, such as identifying GHG reduction goals on a per capita basis, and these methods may be further explored in future Climate Action Plan updates by the City.

The City of Atascadero has experienced high population growth over recent decades. Due to the vacant land available within the City, the opportunities for infill development, and the City's willingness to accept the growth required by State and regional housing demands, Atascadero has grown at a faster rate than many other similar sized cities. It should be noted that while overall emissions in the City have increased from 1990, per capita GHG emissions in fact have actually decreased. 1990 GHG levels are estimated to be 120,214 MT CO2e (15% below 2005), which equates to 5.17 MT CO2e per person (based on a 1990 population of 23,229.) 2010 GHG levels are estimated to be approximately 140,500 MT CO2e (based on the adjusted forecast) which equates to 4.96 MT CO2e per person (based on a 2010 population of 28,310.) This means that the rate of growth in total GHG emissions in the City has been primarily due to the growth in total population. Due to this higher growth rate, Atascadero must take greater steps through Climate Action Planning to meet the 15% reduction from 2005 levels as required by AB 32, since the State's identified reduction is a blanket percentage citywide and does not take into consideration growth rate.

It should be noted that the City of Atascadero has taken great strides to make sure that the new growth in recent decades is sustainable, mostly infill growth, rather than sprawling development further into the hills outside the City. Atascadero has been implementing compact development principals and focusing on energy efficiency as matter of good economic and environmental stewardship since long before the City was required to do so by AB 32. This can be seen in the compiled list of sustainable actions taken by the City to date, identified in the CAP Appendix B.

### 2.1.2 Community-wide GHG Emissions

In 2005, the Atascadero community emitted approximately 141,428 MT CO2e as a result of activities that took place within the residential energy use, commercial and industrial energy
use, transportation, off-road, solid waste, and wastewater sectors. As shown in Figure 2-1 and Table 2-1, the transportation sector was the largest contributor of GHG emissions, generating approximately 60,041 MT CO$_2$e, or 43 percent of total 2005 emissions. Transportation sector emissions are the result of diesel and gasoline fuel used in on-road vehicles traveling to and/or from locations within Atascadero.\(^2\) Electricity and natural gas consumption within the residential sector was the second largest contributor, generating 40,690 MT CO$_2$e, or 29 percent of the total emissions. Electricity and natural gas consumption in Atascadero’s commercial and industrial sector produced 20,271 MT CO$_2$e, or 14 percent of total community-wide emissions. Emissions from solid waste sent to landfills (9,083 MT CO$_2$e, or six percent), off-road vehicles and equipment (8,686 MT CO$_2$e, or six percent), and wastewater treatment (2,657 MT CO$_2$e, or two percent) accounted for the remainder of community-wide emissions.

\(^2\) Excludes pass-through trips that do not have an origin or destination within the city. Emissions take into account the regional mix of vehicle classes and model years, as well as ambient conditions and travel speeds that determine fuel efficiency. Types of emissions accounted for include: running exhaust, idle exhaust, starting exhaust, diurnal, resting loss, running loss, and hot soak. Refer to Appendix A for further information.
Table 2-1: Community-wide GHG Emissions by Sector (2005)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Description</th>
<th>GHG Emissions (MT CO$_2$e)</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>Electricity and natural gas used in homes</td>
<td>40,690</td>
<td>29%</td>
</tr>
<tr>
<td>Commercial/Industrial</td>
<td>Electricity and natural gas used in commercial and industrial buildings</td>
<td>20,271</td>
<td>14%</td>
</tr>
<tr>
<td>Transportation</td>
<td>Gasoline and diesel used in on-road vehicles</td>
<td>60,041</td>
<td>43%</td>
</tr>
<tr>
<td>Off-Road Vehicles and Equipment</td>
<td>Gasoline, diesel, and compressed natural gas used in off-road vehicles and equipment</td>
<td>8,686</td>
<td>6%</td>
</tr>
<tr>
<td>Solid Waste</td>
<td>Methane from the decomposition of landfilled solid waste</td>
<td>9,083</td>
<td>6%</td>
</tr>
<tr>
<td>Wastewater</td>
<td>Methane and nitrous oxide released in the wastewater treatment process</td>
<td>2,657</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>141,428</td>
<td>100%</td>
</tr>
</tbody>
</table>

2.1.3 City Government Operations GHG Emissions

In 2005, City government operations generated approximately 4,130 MT CO$_2$e. This quantity represents approximately three percent of Atascadero’s total community-wide GHG emissions. As shown in Figure 2-2 and Table 2-2, the City’s wastewater facility was the largest contributor to the City’s emissions (generating approximately 71 percent of the total emissions). Fuel consumption from the City’s fleet vehicles (10 percent) and from electricity and natural gas used at City buildings (eight percent) were also a large source of emissions. Emissions from the transit fleet (five percent), employee commute (five percent), solid waste (one percent), streetlights and traffic signals (less than one percent), and water delivery (less than one percent) accounted for the remainder of the City’s emissions.
Figure 2-2: City Government GHG Emissions by Sector (2005)

Table 2-2: City Government GHG Emissions by Sector (2005)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Description</th>
<th>GHG Emissions (MT CO₂e)</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Fleet</td>
<td>Diesel and gasoline consumption and vehicle type</td>
<td>402</td>
<td>10%</td>
</tr>
<tr>
<td>Transit Fleet</td>
<td>Diesel and gasoline consumption</td>
<td>214</td>
<td>5%</td>
</tr>
<tr>
<td>Employee Commute</td>
<td>Annual vehicle miles traveled (VMT) from sample of employee commuting patterns</td>
<td>185</td>
<td>5%</td>
</tr>
<tr>
<td>Buildings and Facilities</td>
<td>Electricity and natural gas consumption in City-owned or – operated buildings and facilities</td>
<td>316</td>
<td>8%</td>
</tr>
<tr>
<td>Streetlights &amp;Traffic Signals</td>
<td>Electricity used to power streetlights, traffic signal lights, and other public outdoor lighting</td>
<td>40</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Solid Waste</td>
<td>Annual waste tonnage sent to landfill</td>
<td>49</td>
<td>1%</td>
</tr>
<tr>
<td>Water Delivery</td>
<td>Electricity used for water transport resulting from City operations</td>
<td>1</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Wastewater Facilities</td>
<td>Electricity consumption from wastewater facilities</td>
<td>2,923</td>
<td>71%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>4,130</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
2.2 2020 GHG Emissions Forecast

2.2.1 METHODOLOGY

The GHG emissions forecast provides a “business-as-usual estimate,” or scenario, of how emissions will change in the year 2020 if consumption trends and behavior continue as they did in 2005, absent any new federal, state, regional, or local policies or actions that would reduce emissions. The year 2020 was selected for the forecast in order to maintain consistency with AB 32.

The GHG emissions forecast is based on projected growth trends in population, jobs, and VMT and the assumption that the emissions per sector will change over time in proportion to population, jobs, and VMT. The forecast relies on SLOCOG’s San Luis Obispo County 2040 Population, Housing & Employment Forecast (August 2011) for year 2020 population and job projections and VMT estimates from SLOCOG’s regional travel demand model for the year 2020 provided by Fehr & Peers. The “mid-range” values for population and job growth were used for this forecast.

2.2.2 2020 BUSINESS-AS-USUAL FORECAST

Under a business-as-usual scenario, Atascadero’s GHG emissions are projected to grow by approximately 22 percent by the year 2020, from 141,428 MT CO₂e to 172,488 MT CO₂e. Emissions associated with the transportation sector are projected to experience the highest level of growth (39 percent). Table 2-3 and Figure 2-3 show the results of the forecast.

<table>
<thead>
<tr>
<th>Sector</th>
<th>2005 (MT CO₂e)</th>
<th>2020 (MT CO₂e)</th>
<th>Percent Change from 2005 to 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>40,690</td>
<td>43,926</td>
<td>8%</td>
</tr>
<tr>
<td>Commercial / Industrial</td>
<td>20,271</td>
<td>22,049</td>
<td>9%</td>
</tr>
<tr>
<td>Transportation</td>
<td>60,041</td>
<td>83,317</td>
<td>39%</td>
</tr>
<tr>
<td>Off-Road</td>
<td>8,686</td>
<td>10,521</td>
<td>21%</td>
</tr>
<tr>
<td>Solid Waste</td>
<td>9,083</td>
<td>9,805</td>
<td>8%</td>
</tr>
<tr>
<td>Wastewater</td>
<td>2,657</td>
<td>2,868</td>
<td>8%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>141,428</strong></td>
<td><strong>172,488</strong></td>
<td><strong>22%</strong></td>
</tr>
</tbody>
</table>

*Refer to Appendix A for details
2.2.3 2020 Adjusted Forecast

A. Incorporation of State Reductions into Forecast

The AB 32 Scoping Plan identifies several State measures that are approved, programmed, and/or adopted and will reduce GHG emissions within Atascadero. These State measures require no additional local action. Therefore, these measures were incorporated into the forecast and reduction assessment to create an “adjusted forecast,” which provides a more accurate picture of future emissions growth and the responsibility of the City once State measures to reduce GHG emissions have been implemented. A brief description of each of these measures is provided below and the calculation details are located in Appendix B, of this document. Table 2-4 summarizes the reduction in local emissions that would result.

Table 2-4: Summary of State Reductions

<table>
<thead>
<tr>
<th>State Measure</th>
<th>2020 Reduction (MT CO₂e)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Car Standards, AB 1493 (Pavley I)</td>
<td>-11,064</td>
</tr>
<tr>
<td>Low-Carbon Fuel Standard (on-road transportation)</td>
<td>-7,226</td>
</tr>
<tr>
<td>Low-Carbon Fuel Standard (off-road vehicles)</td>
<td>-1,052</td>
</tr>
<tr>
<td>Title 24</td>
<td>-592</td>
</tr>
<tr>
<td>Renewable Portfolio Standard</td>
<td>-12,688</td>
</tr>
<tr>
<td>Total State Reduction</td>
<td>-32,622</td>
</tr>
</tbody>
</table>

*Refer to Appendix B for calculation details

Clean Car Standards, AB 1493 (Pavley I)
Signed into law in 2002, AB 1493 (Pavley I standard) requires vehicle manufacturers to reduce GHG emissions from new passenger vehicles and light trucks from 2009 through 2016. The CARB anticipates that the Pavley I standard will reduce GHG emissions from new California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016. The Pavley I standard is expected to reduce transportation sector emissions in Atascadero by approximately 11,064 MT CO₂e, or 13 percent, in 2020 compared to business-as-usual levels.

**Low Carbon Fuel Standard**

The Low Carbon Fuel Standard requires a reduction of at least 10 percent in the carbon intensity of California’s transportation fuels by 2020. Measured on a lifecycle basis, the carbon intensity represents the CO₂e emitted from each stage of producing, transporting, and using the fuel in a motor vehicle. This translates to an approximately nine percent (or 7,226 MT CO₂e) reduction in Atascadero’s on-road transportation sector GHG emissions and a 10 percent reduction (1,052 MT CO₂e) in its off-road sector GHG emissions in 2020 compared to business-as-usual levels.

**Title 24**

Although it was not originally intended specifically to reduce GHG emissions, California Code of Regulations Title 24, Part 6: California’s Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California’s energy consumption, which in turn reduces fossil fuel consumption and associated GHG emissions. The standards are updated periodically to allow consideration and possible incorporation of new energy-efficient technologies and methods. The updates that have occurred since the 2005 baseline year and, therefore, were not included in the business-as-usual forecast, include the 2008 and 2013 Title 24 Energy Efficiency Standards. The California Energy Commission estimates that the 2008 standards reduce consumption by 10 percent for new residential buildings and five percent for new commercial buildings, relative to the 2005 standards. For projects implemented after January 1, 2014, the California Energy Commission estimates that the 2013 Title 24 Energy Efficiency Standards will reduce consumption by 25 percent for new residential buildings and 30 percent for new commercial buildings, relative to the 2008 standards. The 2008 and 2013 Title 24 requirements would reduce emissions in Atascadero by approximately 592 MT CO₂e in 2020.³

**Renewable Portfolio Standard**

The State of California Renewable Portfolio Standard requires investor-owned utilities, electric service providers, and community choice aggregators to increase the portion of energy that comes from renewable sources to 20 percent by 2010 and 33 percent by 2020. PG&E is the electricity provider in Atascadero. In order to calculate future emissions that take into account the Renewable Portfolio Standard, PG&E’s 2020 emissions factor was applied (PG&E, 2011). As shown in Table 2-5, the Renewable Portfolio Standard would reduce Atascadero’s GHG emissions by approximately 12,688 MT CO₂e, or 40 percent, in 2020.

³ The AB 32 Scoping Plan calls for the continuation of ongoing triennial updates to Title 24 that will yield regular increases in the mandatory energy and water savings for new construction. Future updates to Title 24 standards for residential and non-residential alterations are not taken into consideration due to lack of data and certainty about the magnitude of energy savings that will be realized with each subsequent update.
Sustainable Communities and Climate Protection Act – Senate Bill 375
SB 375, the Sustainable Communities and Climate Protection Action of 2008, enhances California’s ability to reach its AB 32 target by aligning regional transportation planning efforts with land use and housing allocations in order to reduce transportation-related GHG emissions. As mentioned in Chapter 1, Introduction, SLOCOG must reduce per capita GHG emissions from passenger vehicles by eight percent relative to 2005 levels in 2020 and 2030.

While the outcome of SB 375 in terms of a reduction in VMT per capita is specified by the State, achievement of the target is dependent on regional and local actions and activities that are not regulated by the State. Many of these actions and activities will be inextricably linked to local actions which rely on implementation assumptions that will need to be monitored to ensure effectiveness. Therefore, GHG reductions resulting from implementation of SB 375 have not been included as a State measure that would reduce GHG emissions within Atascadero.

B. INCORPORATION OF LOCAL REDUCTIONS INTO FORECAST
In addition to the State measures described above, the City of Atascadero has implemented a number of local measures since the 2005 baseline inventory year that will reduce the community’s GHG emissions. It is important to note that local measures which rely on future implementation actions and assumptions are included in Chapter 3, Climate Action Measures, as they will need to be monitored to ensure effectiveness. A brief description of each of these local measures is provided below by topic area and the local reduction in GHG emissions in 2020 is summarized in Table 2-5 (see Appendix B for supporting details).
### Table 2-5: Summary of Local Reductions

<table>
<thead>
<tr>
<th>Local Measure</th>
<th>2020 Reduction (MT CO₂e)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy</strong></td>
<td></td>
</tr>
<tr>
<td>Solar Energy Installation (Residential, Commercial, and City Government)</td>
<td>-213</td>
</tr>
<tr>
<td>City Government Building/Facility Energy Efficiency Improvements</td>
<td>-35</td>
</tr>
<tr>
<td>Energy Efficiency and Conservation Education and Outreach</td>
<td>Included in Chapter 3 as a CAP measure*</td>
</tr>
<tr>
<td><strong>Transportation and Land Use</strong></td>
<td></td>
</tr>
<tr>
<td>Increase Density and Diversity of Land Uses</td>
<td>Included in Chapter 3 as a CAP measure*</td>
</tr>
<tr>
<td>Transit Improvements</td>
<td>-26</td>
</tr>
<tr>
<td>Park and Ride Facilities</td>
<td>Included in Chapter 3 as a CAP measure*</td>
</tr>
<tr>
<td>Bicycle Network Improvements</td>
<td>-17</td>
</tr>
<tr>
<td>Electric Vehicle Charging Station</td>
<td>Included in Chapter 3 as a CAP measure*</td>
</tr>
<tr>
<td><strong>Waste</strong></td>
<td></td>
</tr>
<tr>
<td>Construction and Demolition Debris Diversion</td>
<td>-569</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td></td>
</tr>
<tr>
<td>Water Conservation Programs</td>
<td>-19</td>
</tr>
<tr>
<td><strong>Trees</strong></td>
<td></td>
</tr>
<tr>
<td>Tree Planting</td>
<td>-36</td>
</tr>
<tr>
<td>Streetscape Improvements</td>
<td>Not quantified</td>
</tr>
<tr>
<td><strong>Total Reduction from Local Measures</strong></td>
<td>-915</td>
</tr>
</tbody>
</table>

* The reductions associated with this measure are quantified and included as part of the CAP measures identified in Chapter 3.

** The SLOCOG 2010 travel demand model used to estimate 2005 baseline and 2020 vehicle miles traveled (VMT) uses a 2010 base year and its VMT are calculated and calibrated to 2009-2011 traffic counts. As such, results for alternative transportation modes and transportation demand management are inherent to the model results.

**Energy Measures**

Between 2006 and 2012, approximately 834 kilowatts (kW) of solar photovoltaic systems and hot water heaters were installed on or in homes, affordable housing (through the Single-family Affordable Solar Homes [SASH] program), businesses, and City property in Atascadero, which will reduce emissions by 215 MT CO₂e in 2020.

In addition, between 2005 and 2012, the City has implemented energy efficiency improvements, such as lighting retrofits, HVAC upgrades, and the installation of programmable thermostats and occupancy censors. These improvements are estimated to reduce electricity use by approximately 239 kW and would reduce GHG emissions by 33 MT CO₂e in 2020.

**Transportation and Land Use Measures**

New bicycle routes and bicycle parking and transit improvements installed between 2006 and 2012 are projected to reduce emissions by approximately 43 MT CO₂e in 2020.
Solid Waste Measures
As of 2010, the California Green Building Code requires all local jurisdictions to ensure that 50 percent of all non-hazardous construction and demolition solid waste is diverted from landfills. Within Atascadero, this would reduce emissions by an estimated 569 MT CO₂e in 2020.

Water Measures
Together, the City of Atascadero and the Atascadero Mutual Water Company have implemented a number of measures to reduce water consumption, including a water efficient landscape and irrigation ordinance, toilet and washing machine rebate program, and landscape rebate program. In addition, the City has implemented several water conservation measures at City facilities. These improvements and programs are estimated to reduce GHG emissions by approximately 19 MT CO₂e in 2020.

Urban Greening
Between 2006 and 2011, approximately 3,000 trees were planted throughout Atascadero, which are estimated to sequester 36 MT CO₂e in 2020.

C. ADJUSTED FORECAST
As shown in Table 2-6, State and local measures will reduce GHG emissions in Atascadero by an estimated 33,537 MT CO₂e in 2020. Under the adjusted scenario GHG emissions are projected to decrease to 138,951 MT CO₂e (approximately 19 percent below the business-as-usual scenario of 172,488 MT CO₂e).

Table 2-6: Summary of Reductions from State and Local Measures and 2020 GHG Emissions

<table>
<thead>
<tr>
<th></th>
<th>GHG Emissions (MT CO₂e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020 Business-as-Usual Forecast</td>
<td>172,488</td>
</tr>
<tr>
<td>2020 Reduction from State Measures</td>
<td>-32,622</td>
</tr>
<tr>
<td>2020 Reduction from Local Measures</td>
<td>-915</td>
</tr>
<tr>
<td>Total Reduction from State and Local Measures</td>
<td>-33,537</td>
</tr>
<tr>
<td>2020 Adjusted Forecast</td>
<td>138,951</td>
</tr>
</tbody>
</table>

2.3 GHG Emissions Reduction Target
The City is committed to reducing its share of GHG emissions consistent with AB 32. The AB 32 Scoping Plan encourages local governments to establish a reduction target that “parallels the State’s commitment to reduce GHG emissions by approximately 15 percent from current levels by 2020.” Therefore, this CAP establishes a reduction target of 15 percent below 2005 levels by 2020 in conformance with the State’s recommended reduction target. The 2005 baseline GHG emissions inventory and 2020 GHG emissions forecast under the adjusted scenario provide the
necessary background for the City to identify the reduction in emissions needed from local measures to meet this target.

As shown in Table 2-7 and Figure 2-4, based on the 15 percent reduction target, Atascadero would need to reduce its community-wide emissions to 120,214 MT CO$_2$e by 2020. To meet this target, Atascadero will need to reduce its GHG emissions 13 percent below the adjusted forecast levels$^4$ (equivalent to 18,737 MT CO$_2$e) by 2020 through implementation of local measures and actions.

Table 2-7: Atascadero’s GHG Emissions, Target, and Reduction Necessary to Meet Target

<table>
<thead>
<tr>
<th></th>
<th>GHG Emissions (MT CO$_2$e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005 Baseline Emissions</td>
<td>141,428</td>
</tr>
<tr>
<td>2020 Adjusted Forecast</td>
<td>138,951</td>
</tr>
<tr>
<td>Target (15 percent below 2005 levels by 2020)</td>
<td>120,214</td>
</tr>
<tr>
<td>Remaining Gap Necessary to Meet Target</td>
<td>18,737</td>
</tr>
</tbody>
</table>

Figure 2-4: GHG Emissions in Relation to State-Recommended Target

$^4$ As described in Section 2.3, the adjusted 2020 forecast accounts for approved, programmed, and/or adopted State- and local-level measures that will reduce local GHG emissions. Therefore, it is used to determine the necessary reductions to meet the City’s reduction target as it provides a more accurate picture of future emissions growth and the proportionate share of emissions the City must reduce once State measures to reduce GHG emissions have been implemented.
3.0 Climate Action Measures

This chapter identifies the measures that the City will implement to achieve its GHG emissions reduction target of 15 percent below 2005 levels by 2020. The City has identified a set of measures based on careful consideration of the reductions in GHGs needed to achieve the target, the sources and distribution of emissions identified in the GHG emissions inventory, existing priorities and resources, and the potential costs and benefits of each measure. Many of the CAP measures are also consistent with the measures of neighboring jurisdictions and regional agencies which is important for feasible and effective implementation of GHG reduction measures. Detailed analyses of the GHG reduction potential and estimated costs and savings for each measure are located in Appendix B.

3.1 Chapter Organization

The climate action measures, which represent ways to reduce GHG emissions are organized into the following focus areas: City government, energy, transportation and land use, off-road, water, solid waste, and tree planting. The discussion of each focus area begins with an introduction, followed by a summary table listing the measures within the focus area and the associated GHG reduction potential, where applicable. Following the introduction to each focus area, each measure is presented with the following information:

- **Existing or Completed Efforts**: a list of efforts the City has implemented or is in the process of implementing since the baseline year (2005) to accomplish the measure.
- **Implementation Actions**: the specific steps the City will take to achieve the GHG emission reduction and outcome of the measure.
- **GHG Reduction Potential**: the estimated reduction in GHG emissions anticipated in 2020.
- **Costs and Savings**: for each measure, potential costs and savings to the City or community (private) are categorized as none, very low, low, medium, and high. **Table 3-1** summarizes these category definitions. Costs account for the expense that would occur beyond conducting business-as-usual (i.e., without implementation of the CAP).

<table>
<thead>
<tr>
<th>Aggregated City Government Costs/Savings</th>
<th>Per Unit Community Cost/Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Low: $1 - $10,000</td>
<td>Very Low: $1 - $500</td>
</tr>
<tr>
<td>Low: $10,001 - $50,000</td>
<td>Low: $501 - $1,000</td>
</tr>
<tr>
<td>Medium: $50,001 - $100,000</td>
<td>Medium: $1,001 - $5,000</td>
</tr>
<tr>
<td>High: $100,001 or greater</td>
<td>High: $5,001 or greater</td>
</tr>
</tbody>
</table>

Details related to measure implementation and monitoring, including responsible parties, performance criteria, implementation time frames, and potential funding sources are located in Chapter 5, Implementation and Monitoring.
3.2 City Government Operations Measures

The City has already taken a number of steps that have resulted in GHG emissions reductions, as identified in Chapter 2, *GHG Emissions and Reduction Target*, and is committed to building on those efforts. This focus area identifies measures and actions the City can implement to further reduce GHG emissions from City government operations and facilities. Although the GHG emissions that result from City government operations and facilities account for only three percent of Atascadero’s community emissions, as an employer, property-owner, and regulatory entity, the City can set an example of GHG emissions reduction practices for the community and demonstrate additional benefits of the measures beyond reducing GHG emissions, such as cost savings in buildings and operations and improved operational efficiency. As shown in Table 3-2, the City government operations measures have the potential to reduce Atascadero’s GHG emissions by 333 MT CO\textsubscript{2}e by 2020.

In addition to reducing GHG emissions, the City government measures described in this section have the potential to provide other important benefits to the community. These benefits include:

- City leadership
- Reduced operating and maintenance costs
- Improved public health
- Improved air and water quality
- Resource conservation
- City beautification
- Lower maintenance costs and extended equipment lives

**Table 3-2: City Government Operations GHG Reductions by Measure**

<table>
<thead>
<tr>
<th>Measure Number</th>
<th>Measure</th>
<th>2020 GHG Reductions (MT CO\textsubscript{2}e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-1</td>
<td>City Government Energy Efficiency Retrofits and Upgrades</td>
<td>59</td>
</tr>
<tr>
<td>C-2</td>
<td>City Government Energy Efficient Public Realm Lighting</td>
<td>23</td>
</tr>
<tr>
<td>C-3</td>
<td>Renewable Energy Systems on City Property</td>
<td>172</td>
</tr>
<tr>
<td>C-4</td>
<td>Zero and Low Emission City Fleet Vehicles</td>
<td>48</td>
</tr>
<tr>
<td>C-5</td>
<td>City Government Solid Waste Reduction</td>
<td>7</td>
</tr>
<tr>
<td>C-6</td>
<td>City Government Tree Planting Program</td>
<td>24</td>
</tr>
<tr>
<td>C-7</td>
<td>Wastewater Treatment Methane Capture</td>
<td>Unknown</td>
</tr>
<tr>
<td><strong>City Government Operations Total</strong></td>
<td></td>
<td><strong>333</strong></td>
</tr>
</tbody>
</table>
C-1: City Government Energy Efficiency Retrofits and Upgrades

Establish a target to reduce City government energy use by 20 percent from 2005 baseline levels by 2020 and implement cost-effective improvements and upgrades to achieve that target.

Existing and/or Completed Efforts in Support of Measure:

- The City has completed energy audits and benchmarking of all City-owned or -operated facilities. Monthly energy usage data within individual buildings and across entire building portfolio is automatically measured and tracked through a Portfolio Manager.
- The City maintains a regular maintenance schedule for heating and cooling, ventilation and other building functions.
- The Historic City Hall restoration includes: new high efficiency HVAC units with individual temperature controls, energy efficient light fixtures with occupancy sensors, energy efficient appliances, low flush water closets and urinals, additional windows for natural light and ventilation, on-demand water heaters, and added insulation.
- The City has a policy for the purchase of energy efficient equipment and appliances.
- In 2008, the City Manager issued a directive outlining citywide energy conservation measures. City staff completed a Building Operator Certification Course and were trained to evaluate and improve operational efficiencies in municipal facilities and cut down on energy usage.
- As a result of these initiatives and staff focus on reducing energy consumption, the City achieved an overall 10 percent reduction in energy usage across all City buildings and facilities between 2009 and 2011.

Implementation Actions:

C-1.1: Adopt a 20 percent City government energy use reduction target, based on a per square footage analysis of energy usage.

C-1.2: Establish a prioritized list of cost-effective energy efficiency upgrade projects and implement them as funding becomes available.

C-1.3: Look into the feasibility of installing an energy management system that monitors energy use and controls heating, cooling, and ventilation to increase efficiency. Conduct a cost benefit analysis and identify funding sources for installation of this system, or other tools for monitoring and encouraging energy efficiency.

C-1.4: Continue to measure and track building energy usage and maintain a regular maintenance schedule for heating and cooling, ventilation and other building functions.
C-2: City Government Energy Efficient Public Realm Lighting

Continue to replace City-owned or -operated street, traffic signal, park, and parking lot lights with higher efficiency lamp technologies.

*Implementation Actions:*

- **C-2.1:** Conduct an inventory of existing outdoor public light fixtures.
- **C-2.2:** Identify and secure funding to replace additional inefficient City-owned or -operated public lighting.

C-3: Renewable Energy Systems on City Property

Pursue on-site small-scale renewable energy generation at City government facilities.

*Existing and/or Completed Efforts in Support of Measure:*

The City completed a feasibility study on the installation of renewable energy projects at select City facilities.

*Implementation Actions:*

- **C-3.1:** Identify funding sources and opportunities for City government renewable energy generation. Specifically, installation of a solar photovoltaic (PV) system at the wastewater treatment plant property which could be used to supply power to wastewater plant and other City facilities.
- **C-3.2:** Install small-scale solar PV systems or other renewable energy projects at select City government facilities.
**C-4: Zero- and Low-Emission City Fleet Vehicles**

Continue to replace official City vehicles with more efficient and/or alternatively fueled vehicles.

*Existing and/or Completed Efforts in Support of Measure:*

- The City has retired old diesel vehicles from the vehicle fleet.
- The Fire Department tests all engines and command vehicles for emissions; two new engines exceed the 2007 EPA specs for trucks and heavy equipment.

*Implementation Actions:*

**C-4.1:** Develop and adopt a low- and zero- emissions replacement/purchasing policy for official City vehicles and equipment. This would not apply to vehicles with special performance requirements.

**C-4.2:** Work with the Central Coast Clean Cities Coalition to obtain funding to purchase low-emission and zero-emission fleet vehicles.

**C-4.3:** Identify fleet vehicles near replacement and options for lower emission vehicles.

---

**C-5: City Government Solid Waste Reduction**

Establish a solid waste diversion rate of 15 percent over 2005 baseline levels and identify steps to meet that rate by 2020.

*Implementation Actions:*

**C-5.1:** Continue to install recycling receptacles at City-owned or -operated buildings and facilities.

**C-5.2:** Investigate feasibility of installation of solar powered trash/recycle compactors at City facilities in order to reduce trips to City parks for trash pickup and encourage public awareness of recycling.
C-6: City Government Tree Planting Program

Establish a tree planting program to increase the number of native, drought-tolerant trees on City-owned property, parks and streetscapes.

Existing and/or Completed Efforts in Support of Measure:

- The City has developed and adopted a formal tree planting policy or program and has planted trees in collaboration with the Atascadero Native Tree Association.

Implementation Actions:

C-6.1: Plant at least 2,000 trees on City-property by 2020 subject to water availability.

C-6.2: Identify and secure grant funding to plant trees on City properties.

C-7: Wastewater Treatment Plant Methane Capture

Implement methane capture at the wastewater treatment facility.

Implementation Actions:

C-7.1: Investigate the installation of a methane capture system at the wastewater treatment plant. Look for funding sources to conduct a complete feasibility study and supplement construction costs for installation of this type of system.
3.3 Community-wide Measures

3.3.1 Energy Measures

Energy use accounted for 43 percent of Atascadero’s total GHG emissions in 2005. These emissions result from the combustion of fossil fuel, primarily coal, oil, and natural gas, which is used to heat, cool, and provide power to residential, commercial, and industrial buildings and other facilities. Factors affecting energy-related emissions in buildings include building design and the efficiency of technology and electronics in buildings. GHG emissions reductions can be achieved both by changes to the energy demand (e.g., improving energy efficiency and reducing consumption) and energy supply (e.g., switching from a high-carbon to a low- or zero-carbon technology or fuel). The energy measures listed in Table 3-3 focus on these strategies and have the potential to reduce Atascadero’s GHG emissions by 3,098 MT CO\textsubscript{2}e by 2020.

In addition to reducing GHG emissions, the energy measures described in this section have the potential to provide other important benefits to the community, including:

- Reduced energy and operating costs
- Lower maintenance costs and extended equipment lives
- Increased building re-sale value
- Strengthened local economy
- Resource conservation
- Increased electricity reliability
- Improved air quality

<table>
<thead>
<tr>
<th>Measure Number</th>
<th>Measure</th>
<th>2020 GHG Reductions (MT CO\textsubscript{2}e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-1</td>
<td>Energy Efficiency Outreach and Incentive Programs</td>
<td>778</td>
</tr>
<tr>
<td>E-2</td>
<td>Energy Audit and Retrofit Program</td>
<td>1,099</td>
</tr>
<tr>
<td>E-3</td>
<td>Income-Qualified Energy Efficient Weatherization Programs</td>
<td>126</td>
</tr>
<tr>
<td>E-4</td>
<td>Incentives for Exceeding Title 24 Building Energy Efficiency Standards</td>
<td>227</td>
</tr>
<tr>
<td>E-5</td>
<td>Small-Scale On-Site Solar Photovoltaic (PV) Incentive Program</td>
<td>781</td>
</tr>
<tr>
<td>E-6</td>
<td>Income-Qualified Solar PV Program</td>
<td>87</td>
</tr>
<tr>
<td>Energy Total</td>
<td></td>
<td>3,098</td>
</tr>
</tbody>
</table>
Measure E-1: Energy Efficiency Outreach and Incentive Programs

Expand participation in and the promotion of existing energy efficiency programs, such as Energy Upgrade California and San Luis Obispo County Energy Watch, to increase community awareness of existing energy efficiency rebates and financial incentives, and no- and low-cost actions community members can take to increase energy efficiency.

Existing and/or Completed Efforts in Support of Measure:

The City currently partners with San Luis Obispo County Energy Watch and directs community members to existing program websites. This partnership has provided extensive training, outreach, and energy-saving opportunities for the City as well as for local businesses and property owners.

The City works with SLO Green Build to host community workshops and seminars for homeowners, builders, and the general public. A SLO Green Build public information kiosk is located at the City Hall front counter.

Implementation Actions:

E-1.1: Continue to collaborate with San Luis Obispo County Energy Watch, SLO Green Build, and other local groups to conduct additional outreach and promotional activities targeting specific groups or sectors within the community (e.g., homeowners, renters, businesses, etc.). Direct community members to existing program websites, such as Energy Upgrade California and San Luis Obispo County Energy Watch.

E-1.2: Designate one week per year to conduct an energy efficiency outreach campaign targeting a specific group. The campaign week can also be used to recognize and encourage programs and educational outreach conducted by industry organizations, non-governmental entities, government agencies, and other community groups.

Measure E-2: Energy Audit and Retrofit Program

Facilitate voluntary energy assessments, retrofits, and retrocommissioning of residential and commercial buildings within Atascadero.

Implementation Actions:

E-2.1: Develop and promote a residential and commercial energy audit program, either individually or in collaboration with San Luis Obispo County Energy Watch, local utilities, and/or local jurisdictions within the region.
**E-2.2:** Conduct outreach and promotional activities targeting specific groups (e.g., owners of buildings built prior to Title 24 [1980]) in order to promote the audit and retrofit program.

**E-2.3:** As part of the business licensing and renewal process, encourage businesses to participate in the program and receive an energy audit.

**E-2.4:** Participate in and promote a residential and commercial energy efficiency financing program to encourage investment in energy efficiency upgrades.

**E-2.5:** Work with Energy Upgrade California, local utilities, and/or community businesses and organizations, to annually conduct a "do-it-yourself" workshop for building energy retrofits.

**E-2.6:** Highlight the effectiveness of energy audits and retrofits by showcasing the success of retrofit projects (e.g., on the City’s website or in its newsletter).

**Measure E-3: Income-Qualified Energy Efficient Weatherization Programs**

Facilitate energy efficient weatherization of low- and middle-income housing through promotion of existing programs.

*Existing and/or Completed Efforts in Support of Measure:*

- The City partners with Community Action Partnership of San Luis Obispo County (CAPSLO) to promote income-qualified weatherization programs.

*Implementation Actions:*

**E-3.1:** Continue to promote income-qualified weatherization programs, either individually, or in collaboration with an existing organization, to income-qualified households using sources of data available to the City, (e.g., water bills, housing records, etc.).

**Measure E-4: Incentives for Exceeding Title 24 Energy Efficiency Building Standards**

Encourage new development to voluntarily exceed State energy efficiency standards.

*Existing and/or Completed Efforts in Support of Measure:*

- The City collaborates with community organizations and businesses, local utilities, and other local jurisdictions in the region to develop and promote a technical assistance and best practices program that aids developers in selecting and implementing energy efficiency measures that exceed State standards.
City staff meets quarterly with SLO Green Build to discuss how City can encourage sustainable design.

The City works with SLO Green Build to host community workshops and seminars for homeowners, builders, and the general public. A SLO Green Build public information kiosk is located at City Hall.

**Implementation Actions:**

**E-4.1:** Identify, provide, and promote incentives (e.g., streamlined permitting, public recognition, etc.) for applicants whose project exceeds State requirements by a specified percent.

**E-4.2:** Launch an educational campaign for builders, permit applicants, and the general public to promote best practices and incentive programs; continue to provide information and assistance about energy efficiency options online and at permit counter.

**E-4.3:** Continue to work with SLO Green Build and community organizations and businesses to promote and encourage implementation of energy efficiency measures that exceed State standards.

**Measure E-5: Small-Scale On-Site Solar PV Incentive Program**

Facilitate the voluntary installation of 2,704 kW commercial small-scale on-site solar PV systems and 1,932 kW residential small-scale on-site solar PV systems in the community through expanded promotion of existing financial incentives, rebates, and financing programs, and by helping residents and business owners overcome common regulatory barriers and upfront capital costs.

**Implementation Actions:**

**E-5.1:** Conduct a comprehensive review of the City’s solar permitting process based on the Governor’s Office of Planning and Research’s (OPR) *California Solar Permitting Guidebook* (June 2012), identifying any existing barriers to facility implementation.

**E-5.2:** Improve the permit review and approval process for small solar PV systems by implementing recommendations for streamlined permitting identified in the *California Solar Permitting Guidebook* (e.g., use standardized forms, provide clear written instructions on the permitting process and a checklist of required application materials, make information available on the City’s website and at the permit counter, etc.).

**E-5.3:** Collaborate with other local jurisdictions in the region to standardize requirements across jurisdiction, by using common promotion and permit materials, such as
checklists and standard plans, to reduce permit submittal errors among contractors working throughout a region.

**E-5.4:** Participate in and promote a residential and commercial/industrial renewable energy financing program (e.g., through CaliforniaFIRST, a joint powers authority with neighboring jurisdictions, or other mechanisms) facilitating voluntary investment in renewable energy upgrades by residential and commercial/industrial property owners for their buildings.

**E-5.5:** Expand education on and promotion of existing incentive, rebate, and financing programs for small-scale on-site solar PV systems targeting specific groups or sectors within the community.

**E-5.6:** Designate one week per year to conduct a renewable energy outreach campaign targeting a specific group. The campaign week can also be used to recognize community members that have implemented noteworthy or unique renewable energy projects.

**Measure E-6: Income-Qualified Solar PV Program**

Facilitate the installation of small-scale on-site solar PV systems on income-qualified housing units by promoting existing programs offered through the California Solar Initiative and New Solar Homes Partnership and by collaborating with organizations, such as GRID Alternatives, on outreach and eligibility.

*Existing and/or Completed Efforts in Support of Measure:*

The Single Family Affordable Solar Homes (SASH) Program will be installing solar PV systems on 24 new affordable housing units which are currently under construction by People’s Self Help Housing.5

The City collaborates with Grid Alternatives on outreach and eligibility.

*Implementation Actions:*

**E-6.1:** Continue to collaborate with GRID Alternatives and/or other community organizations to provide targeted education and outreach to developers and homeowners about incentives offered through the SASH Program and the Multifamily Affordable Solar Homes (MASH) Program.

**E-6.2:** Provide targeted outreach regarding solar incentives offered through the California Solar Initiative, including the SASH and MASH Programs.

**3.3.2 TRANSPORTATION AND LAND USE MEASURES**

5 The California Solar Initiative’s SASH Program provides fully subsidized systems to very low-income households, and highly subsidized systems to other low-income households. GRID Alternatives, a non-profit solar organization, manages the $108 million SASH Program on the California Public Utility Commission’s behalf.
Transportation-related emissions made up the 43 percent of Atascadero’s 2005 GHG emissions inventory. Factors affecting GHG emissions from transportation include the number of VMT, fuel economy, and the type of fuel used. The number of VMT is directly influenced by the geographic distribution of people and places, especially the density of development and zoning. Therefore, land use measures are included as reduction policies in this section. The transportation and land use measures listed in Table 3-4 focus on these strategies and have the potential to reduce Atascadero’s GHG emissions by 21,961 MT CO$_2$e by 2020.

The transportation and land use measures in this section will not only help reduce GHG emissions, but also provide multiple other benefits to the community. These include:

- Reduced transportation costs
- Reduced traffic congestion
- Improved public health
- Strengthened local economy
- Improved infrastructure
- Increased equity
- Increased housing and travel options
- Resource conservation
- Reduced noise, air, and water pollution

### Table 3-4: Transportation and Land Use GHG Reductions by Measure

<table>
<thead>
<tr>
<th>Measure Number</th>
<th>Measure</th>
<th>2020 GHG Reductions (MT CO$_2$e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TL-1</td>
<td>Bicycle Network</td>
<td>691</td>
</tr>
<tr>
<td>TL-2</td>
<td>Pedestrian Network</td>
<td>317</td>
</tr>
<tr>
<td>TL-3</td>
<td>Expand Transit Network</td>
<td>86</td>
</tr>
<tr>
<td>TL-4</td>
<td>Increase Transit Service Frequency/Speed</td>
<td>23</td>
</tr>
<tr>
<td>TL-5</td>
<td>Transportation Demand Management Incentives</td>
<td>110</td>
</tr>
<tr>
<td>TL-6</td>
<td>Parking Supply Management</td>
<td>543</td>
</tr>
<tr>
<td>TL-7</td>
<td>Electric Vehicle Network and Alternative Fueling Stations</td>
<td>1,984</td>
</tr>
<tr>
<td>TL-8</td>
<td>Smart Growth Atascadero General Plan</td>
<td>3,251</td>
</tr>
<tr>
<td>TL-9</td>
<td>Halt Retail Leakage</td>
<td>14,956</td>
</tr>
<tr>
<td><strong>Transportation and Land Use Total</strong></td>
<td></td>
<td><strong>21,961</strong></td>
</tr>
</tbody>
</table>
Measure TL-1: Bicycle Network

Continue to improve and expand the city's bicycle network and infrastructure.

Existing and/or Completed Efforts in Support of Measure:

- In 2010, the City adopted the Atascadero Bicycle Transportation Plan which provides a blueprint for the development of a comprehensive bicycling system to facilitate bicycle transportation and encourage recreational cycling. If all near term projects are implemented, approximately 34 miles of Class I-III bikeways will be added to the City’s bicycle network.
- The City annually identifies and schedules street improvement and maintenance projects to preserve and enhance the bicycle network.
- The City incorporates bicycle facility improvements into pavement resurfacing, restriping, and signalization operations where the safety and convenience of users can be improved within the scope of work.
- The City currently requires new subdivisions and large developments to incorporate bicycle lanes, routes, and/or shared-use paths into street systems to provide a continuous network of routes, facilitated with markings, signage, and bicycle parking.
- The City has installed bike racks at all existing parks, City facilities, and schools and requires bike rack installation with all new retail and public development projects.

Implementation Actions:

**TL-1.1:** Continue to pursue public and private funding to expand and link the city’s bicycle network in accordance with the General Plan and Bicycle Plan.

**TL-1.2:** Continue to coordinate with and support SLOCOG in the implementation of bicycle plans to facilitate non-auto travel within and between communities.

**TL-1.3:** Continue to collaborate with the San Luis Obispo Bicycle Coalition to assist with event promotions and publications to increase awareness and ridership during Bike Month.

**TL-1.4:** Continue to enforce mandatory California Green Building Standards Code bicycle parking standards for non-residential development.

GHG Reduction Potential: 691 MT CO₂e

City Cost: Low
City Savings: None
Private Cost: None
Private Savings: Very Low
Measure TL-2: Pedestrian Network

Continue to improve and expand the City's pedestrian network.

Existing and/or Completed Efforts in Support of Measure:

- The City annually identifies and schedules sidewalk improvement and maintenance projects to preserve and enhance the pedestrian circulation network.
- The City incorporates pedestrian facilities improvements into pavement resurfacing, restriping, and signalization operations where the safety and convenience of users can be improved within the scope of work.
- The City has constructed “Safe Routes to School” bike lanes, striping, signage and sidewalks near Atascadero High school, San Gabriel & Santa Rosa Schools.
- The City requires that new development projects provide a pedestrian access network that internally links all uses and connects all existing or planned external streets and pedestrian facilities contiguous with the project site. The City also requires that new development projects minimize barriers to pedestrian access and interconnectivity.
- The City requires new development to implement traffic calming improvements as appropriate (e.g., marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, median islands, mini-circles, tight corner radii, etc.) through conditions of approval.
- The City is currently working on design of pedestrian bridge which will connect the new movie theater to the Sunken Gardens to create a walkable downtown district.
- The City is currently working with SLOCOG on the North County Regional De Anza Trail Master Plan, and with Atascadero Land Preservation Society to establish trails throughout the City.
- The City is working to complete construction on several pedestrian and multimodal trail system enhancements, including the Atascadero Creek Trail along Highway 41 to El Camino Real, Colony Park Community Center and Stadium Park, portions of Salinas River Anza Trail, and other trail networks throughout the City to provide safe off road pedestrian pathways.
- Since 2006, the City has completed several pedestrian and operational improvements including bulb outs, landscaped medians, street trees, street furniture and lighting for the downtown.

Implementation Actions:

**TL-2.1:** Continue to pursue public and private funding to expand and link the City's pedestrian network.
**Measure TL-3: Expand Transit Network**

Work with the Regional Transit Authority (RTA) and transit service providers to expand the local transit network (i.e., additional routes or stops, and/or expanded hours of operation) based on the greatest demand for service.

**Existing and/or Completed Efforts in Support of Measure:**

- The City coordinates with RTA and transit service providers to implement the Short Range Transit Plan.
- The City works with RTA and local transit agency to identify and map existing and future bus lines (routes) and transit.
- Through the development review process, the City requires new development to provide safe and convenient access to alternative and public transportation within the project area as feasible.
- In 2013, the City completed construction of a new downtown transit center on Capistrano Avenue to provide a centralized location for transit, thereby increasing convenience, visual appearance, comfort and safety for the City’s transit system.

**Implementation Actions:**

**TL-3.1:** Continue to support the addition of transit routes that provide intercity express services.

**TL-3.2:** Continue to research federal and local funding for transit service upgrade projects.

**Measure TL-4: Increase Transit Service Frequency/Speed**

Work with the RTA and transit services providers to increase transit service frequency (i.e., reducing headways) by identifying routes where increased bus frequency would improve service.

**Existing and/or Completed Efforts in Support of Measure:**

- The City works with RTA and transit service providers to implement the Short Range Transit Plan.

**Implementation Actions:**

**TL-4.1:** Work with RTA and transit service providers to shorten regional service headways (e.g., by purchasing additional buses, re-routing existing buses, etc.) to 30 minutes or shorter at commute peaks subject to passenger load demand.
**CLIMATE ACTION MEASURES**

**TL-4.2:** Continue to support streamlined transit services and infrastructure that create a bus rapid transit network on main commute corridors.

**TL-4.3:** Consolidate regional transportation and local transportation routes to eliminate duplicate services and create a more efficient and effective transportation system.

**Measure TL-5: Transportation Demand Management (TDM) Incentives**

Work with San Luis Obispo Regional Ride Share and Ride-On to conduct additional outreach and marketing of existing TDM programs and incentives to discourage single-occupancy vehicle trips and encourage alternative modes of transportation, such as carpooling, taking transit, walking, and biking.

*Existing and/or Completed Efforts in Support of Measure:*

- The City collaborates with San Luis Obispo Ride Share and Ride-On.
- The City directs community members to existing program websites (e.g., Ride Share, Ride-On) by providing links on the City’s website.
- The City has collaborated on construction of five Park and Ride lots in Atascadero, totaling 183 spaces. Atascadero currently provides 30 percent of the county’s park and ride lots, with these lots are being utilized to full capacity by residents. Bike lockers are also installed at many of the City’s Park and Ride lots.
- The City partners with San Luis Obispo Bicycle Coalition to sponsor events to increase awareness and ridership during Bike Month each May, with community participation in these events continuing to increase each year.

*Implementation Actions:*

**TL-5.1:** Conduct additional outreach through event promotions and publications, targeting specific groups or sectors within the community (e.g., large employers, employees, students, seniors, etc.).

**TL-5.2:** Provide information on and promote existing employer based TDM programs as part of the business licensing and renewal process, with key focus on large employers with over 50 employees in Atascadero.

**TL-5.3:** Continue to collaborate with San Luis Obispo Ride Share and the San Luis Obispo Bicycle Coalition to assist with event promotions and publications to increase awareness and ridership during Bike Month and Rideshare month.

**TL-5.4:** Continue to work with SLOCOG to identify locations for installation and facilitate construction of Park and Ride lots.
Measure TL-6: Parking Supply Management

Amend the Municipal Code to reduce parking requirements in areas such as the downtown where a variety of uses and services are planned in close proximity to each other and to transit.

Existing and/or Completed Efforts in Support of Measure:

- The City has amended the Municipal Code to reduce parking requirements in the downtown zoning districts (e.g., eliminate or reduce minimum parking requirements and allow shared parking).

Implementation Actions:

TL-6.1: Implement existing ordinances and parking policies as infill development continues throughout the downtown.

Measure TL-7: Electric Vehicle Network and Alternative Fueling Stations

Continue to work with the APCD, Central Coast Clean Cities Coalition, and neighboring jurisdictions to create and implement the electric vehicle readiness plan.

Existing and/or Completed Efforts in Support of Measure:

- The City is currently working with the APCD, Central Coast Clean Cities Coalition, and neighboring jurisdictions to develop the electric vehicle readiness plan and obtain grant funding to install more charging systems in the city.
- The City provides streamlined installation and permitting procedures for vehicle charging facilities.
- In 2013, eight supercharge electric vehicle charging stations were installed by Tesla at the Rabobank in downtown Atascadero. The Atascadero charging stations are free and open to the public, and were installed to create a fast-charge electric car charging corridor between San Francisco and Los Angeles.
- New City parking lots, such as the low impact design demonstration lot at the Atascadero Zoo on Highway 41, are being designed and constructed with electric power sources and conduit so that electric vehicle charging stations can be provided as funding for the equipment becomes available.

Implementation Actions:
**CLIMATE ACTION MEASURES**

**TL-7.1:** Continue to create and implement the electric vehicle readiness plan through expanding the use of alternative fuel vehicles and fueling stations in the community (e.g., through identifying and zoning locations for fueling stations, offering incentives for alternative fuel vehicles, etc.).

**TL-7.2:** Continue to pursue funding for plug-in electric vehicle charging stations on both public and private property.

**Measure TL-8: Smart Growth Atascadero General Plan**

Facilitate mixed-use, higher density, and infill development near transit stops, in existing community centers/downtown, and in other designated areas.

*Existing and/or Completed Efforts in Support of Measure:*

- The City created the Office of Economic Development created to encourage retail, job development, and infill in the downtown & urban core.
- In 2011, the City upzoned High Density Residential areas to increase density in the urban core (upzoned from a maximum of 16 dwelling units per acre to a minimum of 20 dwelling units per acre).
- The City recently simplified its permit process and modified its Zoning Ordinance to encourage mixed use development. City staff also provides support to facilitate these projects.
- The City, in collaboration with SLOCOG, is working to develop the South El Camino Real Corridor Visioning Study which will be used to illustrate the integration of a mix of land uses and densities, alternative forms of transportation, and complete streets.

*Implementation Actions:*

**TL-8.1:** Continue to facilitate construction of high quality mixed-use and medium- and high-density land uses located close to transit nodes, existing bus routes, or park and ride facilities with regularly scheduled, daily service.

**TL-8.2:** Develop and adopt incentives to help facilitate live/work developments. Live/work developments allow residents to live at their place of work and thereby reduce vehicle miles traveled and associated GHG emissions.
Measure TL-9: Halt Retail Leakage

Work with private developers to identify incentives for and encourage the development of convenient commercial, office, and shopping opportunities near existing employment and/or residential areas, as a means of shortening the distance between origins and destinations, and increasing the potential for walking or biking within the city to obtain services.

Existing and/or Completed Efforts in Support of Measure:

In 2007, the ADE Economic Study was prepared, which provides key information regarding retail sales leakage going outside the city.

Implementation Actions:

**TL-9.1:** Conduct a study of key underserved areas of demand for retail, offices, and services.

**TL-9.2:** Implement the findings of the study with a goal of capturing 60 percent of current retail leakage.

Retail Trip Reduction Calculation Summary

The following table is a summary of the trip reduction effect calculated by the traffic model if retail capture is increased within the City of Atascadero.

<table>
<thead>
<tr>
<th>Description</th>
<th>Daily VMT (DTVM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Total Daily VMT</td>
<td>This represents total daily VMT associated with the land use in the area</td>
</tr>
<tr>
<td>Original Retail</td>
<td>Total retail trips, including internal retail trips.</td>
</tr>
<tr>
<td>Reduced Retail (without internal trips)</td>
<td>Reduced retail; 60% off the total retail trips excluding internal trips.</td>
</tr>
<tr>
<td>Reduced Retail Trips</td>
<td>231,707 dvtm</td>
</tr>
<tr>
<td>Reduced Total</td>
<td>Reduced Total adds the captured trips back in at an average of 1.55 miles instead of going outside of the city.</td>
</tr>
</tbody>
</table>
3.3.3 Off-Road Measure

Emissions in the off-road sector result from the combustion of fuel, primarily diesel, gasoline, and compressed natural gas, which is used to power off-road equipment and vehicles. Off-road equipment and vehicles include those used in construction, agriculture, commercial, industrial, and landscaping operations as well as recreational vehicles. Factors affecting off-road emissions include the age, type, and usage of the vehicle or equipment.

GHG emissions reductions can be achieved by reducing off-road equipment and vehicle usage and idling or by using equipment that runs on electricity or alternative fuels. The off-road equipment measure listed in Table 3-5 has the potential to reduce Atascadero’s GHG emissions by 754 MT CO$_2$e by 2020.

The off-road measure in this section will not only help reduce GHG emissions, but will also provide multiple other benefits to the community. These include:

- Improved air and water quality
- Reduced noise pollution
- Improved public health

### Table 3-5: Off-Road GHG Reductions by Measure

<table>
<thead>
<tr>
<th>Measure Number</th>
<th>Measure</th>
<th>2020 GHG Reductions (MT CO$_2$e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>O-1</td>
<td>Off-Road Vehicle and Equipment Upgrades, Retrofits, and Replacements</td>
<td>754</td>
</tr>
<tr>
<td>Off-Road Total</td>
<td></td>
<td>754</td>
</tr>
</tbody>
</table>
Measure O-1: Off-Road Vehicle and Equipment Upgrades, Retrofits, and Replacements

Continue to work with the APCD and promote existing programs that fund off-road vehicle and equipment upgrades, retrofits, and replacement through the Carl Moyer heavy-duty vehicle and equipment program or other funding mechanisms.

Existing and/or Completed Efforts in Support of Measure:

- The City currently directs community members to existing program websites (e.g., APCD, Carl Moyer Grant page).

Implementation Actions:

O-1.1: Conduct additional outreach and promotional activities targeting specific groups (e.g., agricultural operations, construction companies, homeowners, etc.).

GHG Reduction Potential: 754 MT CO₂e
City Cost: Very Low
City Savings: None
Private Cost: None
Private Savings: Varies
3.3.4 **WATER MEASURE**

The conveyance, treatment, and distribution of water can result in significant GHG emissions depending on the water source, distances and topography traversed in conveyance, and the treatment processes that occur before and after the end-use phase.

Emissions from water use can decrease by reducing overall water consumption, and therefore the energy used to convey, treat and distribute water. The water measure listed in Table 3-6 has the potential to reduce Atascadero’s GHG emissions by 22 MT CO$_2$e by 2020.

The water measure in this section will not only help reduce GHG emissions, but also provide multiple other benefits to the community. These include:

- Reduced costs
- Improved air quality
- Reduced water consumption
- Reduced energy consumption
- Improved public health

<table>
<thead>
<tr>
<th>Measure Number</th>
<th>Measure</th>
<th>2020 GHG Reductions (MT CO$_2$e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>W-1</td>
<td>Exceed SB X7-7 Water Conservation Target</td>
<td>22</td>
</tr>
<tr>
<td><strong>Water Total</strong></td>
<td></td>
<td><strong>22</strong></td>
</tr>
</tbody>
</table>
Measure W-1: Exceed SB X7-7 Water Conservation Target

Work with the Atascadero Mutual Water Company to adopt a water conservation target that exceeds the SB X7-7\textsuperscript{6} (Water Conservation Act of 2009) target and identify and implement additional water efficiency and conservation measures to meet that target by 2020.

Existing and/or Completed Efforts in Support of Measure:

- Together, the City of Atascadero and the Atascadero Mutual Water Company have implemented a number of measures to reduce water consumption, including a water efficient landscape and irrigation ordinance, toilet and washing machine rebate program, and landscape rebate program.
- The City has implemented several water conservation measures at City facilities.

Implementation Actions:

**W-1.1:** Work with the Atascadero Mutual Water Company to adopt a water conservation target to exceed SB X7-7 by 10 percent and develop and/or help implement additional water conservation and efficiency programs (e.g. water efficiency audits, replacement/retrofit programs, etc.) to meet that target.

**W-1.2:** Continue to enhance retrofit programs for existing residences and commercial buildings by providing additional resources, assistance, and incentives to home and business owners.

**W-1.3:** Expand the use of grey water or recycled water by working with the City’s water purveyors and educating the community on dual plumbing, and state-of-the-art irrigation systems, including the use of grey water systems and rainwater catchment.

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\textsuperscript{6} The Water Conservation Act of 2009 (SB X7-7) requires all water suppliers to increase water use efficiency. The legislation sets an overall goal of reducing per capita urban water use by 20 percent by 2020, with an interim target of 10 percent reduction by 2015. By July 2011, urban water retailers were required to determine baseline and target daily per capita water use. Urban water retail suppliers who do not meet the water conservation requirements will not be eligible for state water grants or loans (California Department of Water Resources, 2013).
3.3.5 **Solid Waste Measure**

As solid waste decomposes in landfills, it releases methane, a GHG 21 times more potent than carbon dioxide (USEPA, 2012). In 2005, the Atascadero sent approximately 31,122.52 tons of waste to landfill.

Waste management is an important action that the community can take to reduce GHG emissions. Waste management can be achieved by reducing the amount of trash and other waste that is discarded; reusing containers, products, and building materials; and recycling as many materials as possible, including green waste and construction materials. The solid waste measure listed in Table 3-7 has the potential to reduce Atascadero’s GHG emissions by 924 MT CO$_2$e by 2020.

In addition to reducing GHG emissions, the solid waste measure described in this section have the potential to provide other important benefits to the community. These include:

- Improved air quality
- Resource conservation

<table>
<thead>
<tr>
<th>Measure Number</th>
<th>Measure</th>
<th>2020 GHG Reductions (MT CO$_2$e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1</td>
<td>Solid Waste Diversion</td>
<td>924</td>
</tr>
<tr>
<td><strong>Solid Waste Total</strong></td>
<td></td>
<td><strong>924</strong></td>
</tr>
</tbody>
</table>
Measure S-1: Solid Waste Diversion

Adopt a specified solid waste diversion rate that exceeds the state-mandated rate of 50 percent and identify programs to meet the identified rate by 2020.

Existing and/or Completed Efforts in Support of Measure:

- The City has been utilizing a “Cold In-Place Recycling” program for road rehabilitation which eliminates truck trips and road material waste which would traditionally be produced during road repair and reconstruction.
- The City collaborates with Atascadero Waste Alternatives regarding programs for increased solid waste diversion.
- The City hosts semiannual “citywide clean-up days” for residents to recycle household waste at no cost.
- The City maintains a free curbside co-mingled recycling program and “green waste” recycling program.

Implementation Actions:

S-1.1: Adopt a solid waste diversion rate goal of 60 percent (10 percent above the state-mandated rate of 50 percent).

S-1.2: Work with Atascadero Waste Alternatives to identify the current city-wide diversion rate, and options for increased recycling, waste diversion, and education and outreach to meet the City’s goal.

S-1.3: Adopt an ordinance, amending Title 8, Chapter 8, Section 8-8.101 of the Atascadero Municipal Code to require that 70 percent of debris from demolition projects be diverted from landfills.

S-1.4: Develop and adopt a policy requiring the provision of recycling receptacles at all events requiring a permit or held on City-owned or operated property.

GHG Reduction Potential: 924 MT CO₂e
City Cost: Low
City Savings: None
Private Cost: None
Private Savings: None
3.3.6 TREES AND VEGETATION MEASURES

Trees and other vegetation absorb and capture the GHG carbon dioxide from the atmosphere in a process called carbon sequestration. By maintaining a healthy urban forest, prolonging the life of trees, and continually increasing the number of trees, Atascadero can increase its net carbon storage over the long term (CAPCOA, 2012). Trees and other vegetation also reduce local air and surface temperatures by shading buildings, streets, and sidewalks.

The trees and vegetation measures listed in Table 3-8 have the potential to reduce Atascadero’s GHG emissions by 1,781 MT CO$_2$e by 2020.

In addition to reducing GHG emissions, the trees and vegetation measures described in this section have the potential to provide other important benefits to the community. These include:

- **City beautification**
- **Increased property values**
- **Improved air quality**
- **Improved water quality**
- **Improved public health**
- **Reduced surface and air temperatures**
- **Reduced noise pollution**

### Table 3-8: Trees and Vegetation GHG Reductions by Measures

<table>
<thead>
<tr>
<th>Measure Number</th>
<th>Measure</th>
<th>2020 GHG Reductions (MT CO$_2$e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-1</td>
<td>Tree Planting Program</td>
<td>36</td>
</tr>
<tr>
<td>T-2</td>
<td>Native Forest Regeneration</td>
<td>1,745</td>
</tr>
<tr>
<td><strong>Trees and Vegetation Total</strong></td>
<td></td>
<td><strong>1,781</strong></td>
</tr>
</tbody>
</table>

**Measure T-1: Tree Planting Program**
Facilitate voluntary tree planting within the community, working with local non-profit organizations and community partners.

Existing and/or Completed Efforts in Support of Measure:

- The City has developed a tree planting assistance program, which provides resources, labor, and subsidies to participating community members.
- The City has developed and adopted tree planting guidelines that address tree and site selection.
- The City tracks the number of trees planted annually and has completed a tree and habitat survey to study Atascadero’s oak forest and success of tree replanting sites.
- The City has been recognized as a Tree City member since 1988.
- The Atascadero Native Tree Association creates tree planting areas and conducts educational programs and outreach which focus on the care and renewal of native trees.
- The City has adopted landscape standards for multifamily and commercial development and parking lots to establish minimum requirements for landscape coverage, decorative planting and shade trees.

Implementation Actions:

- T-1.1: Facilitate voluntary tree planting within the community, working with local non-profit organizations and community partners.
- T-1.2: Continue to provide tree planting assistance to facilitate tree planting within the community.

Measure T-2: Native Forest Regeneration

Increase the amount of vegetated open space within the City to permanently increase carbon storage.

Existing and/or Completed Efforts in Support of Measure:

- The City has a number of ongoing efforts for permanent preservation of open space and native forest regeneration. For example, the City works with developers to cluster development and rezone existing residential property to open space with preservation easements to guarantee these areas remain as undisturbed oak woodlands in the future.
- The City estimates that approximately 1,400 acres of commercial and/or residential zoned land would be
rezoned into open space conservation between 2006 and 2020, which will naturally facilitate native forest regeneration.\(^7\)

**Implementation Actions:**

**T-2.1:** Continue to work with developers and landowners to permanently preserve open space and regenerate native forest within Atascadero.\(^8\)

---

\(^7\) This measure can only account for projects that re-vegetate or create vegetated land from previously settled land that will sequester carbon dioxide from the atmosphere which would not have been captured had there been no land-type change. In other words, it can only account for net new or “additional” vegetation. This is because trees are only net carbon sinks when they are actively growing (a 20 year period). As such, there is no reduction in GHG emissions associated with preservation of land where re-vegetation will not occur (CAPCOA, 2010, p. 402-409).

\(^8\) The CARB-approved Urban Forest Project Protocol (2010) provides guidance for municipalities to quantify and verify GHG reductions from a planned set of tree and vegetation planting and maintenance activities implemented to permanently increase carbon storage through trees and vegetation. The Protocol is available at: http://www.climateactionreserve.org/how/protocols/urban-forest/
3.4 GHG Reduction Summary

As discussed in Chapter 2, GHG Emissions and Reduction Target, Atascadero will need to reduce its GHG emissions by 18,737 MT CO\textsubscript{2}e by 2020 to meet its 15 percent reduction target. The GHG reduction measures in this CAP are estimated to reduce Atascadero’s GHG emissions by 28,873 MT CO\textsubscript{2}e by 2020, as summarized in Table 3-9. Therefore, the implementation of the measures identified in this chapter would enable Atascadero meets its 15 percent reduction target by 2020. By identifying measures that create total reductions beyond the City’s identified 15 percent reduction target of 18,737 MT CO\textsubscript{2}e, the City will have some flexibility in reaching its goal and will not be required to implement every measure exactly as calculated in the CAP. Instead, the City will be able to meet its GHG reduction goal by implementing a combination of the identified measures, as feasible, in order to meet the 15 percent reduction target by 2020.
## Table 3-9: Summary of GHG Reductions by Measure

<table>
<thead>
<tr>
<th>Measure Number</th>
<th>Measure</th>
<th>2020 GHG Reduction (MT CO₂e)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>City Government Operations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-1</td>
<td>City Government Energy Efficiency Retrofits and Upgrades</td>
<td>59</td>
</tr>
<tr>
<td>C-2</td>
<td>City Government Energy Efficient Public Realm Lighting</td>
<td>23</td>
</tr>
<tr>
<td>C-3</td>
<td>Renewable Energy Systems on City Property</td>
<td>172</td>
</tr>
<tr>
<td>C-4</td>
<td>Zero- and Low-Emission City Fleet Vehicles</td>
<td>48</td>
</tr>
<tr>
<td>C-5</td>
<td>City Government Solid Waste Reduction</td>
<td>7</td>
</tr>
<tr>
<td>C-6</td>
<td>City Government Tree Planting Program</td>
<td>24</td>
</tr>
<tr>
<td>C-7</td>
<td>Wastewater Treatment Methane Capture</td>
<td>Unknown</td>
</tr>
<tr>
<td></td>
<td><em>City Government Operations Subtotal</em></td>
<td>333</td>
</tr>
<tr>
<td><strong>Energy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-1</td>
<td>Energy Efficiency Outreach and Incentive Programs</td>
<td>778</td>
</tr>
<tr>
<td>E-2</td>
<td>Energy Audit and Retrofit Program</td>
<td>1,099</td>
</tr>
<tr>
<td>E-3</td>
<td>Income-Qualified Energy Efficient Weatherization Programs</td>
<td>126</td>
</tr>
<tr>
<td>E-4</td>
<td>Incentives for Exceeding Title 24 Building Energy Efficiency Standards</td>
<td>227</td>
</tr>
<tr>
<td>E-5</td>
<td>Small-Scale On-Site Solar PV Incentive Program</td>
<td>781</td>
</tr>
<tr>
<td>E-6</td>
<td>Income-Qualified Solar PV Program</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td><em>Energy Subtotal</em></td>
<td>3,098</td>
</tr>
<tr>
<td><strong>Transportation and Land Use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TL-1</td>
<td>Bicycle Network</td>
<td>691</td>
</tr>
<tr>
<td>TL-2</td>
<td>Pedestrian Network</td>
<td>317</td>
</tr>
<tr>
<td>TL-3</td>
<td>Expand Transit Network</td>
<td>86</td>
</tr>
<tr>
<td>TL-4</td>
<td>Increase Transit Service Frequency/Speed</td>
<td>23</td>
</tr>
<tr>
<td>TL-5</td>
<td>TDM Incentives</td>
<td>110</td>
</tr>
<tr>
<td>TL-6</td>
<td>Parking Supply Management</td>
<td>543</td>
</tr>
<tr>
<td>TL-7</td>
<td>Electric Vehicle Network and Alternative Fueling Stations</td>
<td>1,984</td>
</tr>
<tr>
<td><strong>TL-8</strong></td>
<td><strong>Smart Growth Atascadero General Plan</strong></td>
<td>3,251</td>
</tr>
<tr>
<td>TL-9</td>
<td>Halt Retail Leakage</td>
<td>14,956</td>
</tr>
<tr>
<td></td>
<td><em>Transportation and Land Use Subtotal</em></td>
<td>21,961</td>
</tr>
<tr>
<td><strong>Off-Road</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O-1</td>
<td>Off-Road Vehicle and Equipment Upgrades, Retrofits, and Replacements</td>
<td>754</td>
</tr>
<tr>
<td></td>
<td><em>Off-Road Subtotal</em></td>
<td>754</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W-1</td>
<td>Exceed SB X7-7 Water Conservation Target</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td><em>Water Subtotal</em></td>
<td>22</td>
</tr>
<tr>
<td><strong>Solid Waste</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-1</td>
<td>Solid Waste Diversion</td>
<td>924</td>
</tr>
<tr>
<td></td>
<td><em>Solid Waste Subtotal</em></td>
<td>924</td>
</tr>
<tr>
<td><strong>Trees and Vegetation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T-1</td>
<td>Tree Planting Program</td>
<td>36</td>
</tr>
<tr>
<td>T-2</td>
<td>Native Forest Regeneration</td>
<td>1,745</td>
</tr>
<tr>
<td></td>
<td><em>Trees and Vegetation Subtotal</em></td>
<td>1,781</td>
</tr>
<tr>
<td><strong>TOTAL REDUCTION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>28,873</strong></td>
</tr>
</tbody>
</table>
CHAPTER 4
ADAPTATION
4.0 Adaptation

There are two responses to climate change available to local governments: mitigation and adaptation. The previous chapter addressed climate change mitigation, by identifying measures to reduce GHG emissions. This chapter identifies measures to prepare for and minimize the risks associated with anticipated climate change impacts and increase resiliency to those changes. Drawing on a recent climate adaptation planning process that took place in San Luis Obispo County, this chapter identifies climate change predictions for the region and specific to Atascadero. This chapter also provides an assessment of populations and infrastructure within Atascadero that are particularly vulnerable to the identified impacts and identifies measures to increase community resilience to those effects.

4.1 Climate Change Predictions and Vulnerability

Climate change is a global phenomenon that has the potential to impact local health, agriculture, natural resources, infrastructure, emergency response, tourism, and many other facets of society. As climate change continues to progress, increased stress to vulnerable populations and sectors of society are expected. In 2010, key stakeholders, elected officials, city and county planners, land managers, public health officials, concerned citizens, scientists, and the Local Government Commission initiated a process to address climate change adaptation in San Luis Obispo County. As part of this process, scientists from Geos Institute identified anticipated climate change impacts in the region and threats to socioeconomic and natural systems. The range of potential impacts presented in the document ClimateWise: Integrated Climate Change Adaptation Planning in San Luis Obispo County in November 2010 (ClimateWise) are based on projections of climate change in the San Luis Obispo region using three of the best-available models (MIROC, HadCM, and CSIRO) and an emissions scenario drawn from those used by the Intergovernmental Panel on Climate Change (IPCC).

According to ClimateWise, climate change could lead to the following potential changes in the San Luis Obispo County region and the City of Atascadero:

- Increased temperatures
- Changed precipitation
- Increased frequency and severity of storm events
- Increased burn area from wildfires

"Adaptation planning at the local, state, and national levels can limit the damage caused by climate change, as well as reduce the long-term costs of responding to the climate-related impacts that are expected to grow in number and intensity in the decades to come" (PEW Center on Global Climate Change, 2011).
Based on these climate changes, a vulnerability assessment was completed to determine the
degree to which physical, socioeconomic, and natural factors are susceptible to, or unable to
accommodate, the anticipated effects of climate change. The assessment was comprised of
three primary components:

- **Exposure**—the nature and degree to which a system experiences a stress or hazard,
sensitivity and adaptive capacity
- **Sensitivity**—the degree to which the system is impacted by a given stressor, change or
disturbance
- **Adaptive Capacity**—the ability to cope with extreme events, to make adaptive changes,
or to transform to a greater extent, including the ability to moderate potential damages
and to take advantage of opportunities

Each of these components contributes to understanding the overall vulnerability of a functional
system (Snover, 2007). Climate change will most impact those individuals and systems that
have both the greatest exposure and sensitivity to climate change impacts, in addition to the
lowest adaptive capacity (see Table 4-1). For each climatic hazard, the population and
economic sector most vulnerable depends on the unique combination of these three factors
(ClimateWise, 2010).

**Table 4-1: Climate Change Vulnerability**

<table>
<thead>
<tr>
<th>Components of Vulnerability</th>
<th>Climatic Risks</th>
<th>Populations or Infrastructure Particularly at Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure</td>
<td>Floods</td>
<td>Floodplain residents</td>
</tr>
<tr>
<td></td>
<td>Heat</td>
<td>Outdoor workers</td>
</tr>
<tr>
<td></td>
<td>Drought</td>
<td>Farmers, all water users</td>
</tr>
<tr>
<td></td>
<td>Wildfire</td>
<td>Homes at the wildland-urban interface</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>Heat</td>
<td>Infants, elderly</td>
</tr>
<tr>
<td></td>
<td>Air pollution</td>
<td>Asthma sufferers, children</td>
</tr>
<tr>
<td></td>
<td>Drought</td>
<td>Farmers</td>
</tr>
<tr>
<td>Adaptive Capacity</td>
<td>Floods</td>
<td>Institutionalized populations, low-income households</td>
</tr>
<tr>
<td></td>
<td>Heat</td>
<td>Low-income residents</td>
</tr>
</tbody>
</table>

Source: ClimateWise, 2010

### 4.1.1 Increased Temperatures

Average temperatures in San Luis Obispo County are expected to become 2 to 4 degrees
warmer by mid-century and possibly 4 to 8 degrees warmer by late century, depending on
emission levels (ClimateWise, 2010). Greater warming is expected to occur in the summer
months compared to winter. Atascadero should also anticipate more extreme heat conditions
(i.e., heat waves, which are defined as five or more consecutive days over 99 degrees to 101
degrees Fahrenheit), which could last longer and become three to four times more frequent by
2050.
Public health may be negatively impacted by a changing climate as a result of changing environmental conditions (e.g., extreme weather events, changes in temperature and rainfall that decrease water supply, worsening air quality, and increases in allergens and air pollutants). ClimateWise states that “in the case of extreme heat, some of the most vulnerable populations include: the elderly, infants, and outdoor workers [especially in the hotter inland areas such as Atascadero].” This vulnerability assessment is consistent with California’s Adaptation Strategy in the identification of population segments that will be the most at risk from climate change impacts. In addition, California’s Adaptation Strategy also identifies “individuals suffering from chronic heart or lung disease, persons with mental disabilities, the socially and/or economically disadvantaged as being vulnerable populations” (California Natural Resources Agency, 2009).

Almost 9 percent of all Atascadero residents live below the poverty line (U.S. Census 2010). With anticipated increases in temperature, these economically disadvantaged persons may find it more difficult to afford the additional costs of cooling their homes. Consequently, many low-income households, especially those of seniors and the disabled may become physically vulnerable to the effects of extreme heat events.

### 4.1.2 Changed Precipitation

Precipitation, except during winter months, is anticipated to change little in the near future. However, climate models forecast drier conditions throughout San Luis Obispo County by 2075. As a result, droughts may become more frequent, longer and more severe. It is also projected that when rainfall does occur, it may be more likely to come in the form of intense downpours.

Wells owned by the Atascadero Mutual Water Company supply the water for urban use, and a limited number of private wells serve agricultural and residential uses within the city limits. While climate models predict little change in rainfall patterns for the near future, they do forecast a drier climate during the last half of this century. This may result in longer and more severe periods of drought, therefore impacting the livestock industry, which relies on annual precipitation for reliable grazing and pasturing.

### 4.1.3 Increased Frequency and Severity of Storm Events

As mentioned above, the severity of storm events could increase, even if precipitation levels do not. This is an important differentiation to recognize. More rain falling in a shorter time frame increases the risk of flooding. The prevalence of impermeable paving materials and drainage systems that prevent quick absorption back into the ground water will serve to exacerbate the problem.

Businesses, residents, and infrastructure located within floodplains (e.g., adjacent to the Salinas River) would be more susceptible to damage or disruption by larger than average precipitation.
events. The region may see more severe (but not necessarily more frequent) rainfall events, leading to quick pulses of runoff. Currently, there is insufficient infrastructure to accommodate that momentary surplus of water, and large amounts of impervious pavement prevent much of the rain from infiltrating into the ground. There is also a possibility of septic systems and sewage treatment plants being unable to handle increases in intense rainfall events and associated runoff. This could impede the proper functioning of onsite septic systems or overwhelm sewers and centralized sewage treatment plants. As a result, untreated water, with a full load of toxics and organic waste, could enter streams and coastal waters (Koopman et al., 2010).

4.1.4 Increased Burn Area from Wildfires

Rural areas within and surrounding Atascadero may become more prone to wildfires due to higher temperatures and stress to vegetation. By the end of the century, San Luis Obispo County could experience two to three times larger area burned annually by wildfires (ClimateWise, 2010).

As the population and urban areas of the state continue to grow, much of California is experiencing an exponential increase in its vulnerability to wildfire damages and loss. This increase is especially true in outlying (rural) suburbs that are situated in forested or brush covered areas seen as more desirable than higher density developments. Because rural properties are more likely to be more than 1,000 feet from a hydrant, firefighting capabilities are not as effective for such properties.

4.2 Adaptation Measures

The following measures focus on items the City of Atascadero can implement in adapting to increased natural climate hazard risks: The following measures focus on items the City of Atascadero can implement in adapting to climate change. The goal of these measures is to reduce impacts to the community, the economy, and local natural resources. Recognizing the link between public health and climate adaptation, this chapter recommends adaptation measures that are designed to reduce the negative impacts of climate change on sensitive populations and communities. Measures were developed from those identified in the ClimateWise program, the World Bank Primer on Reducing Vulnerabilities to Disaster, International Council for Local Environmental Initiatives (ICLEI), and the California Natural Resources Agency’s Climate Adaptation Strategy.

Measure A-1: Climate Change Vulnerability

Periodically reassess regional climate change vulnerabilities.

Implementation Actions:

- **A-1.1:** Participate in inter-agency and or inter-jurisdictional meeting and planning activities to periodically reassess local climate change vulnerabilities and incorporate into local hazard mitigation plans. Natural hazard vulnerabilities periodically reassess regional climate change vulnerabilities.
A-1.2: Incorporate newly identified adaptation measures into planning documents as appropriate.

Measure A-2: Public Health and Emergency Preparedness

Prepare for anticipated climate change effects on public health, the local economy, and populations that may bear a disproportionate burden of the climate change effects.

Implementation Actions:

- A-2.1: Collaborate with community-based organizations (such as health care providers, public health advocates, fire prevention organizations, etc.) to disseminate public preparedness and emergency response information related to climate change.
- A-2.2: Conduct training exercises at public forums as well as distribute publicly available information on emergency exit routes and methods.
- A-2.3: Identify and focus planning and outreach programs on vulnerable populations including neighborhoods that currently experience social or environmental injustice or bear a disproportionate burden of potential public health impacts.
- A-2.4: Prepare a heat wave response plan that focuses on responding to the increased propensity for heat-related death and illness.
- A-2.5: Coordinate and promote cooling centers for residents who may require refuge from hot days, particularly low income households and senior citizens.
- A-2.6: Coordinate with the City’s Fire and Police Departments to bolster wildfire preparedness and defensiveness for residents and businesses through providing information on the City’s website and conducting trainings promoting mechanical fuel management and increasing the area of defensible space around structures.

Measure A-32: Water Management

Implement new policies and programs to limit community exposure to threats such as flooding, and support those that encourage water use conservation and efficiency.

Implementation Actions:

- A-32.1: Collaborate with other jurisdictions to address water supply threats, flooding, and wastewater management.
- A-32.2: Continue to seek grants and other sources of funding, including the State Integrated Regional Water Management Grant Program and mitigation opportunities, to enhance flood control and improve water quality.

*A cooling center is a place where residents can go to cool off on high heat days. Cooling centers are often located in local government-run facilities such as senior centers or neighborhood parks and recreation sites and are open to all. Typical locations include community centers, fairgrounds, libraries, and other public facilities (California Adaptation Planning Guide, 2012).*
A-32.3: Implement the CAP measure that facilitates water conservation and the use of recycled water.

Measure A-43: Infrastructure

Work to improve the resilience of systems that provide the resources and services critical to community function.

Implementation Actions:

- A-43.1: Assess the potential impact of climate change increased natural climate hazards as part of the update of plans that manage community infrastructure systems.
- A-4.2: Complete an assessment, including economic impacts and threats to public health and safety, for projected climate change impacts on local transportation, water, wastewater, stormwater, energy, and communication systems.
- A-43.32: Complete an assessment, including cost benefit analysis, and develop mitigation plans, as necessary, for protection of critical infrastructure and systems. Develop mitigation plans, as necessary, for protection of the wastewater treatment facility, the high school, and the relocation or elevation of vulnerable infrastructure.
5.0 Implementation and Monitoring

Implementation and monitoring are essential components of the CAP to ensure that Atascadero reduces its GHG emissions and meets its target. This chapter identifies key steps that the City will take to implement the CAP and monitor the progress in reducing Atascadero’s GHG emissions consistent with AB 32. It also describes potential funding sources and mechanisms available to implement the CAP.

5.1 Implementation Matrix

Ensuring that the CAP measures translate into measurable reductions in GHG emissions is critical to the success of the CAP. To facilitate this, each measure and its corresponding implementation actions identified in Chapter 3, Climate Action Measures, and Chapter 4, Adaptation, is listed in the implementation matrix in Table 5-1 along with the following items:

- **Responsible Department(s):** The City department that will be primarily responsible for implementing, monitoring, and reporting on the progress of the selected measure and corresponding actions.

- **Implementation Time Frame:** The phase in which measure implementation should begin. Please note that measures already underway with existing or recently completed efforts in support of the measure are categorized as near-term. Time frames include:
  - Near-Term – By 2015
  - Mid-Term – 2016-2017
  - Long-Term – 2018-2020

- **City Cost and Savings Estimates:** For each measure, potential costs and savings to the City are categorized as none ($0), very low ($1-$10,000), low ($10,001-$50,000), medium ($50,001-$100,000), and high ($100,001 or greater). Supporting information on costs and savings is provided in Appendix B.

- **GHG Reduction Potential:** The GHG reduction potential value identifies the estimated annual emission reductions anticipated in 2020, measured in MT CO$_2$e. Supporting information pertaining to the GHG reduction calculations is provided in Appendix B.

- **Performance Indicator:** Performance indicators enable the City to generally monitor measure progress.
### Table 5-1: Implementation Matrix

<table>
<thead>
<tr>
<th>Measure</th>
<th>Actions</th>
<th>Responsible Department</th>
<th>City Cost</th>
<th>City Savings</th>
<th>2020 GHG Reduction (MT CO$_2$e)</th>
<th>Performance Indicator</th>
<th>Implementation Time Frame*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>City Government Operations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C-1: City Government Energy Efficiency Retrofits and Upgrades.</strong> Establish a target to reduce City government energy use by 20 percent by 2020 and implement cost-effective improvements and upgrades to achieve that target.</td>
<td><strong>C-1.1:</strong> Adopt a 20 percent City government energy use reduction target, based on a per square footage analysis of energy usage. <strong>C-1.2:</strong> Establish a prioritized list of cost-effective energy efficiency upgrade projects and implement them as funding becomes available. <strong>C-1.3:</strong> Look into the feasibility of installing an energy management system that monitors energy use and controls heating, cooling, and ventilation to increase efficiency. Conduct a cost benefit analysis and identify funding sources for installation of this system, or other tools for monitoring and encouraging energy efficiency. <strong>C-1.4:</strong> Continue to measure and track building energy usage and maintain a regular maintenance schedule for heating and cooling, ventilation and other building functions.</td>
<td>Public Works, Finance</td>
<td>Varies</td>
<td>Medium</td>
<td>59</td>
<td>20 percent energy savings from City government operations by 2020</td>
<td>Near-Term</td>
</tr>
<tr>
<td><strong>C-2: City</strong></td>
<td><strong>C-2.1:</strong> Conduct an inventory of</td>
<td>Public Works,</td>
<td>Medium</td>
<td>Low</td>
<td>23</td>
<td>50 LED</td>
<td>Mid-Term</td>
</tr>
<tr>
<td>Measure</td>
<td>Actions</td>
<td>Responsible Department</td>
<td>City Cost</td>
<td>City Savings</td>
<td>2020 GHG Reduction (MT CO₂e)</td>
<td>Performance Indicator</td>
<td>Implementation Time Frame*</td>
</tr>
<tr>
<td>---------</td>
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<td>-----------</td>
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<td>-----------------------------</td>
<td>-----------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td><strong>Government Energy Efficiency Public Realm Lighting.</strong> Continue to replace City-owned or -operated street, traffic signal, park, and parking lot lights with higher efficiency lamp technologies.</td>
<td>existing outdoor public light fixtures. <strong>C-2.2:</strong> Continue to identify and secure funding to replace additional inefficient City-owned or -operated public lighting.</td>
<td>Finance</td>
<td></td>
<td></td>
<td>street lights, 50 LED traffic signals, and 150 LED or CFL outdoor lights installed by 2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C-3: Renewable Energy Systems on City Property.</strong> Pursue on-site small-scale renewable energy generation at City government facilities.</td>
<td><strong>C-3.1:</strong> Identify funding sources and opportunities for City government renewable energy generation. Specifically, installation of a solar photovoltaic (PV) system at the wastewater treatment plant property which could be used to supply power to wastewater plant and other City facilities. <strong>C-3.2:</strong> Install small-scale solar PV systems or other renewable energy projects at select City government facilities.</td>
<td>Public Works, City Manager's Office, Finance</td>
<td>High</td>
<td>High</td>
<td>172</td>
<td>1,650 kW solar PVS and 2 solar hot water systems installed by 2020</td>
<td>Long-Term</td>
</tr>
<tr>
<td><strong>C-4: Zero- and Low-Emission City Fleet Vehicles.</strong> Continue to replace official City vehicles with more efficient and/or</td>
<td><strong>C-4.1:</strong> Develop and adopt a low- and zero- emissions replacement/purchasing policy for official City vehicles and equipment. This would not apply to vehicles with special</td>
<td>Finance</td>
<td>Low</td>
<td>Very Low</td>
<td>48</td>
<td>5 municipal vehicles replaced by 2020</td>
<td>Near-Term</td>
</tr>
<tr>
<td>Measure</td>
<td>Actions</td>
<td>Responsible Department</td>
<td>City Cost</td>
<td>City Savings</td>
<td>2020 GHG Reduction (MT CO$_{2}$e)</td>
<td>Performance Indicator</td>
<td>Implementation Time Frame*</td>
</tr>
<tr>
<td>----------------------------------------------</td>
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<td>alternatively fueled vehicles.</td>
<td>performance requirements. <strong>C-4.2:</strong> Work with the Central Coast Clean Cities Coalition to obtain funding to purchase low-emission and zero-emission fleet vehicles. <strong>C-4.3:</strong> Identify fleet vehicles near replacement and replace with lower emission vehicles.</td>
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<td><strong>C-5: City Government Solid Waste Reduction.</strong> Establish a 15 percent solid waste diversion rate over 2005 baseline levels and identify steps to meet that rate by 2020.</td>
<td><strong>C-5.1:</strong> Continue to install recycling receptacles at City-owned or -operated buildings and facilities. <strong>C-5.2:</strong> Investigate feasibility of installation of solar powered trash/recycle compactors at City facilities in order to reduce trips to City parks for trash pickup and encourage public awareness of recycling.</td>
<td>Public Works, Finance, City Manager's Office</td>
<td>Low</td>
<td>None</td>
<td>7</td>
<td></td>
<td>Near-Term</td>
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<tr>
<td><strong>C-6: City Government Tree Planting Program.</strong> Establish a tree planting program to increase the number of native, drought-tolerant trees on City-owned property, parks and streetscapes.</td>
<td><strong>C-6.1:</strong> Develop and adopt a formal tree planting policy or program and plant at least 2,000 trees on City property by 2020 subject to water availability. <strong>C-6.2:</strong> Identify and secure grant funding to plant trees on City properties.</td>
<td>Public Works, Planning</td>
<td>High</td>
<td>None</td>
<td>24</td>
<td></td>
<td>Near-Term,</td>
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<td>C-7: Wastewater Treatment Plant Methane Capture. Implement methane capture at the wastewater treatment facility.</td>
<td><strong>C-7.1:</strong> Investigate the installation of a methane capture system at the wastewater treatment plant. Look for funding sources to conduct a complete feasibility study and supplement construction costs for installation of this type of system.</td>
<td>Public Works</td>
<td>Unknown</td>
<td>Unknown</td>
<td>Unknown</td>
<td>36 percent methane capture by 2020</td>
<td>Long-Term</td>
</tr>
<tr>
<td>Energy</td>
<td><strong>E-1: Energy Efficiency Outreach and Incentive Programs.</strong> Expand participation in and the promotion of existing energy efficiency programs, such as Energy Upgrade California and San Luis Obispo County Energy Watch, to increase community awareness of existing energy efficiency rebates and financial incentives, and no- and low-cost actions community members</td>
<td><strong>E-1.1:</strong> Continue to collaborate with San Luis Obispo County Energy Watch, SLO Green Build, and other local groups to conduct additional outreach and promotional activities, either individually or in collaboration with San Luis Obispo County Energy Watch, targeting specific groups or sectors within the community (e.g., homeowners, renters, businesses, etc.). Direct community members to existing program websites, such as Energy Upgrade California and San Luis Obispo County Energy Watch. <strong>E-1.2:</strong> Designate one week per year to conduct an energy efficiency outreach campaign</td>
<td>Community Development, Public Works</td>
<td>Very Low</td>
<td>None</td>
<td>778</td>
<td>40 percent of households participating with 10 percent energy savings and 40 percent of businesses participating with 10 percent energy savings by 2020</td>
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**IMPLEMENTATION AND MONITORING**

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<td>can take to increase energy efficiency.</td>
<td>targeting a specific group. The campaign week can also be used to recognize and encourage programs and educational outreach conducted by industry organizations, non-governmental entities, government agencies, and other community groups.</td>
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<td><strong>E-2: Energy Audit and Retrofit Program.</strong> Facilitate voluntary energy assessments, retrofits, and retrocommissioning of local businesses and organizations within Atascadero.</td>
<td><strong>E-2.1:</strong> Collaborate with San Luis Obispo County Energy Watch, local utilities, and local jurisdictions to develop and promote a residential and commercial energy audit program. <strong>E-2.2:</strong> Conduct outreach and promotional activities targeting specific groups (e.g., owners of buildings built prior to Title 24 [1980]) in order promote the audit and retrofit program. <strong>E-2.3:</strong> As part of the business licensing and renewal process, encourage businesses to participate in the program and receive an energy audit. <strong>E-2.4:</strong> Participate in and promote a residential and commercial energy efficiency financing program to encourage</td>
<td>Building Services, Community Development, Planning, Public Works</td>
<td>Very Low</td>
<td>None</td>
<td>1,099</td>
<td>700 households and 525 businesses audited by 2020, with 40 percent of those completing building upgrades with an average energy savings of 25 percent</td>
<td>Mid-Term</td>
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<td>investment in energy efficiency upgrades.</td>
<td><strong>E-2.5:</strong> Work with Energy Upgrade California, local utilities, and/or community businesses and organizations, to annually conduct a “do-it-yourself” workshop for building energy retrofits. <strong>E-2.6:</strong> Highlight the effectiveness of energy audits and retrofits by showcasing the success of retrofit projects (e.g., on the City’s website or in its newsletter).</td>
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<td><strong>E-3:</strong> Income- Qualified Energy Efficient Weatherization Programs. Facilitate energy efficient weatherization of low- and middle-income housing through promotion of existing programs.</td>
<td><strong>E-3.1:</strong> Continue to promote income-qualified weatherization programs, either individually, or in collaboration with an existing organization, to income-qualified households using sources of data available to the City, (e.g., water bills, housing records, etc.).</td>
<td>Community Development, Finance</td>
<td>Very Low</td>
<td>None</td>
<td>126</td>
<td></td>
<td>Near-Term</td>
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<td><strong>E-4:</strong> Incentives for Exceeding Title 24 Energy Efficiency Building Standards. Encourage new construction to exceed State building energy codes.</td>
<td><strong>E-4.1:</strong> Identify, provide and promote incentives (e.g., streamlined permitting, public recognition, etc.) for applicants whose project exceeds State building energy codes.</td>
<td>Building Services, Planning</td>
<td>Very Low</td>
<td>None</td>
<td>227</td>
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<td>Mid-Term</td>
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<td>development to voluntarily exceed State energy efficiency standards.</td>
<td>requirements by 20 percent. <strong>E-4.2:</strong> Launch an educational campaign for builders, permit applicants, and the general public to promote best practices and incentive programs; continue to provide information and assistance about energy efficiency options online and at permit counter. <strong>E-4.3:</strong> Continue to work with SLO Green Build and community organizations and businesses to promote and encourage implementation of energy efficiency measures that exceed State standards.</td>
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<td><strong>E-5: Small-Scale On-Site Solar PV Incentive Program.</strong> Facilitate the voluntary installation of 2,704 kW commercial small-scale on-site solar PV systems and 1,932 kW residential small-scale on-site solar PV systems in the community through expanded promotion</td>
<td><strong>E-5.1:</strong> Conduct a comprehensive review of the City’s solar permitting process based on the Governor’s Office of Planning and Research’s (OPR) <em>California Solar Permitting Guidebook</em> (June 2012), identifying any existing barriers to facility implementation. <strong>E-5.2:</strong> Improve the permit review and approval process for small solar PV systems by implementing recommendations</td>
<td>Public Works, Building Services, Planning</td>
<td>Very Low</td>
<td>None</td>
<td>781</td>
<td>80 commercial solar PV systems installed (total of 2,704 kW) and 420 residential solar PV systems installed (total of 1,932 kW) by 2020</td>
<td>Near-Term</td>
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-City of Atascadero Climate Action Plan-
### Implementation and Monitoring

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<td>of existing financial incentives, rebates, and financing programs, and by helping residents and business owners overcome common regulatory barriers.</td>
<td>for streamlined permitting identified in the <em>California Solar Permitting Guidebook</em> (e.g., use standardized forms, provide clear written instructions on the permitting process and a checklist of required application materials, make information available on the City’s website and at the permit counter, etc.).</td>
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<td><strong>E-5.3:</strong> Collaborate with other local jurisdictions in the region to standardize requirements across jurisdiction, by using common promotion and permit materials, such as checklists and standard plans, to reduce permit submittal errors among contractors working throughout a region.</td>
<td><strong>E-5.4:</strong> Participate in and promote a residential and commercial/industrial renewable energy financing program (e.g., through CaliforniaFIRST, a joint powers authority with neighboring jurisdictions, or other mechanisms) facilitating voluntary investment in renewable energy upgrades by residential and</td>
<td>City</td>
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<td>commercial/industrial property owners for their buildings.</td>
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<td>E-5:5</td>
<td>Expand education on and promotion of existing incentive, rebate, and financing programs for solar PV systems targeting specific groups or sectors within the community.</td>
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<td>E-5:6</td>
<td>Designate one week per year to conduct a renewable energy outreach campaign targeting a specific group. The campaign week can also be used to recognize community members that have implemented noteworthy or unique renewable energy projects.</td>
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<td>E-6:</td>
<td><strong>Income-Qualified Solar PV Program.</strong> Facilitate the installation of small-scale on-site solar PV systems on income-qualified housing units by promoting existing programs offered through the California Solar Initiative and New Solar Homes.</td>
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<td>E-6.1:</td>
<td>Continue to collaborate with GRID Alternatives and/or other community organizations to provide targeted education and outreach to developers and homeowners about incentives offered through the SASH and MASH Programs.</td>
<td>Building Services, Planning</td>
<td>Very Low</td>
<td>None</td>
<td>87</td>
<td>60 low-income residential solar PV systems installed and 25 low-income residential solar water heaters installed by 2020</td>
<td>Near-Term</td>
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<td>E-6.2:</td>
<td>Provide targeted outreach regarding solar water heating incentives offered through the California Solar Initiative, including the SASH</td>
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<td>Partnership and by collaborating with organizations, such as GRID Alternatives, on outreach and eligibility.</td>
<td>and MASH Programs.</td>
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**Transportation and Land Use**

**TL-1: Bicycle Network.** Continue to improve and expand the city’s bicycle network and infrastructure.

**TL-1.1:** Continue to pursue public and private funding to expand and link the city’s bicycle network in accordance with the General Plan and Bicycle Plan.

**TL-1.2:** Continue to coordinate with and support SLOCOG in the implementation of bicycle plans to facilitate non-auto travel within and between communities.

**TL-1.3:** Continue to collaborate with the San Luis Obispo Bicycle Coalition to assist with event promotions and publications to increase awareness and ridership during Bike Month.

**TL-1.4:** Continue to enforce mandatory California Green Building Standards Code bicycle parking standards for non-residential development.

Planning, Building, Public Works | Low | None | 691 | 30 miles of bikeways added by 2020 | Near-Term |
# Implementation and Monitoring

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<tr>
<td><strong>TL-2: Pedestrian Network.</strong> Continue to improve and expand the City’s pedestrian network.</td>
<td><strong>TL-2.1:</strong> Continue to pursue public and private funding to expand and link the City’s pedestrian network. <strong>TL-2.2:</strong> Continue to expand and promote the Safe Routes to School program.</td>
<td>Planning, Public Works</td>
<td>Very Low</td>
<td>None</td>
<td>317</td>
<td>25-10 miles of sidewalk and/or pathways added by 2020</td>
<td>Near-Term</td>
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<td><strong>TL-3: Expand Transit Network.</strong> Work with the Regional Transit Authority (RTA) and transit service providers to expand the local transit network (i.e., additional routes or stops, and/or expanded hours of operation) based on the greatest demand for service.</td>
<td><strong>TL-3.1:</strong> Continue to support the addition of transit routes that provide intercity express services. <strong>TL-3.2:</strong> Continue to research federal and local funding for transit service upgrade projects.</td>
<td>Public Works, Planning</td>
<td>Very Low</td>
<td>None</td>
<td>86</td>
<td>15 percent increase in transit service by 2020</td>
<td>Mid-Term</td>
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<tr>
<td><strong>TL-4: Increase Transit Service Frequency/Speed.</strong> Work with the RTA and transit service providers to increase transit service frequency (i.e., reducing</td>
<td><strong>TL-4.1:</strong> Work with RTA and transit service providers to shorten regional service headways (e.g., by purchasing additional buses, re-routing existing buses, etc.) to 30 minutes or shorter at commute peaks subject to passenger load demand.</td>
<td>Public Works</td>
<td>Very Low</td>
<td>None</td>
<td>23</td>
<td>10 percent reduction in headways (increase in frequency) by 2020</td>
<td>Mid-Term</td>
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<td>headways) by identifying routes where increased bus frequency would improve service.</td>
<td><strong>TL-4.2:</strong> Continue to support streamlined transit services and infrastructure that create a bus rapid transit network on main commute corridors. <strong>TL-4.3:</strong> Consolidate regional transportation and local transportation routes to eliminate duplicate services and create a more efficient and effective transportation system.</td>
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<tr>
<td><strong>TL-5: TDM Incentives.</strong> Work with San Luis Obispo Regional Ride Share and Ride-On to conduct additional outreach and marketing of existing TDM programs and incentives to discourage single-occupancy vehicle trips and encourage alternative modes of transportation, such as carpooling, taking transit, walking, and biking.</td>
<td><strong>TL-5.1:</strong> Conduct additional outreach through event promotions and publications, targeting specific groups or sectors within the community (e.g., large employers, employees, students, seniors, etc.). <strong>TL-5.2:</strong> Provide information on and promote existing employer based TDM programs as part of the business licensing and renewal process, with key focus on large employers with over 50 employees in Atascadero. <strong>TL-5.3:</strong> Continue to collaborate with San Luis Obispo Ride Share and the San Luis Obispo Bicycle Coalition to assist with</td>
<td>Planning, Public Works</td>
<td>Very Low</td>
<td>None</td>
<td>110</td>
<td>25 percent of employees participating in TDM programs, reducing their VMT by 4 percent</td>
<td>Near-Term</td>
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<td></td>
<td>event promotions and publications to increase awareness and ridership during Bike Month and Rideshare month. <strong>TL-5.4:</strong> Continue to work with SLOCOG to identify locations for installation and facilitate construction of Park and Ride lots.</td>
<td>Planning</td>
<td>Very Low</td>
<td>None</td>
<td>543</td>
<td>Net reduction of 1,000 parking spaces by 2020</td>
<td>Long-Term</td>
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<td><strong>TL-6: Parking Supply Management.</strong> Reduce parking requirements in areas such as the downtown where a variety of uses and services are planned in close proximity to each other and to transit.</td>
<td><strong>TL-6.1:</strong> Implement existing ordinances and parking policies as infill development continues throughout the downtown.</td>
<td>Public Works, Planning, Building</td>
<td>Very Low</td>
<td>None</td>
<td>1,984</td>
<td>5 percent increase in electric vehicles by 2020</td>
<td>Near-Term</td>
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<tr>
<td><strong>TL-7: Electric Vehicle Network and Alternative Fueling Stations.</strong> Continue to work with the APCD, Central Coast Clean Cities</td>
<td><strong>TL-7.1:</strong> Continue to create and implement the electric vehicle readiness plan through expanding the use of alternative fuel vehicles and fueling stations in the community (e.g., through identifying and zoning locations</td>
<td>Public Works, Planning, Building</td>
<td>Very Low</td>
<td>None</td>
<td>5 percent increase in electric vehicles by 2020</td>
<td>Near-Term</td>
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<td>Coalition, and neighboring jurisdictions to create and implement the electric vehicle readiness plan.</td>
<td>for fueling stations, offering incentives for alternative fuel vehicles, etc.). <strong>TL-7.2:</strong> Continue to pursue funding for plug-in electric vehicle charging stations on both public and private property.</td>
<td>Planning</td>
<td>Very Low</td>
<td>None</td>
<td>3,251</td>
<td>5 percent reduction in VMT by 2020</td>
<td>Near-Term</td>
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<td><strong>TL-8:</strong> Smart Growth Atascadero General Plan.</td>
<td><strong>TL-8.1:</strong> Continue to facilitate construction of high quality mixed-use and medium- and high-density land uses located close to transit nodes, existing bus routes, or park and ride facilities with regularly scheduled, daily service. <strong>TL-8.2:</strong> Develop and adopt incentives to help facilitate live/work developments. Live/work developments allow residents to live at their place of work and thereby reduce vehicle miles traveled and associated GHG emissions.</td>
<td>Planning</td>
<td>Very Low</td>
<td>None</td>
<td>3,251</td>
<td>5 percent reduction in VMT by 2020</td>
<td>Near-Term</td>
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<td><strong>TL-9:</strong> Halt Retail Leakage. Work with private developers to identify incentives for and encourage the development of convenient commercial, office,</td>
<td><strong>TL-9.1:</strong> Conduct a study of key underserved areas of demand for retail, offices, and services. <strong>TL-9.2:</strong> Implement the findings of the study with a goal of capturing 60 percent of current retail leakage.</td>
<td>Planning, City Manager’s Office, Office of Economic Development</td>
<td>Very Low</td>
<td>None</td>
<td>14,956</td>
<td>23 percent reduction in VMT by 2020</td>
<td>Near-Term</td>
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<td>and shopping opportunities near existing employment and/or residential areas, as a means of shortening the distance between origins and destinations, and increasing the potential for walking or biking within the city to obtain services.</td>
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<td><strong>Off-Road</strong></td>
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<td>O-1: Off-Road Vehicle and Equipment Upgrades, Retrofits, and Replacements. Continue to work with the APCD and promote existing programs that fund off-road vehicle and equipment upgrades, retrofits, and replacement through the Carl Moyer heavy-duty vehicle and equipment program or</td>
<td>O-1.1: Conduct additional outreach and promotional activities targeting specific groups (e.g., agricultural operations, construction companies, homeowners, etc.).</td>
<td>Public Works, Building, Planning</td>
<td>Very Low</td>
<td>None</td>
<td>754</td>
<td>10 percent of off-road vehicles/equipment replaced with electric-powered vehicles/equipment and 10 percent replaced with alternatively fueled vehicles/equipment by</td>
<td>Mid-Term</td>
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<td>City Savings</td>
<td>2020 GHG Reduction (MT CO₂e)</td>
<td>Performance Indicator</td>
<td>Implementation Time Frame*</td>
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<td>other funding mechanisms.</td>
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<td><strong>Water</strong></td>
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<tr>
<td><strong>W-1: Exceed SB X7-7 Water Conservation Target.</strong> Work with the Atascadero Mutual Water Company to adopt a water conservation target that exceeds the SB X7-7 (Water Conservation Act of 2009) target and identify and implement additional water efficiency and conservation measures to meet that target by 2020.</td>
<td><strong>W-1.1:</strong> Work with the Atascadero Mutual Water Company to adopt a water conservation target to exceed SB X7-7 by 10 percent and develop and/or help implement additional water conservation and efficiency programs (e.g. water efficiency audits, replacement/retrofit programs, etc.) to meet that target. <strong>W-1.2:</strong> Continue to enhance retrofit programs for existing residences and commercial buildings by providing additional resources, assistance, and incentives to home and business owners. <strong>W-1.3:</strong> Expand the use of grey water or recycled water by working with the City’s water purveyors and educating the community on dual plumbing, and state-of-the-art irrigation systems, including the use of grey water systems and rainwater catchment.</td>
<td>Planning, Building, Atascadero Mutual Water Company</td>
<td>Very Low</td>
<td>None</td>
<td>22</td>
<td>Exceed SB X7-7 water conservation target by 10 percent by 2020</td>
<td>Mid-term</td>
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## Implementation and Monitoring

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<tr>
<td><strong>Solid Waste</strong></td>
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| S-1: Solid Waste Diversion. Adopt a specified solid waste diversion rate that exceeds the state-mandated rate of 50 percent and identify programs to meet the identified rate by 2020. | **S-1.1:** Adopt a solid waste diversion goal of 60 percent (10 percent above the state-mandated rate of 50 percent).  
**S-1.2:** Work with Atascadero Waste Alternatives to identify the current city-wide diversion rate, and options for increased recycling, waste diversion, and education and outreach to meet the City’s goal.  
**S-1.3:** Adopt an ordinance, amending Title 8, Chapter 8, Section 8-8.101 of the Atascadero Municipal Code to require that 70 percent of debris from demolition projects be diverted from landfills.  
**S-1.4:** Develop and adopt a policy requiring the provision of recycling receptacles at all events requiring a permit or held on City-owned or -operated property. | Public Works             | Low       | None        | 924                          | 60 percent of solid waste diverted by 2020 | Mid-Term               |
| **Trees and Vegetation** |                                                                                                                                                                                                                                                                                                                                                                                                  |                         |           |              |                             |                      |                          |
| T-1: Tree Planting Program. Facilitate voluntary tree planting within the community, working with local non-profit | **T-1.1:** Facilitate voluntary tree planting within the community, working with local non-profit | Planning, Public Works | Medium    | None         | 36                           | 3,000 net new trees planted by | Near-Term              |
## Implementation and Monitoring

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<tr>
<td>planting within the community, working with local non-profit organizations and community partners subject to water availability.</td>
<td>organizations and community partners. <strong>T-1.2:</strong> Continue to provide tree planting assistance to facilitate tree planting within the community.</td>
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<td>2020</td>
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<tr>
<td>T-2: Native Forest Regeneration. Increase the amount of vegetated open space within the City to permanently increase carbon storage.</td>
<td><strong>T-2.1:</strong> Continue to work with developers and landowners to permanently preserve open space and regenerate native forest within Atascadero.</td>
<td>Planning, Public Works</td>
<td>Very Low</td>
<td>None</td>
<td>1,745</td>
<td>1,400 net new acres re-vegetated</td>
<td>Near-Term</td>
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<tr>
<td><strong>Adaptation</strong></td>
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<tr>
<td>A-1: Natural Climate Hazards Climate Change Vulnerability. Periodically reassess regional climate change vulnerabilities through emergency plans.</td>
<td><strong>A-1.1:</strong> Participate in inter-agency and or inter-jurisdictional meeting and planning activities to periodically reassess local climate change vulnerabilities and incorporate into local hazard mitigation plans. Participate in inter-agency and or inter-jurisdictional meeting and planning activities to periodically reassess regional climate change vulnerabilities. <strong>A-1.2:</strong> Incorporate newly identified adaptation measures.</td>
<td>Community Development, Planning</td>
<td>Very Low</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
<td>Mid-Term</td>
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### Implementation and Monitoring

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<tr>
<td>A-2: Public Health and Emergency Preparedness. Prepare for anticipated climate change effects on public health, the local economy, and populations that may bear a disproportionate burden of the climate change effects.</td>
<td><strong>A-2.1:</strong> Collaborate with community-based organizations (such as health care providers, public health advocates, fire prevention organizations, etc.) to disseminate public preparedness and emergency response information related to climate change. <strong>A-2.2:</strong> Conduct training exercises at public forums as well as distribute publicly available information on emergency exit routes and methods. <strong>A-2.3:</strong> Identify and focus planning and outreach programs on vulnerable populations including neighborhoods that currently experience social or environmental injustice or bear a disproportionate burden of potential public health impacts. <strong>A-2.4:</strong> Prepare a heat wave response plan that focuses on responding to the increased propensity for heat-related death and illness. <strong>A-2.5:</strong> Coordinate and promote into planning documents as appropriate.</td>
<td>Community Development, Public Works, Planning, Human Services</td>
<td>Very Low</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
<td>Long-Term</td>
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<tr>
<td>Measure</td>
<td>Actions</td>
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<td>A-32: Water Management.</td>
<td>Implement new policies and programs to limit community exposure to threats such as flooding, and support those that encourage water use conservation and efficiency.</td>
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<td>A-32.1:</td>
<td>Collaborate with other jurisdictions to address water supply threats, flooding, and wastewater management.</td>
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<td>A-32.2:</td>
<td>Continue to seek grants and other sources of funding, including the State Integrated Regional Water Management Grant Program and mitigation opportunities, to enhance flood control and improve water quality.</td>
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<td>A-32.3:</td>
<td>Implement the CAP measure that facilitates water</td>
<td>Community Development, Public Works</td>
<td>Very Low</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
<td>Long-Term</td>
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</table>
**Measure** | **Actions** | **Responsible Department** | **City Cost** | **City Savings** | **2020 GHG Reduction (MT CO₂e)** | **Performance Indicator** | **Implementation Time Frame**
--- | --- | --- | --- | --- | --- | --- | ---
A-43: Infrastructure. Work to improve the resilience of systems that provide the resources and services critical to community function. | conservation and the use of recycled water. |  |  |  |  |  |  

A-43.1: Assess the potential impact of increased natural climate hazards as part of the update of plans that manage community infrastructure systems.  
A-43.2: Complete an assessment, including economic impacts and threats to public health and safety, for projected climate change impacts on local transportation, water, wastewater, stormwater, energy, and communication systems.  
A-43.32: Complete an assessment, including cost benefit analysis, and develop mitigation plans, as necessary, for protection of critical infrastructure and systems.  
Develop mitigation plans for protection of the wastewater treatment facility, the high school, and the relocation or elevation of vulnerable infrastructure. | Community Development, Public Works | Very Low | None | NA | NA | Long-Term

* The phase in which implementation of the measure began or should begin. Please note that measures already underway with existing or recently completed efforts in support of the measure are categorized as near-term.
5.2 Implementation and Monitoring Policies

CAP implementation and monitoring will require City leadership to execute CAP measures and actions, report on the progress of implementation and performance, and if necessary, alter or amend the CAP in the future to ensure that the plan remains effective and on track toward meeting its target. The following policies and actions were developed to guide CAP implementation and monitoring.

I-1: CAP Implementation Team

Establish the City Manager as the CAP Coordinator and multi-departmental CAP Implementation Team to implement, monitor, and report on the status of measures and actions identified in the CAP. The CAP Implementation Team will meet at least one time per year to assess the status of City efforts.

Implementation Actions:

I-1.1: Form a multi-departmental CAP Implementation Team that meets annually to implement, monitor, and report on the status of measures and actions identified in the CAP.

I-1.2: Designate a City staff member on the CAP Implementation Team to have lead responsibilities for overseeing CAP implementation and monitoring. Duties of this position include coordinating the CAP Implementation Team meetings, preparing the annual CAP progress report to City Council, and coordinating the GHG emissions inventory and CAP updates, as specified in this chapter.

I-1.3: Provide CAP implementation and GHG reduction training to staff.

I-2: CAP Measure Evaluation

Annually monitor and report on the implementation and performance of the CAP measures and actions.\(^{11}\)

Implementation Actions:

I-2.1: Prepare an annual progress report for City Council review and consideration. The progress report should:

- Identify the implementation status of each measure (including how new development projects have been implementing CAP measures);

- Evaluate achievement of or progress toward performance criteria;\(^ {12}\)

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\(^{11}\) While a full GHG emissions inventory is necessary to assess community-wide and local government progress toward the 2020 goal, the City can track progress between inventories and provide insight on the effectiveness of specific actions. By evaluating whether the implementation of a measure is on track to achieve its performance criteria, the City can identify successful measures, and re-evaluate or replace under-performing measures.
I-3: GHG Emissions Inventory and CAP Updates

Re-inventory GHG Emissions approximately every five years, as feasible, to evaluate the performance of the CAP as a whole, and if necessary, alter or amend the CAP to ensure that the plan remains on track.\(^\text{13}\)

*Implementation Actions:*

I-3.1: Conduct a GHG inventory update every five years, as feasible, and evaluate CAP performance.

I-3.2: Update the CAP as necessary based on the results of the inventory, and to reflect new programs or policies to reduce GHG emissions.

At this time, the State has not created a mandate for further reductions beyond the 2020 target. It has identified a long-term goal for State agencies of reducing emissions to 80 percent below 1990 emissions levels by 2050 (in Executive Order S-3-05), but has not adopted the target and does not plan for meeting this goal. As such, this CAP does not identify a target beyond 2020. As the year 2020 approaches, the State is likely to adopt a target for later years and, at that time Atascadero will consider adopting a reduction target for a later year, considering the State’s longer-term target. However, if the State has not adopted a reduction target by 2020, the City will set a reduction target.

5.3 Funding Sources

One of the main barriers to an implementation and monitoring plan is lack of available funds. There are multiple grant and loan programs through state, federal, and regional sources to reduce GHG emissions. This section identifies potential funding sources that Atascadero could pursue to offset the financial cost of implementing the CAP measures.

The spectrum of public and private funding options for the measures outlined in this CAP is ever evolving. The programs listed below represent the current (2013) status of those options that are most relevant to the CAP. These funding sources could quickly become out-of-date; therefore, it is important to evaluate the status of a given program before seeking funding, as availability and application processes are updated periodically. In addition, there are general sources of funding that provide the most up-to-date information and should be reviewed on a regular basis, including:

\(^\text{12}\) The performance indicators, provided for each quantified measure, identify the level of participation or performance required to achieve the estimated level of GHG emissions reductions by 2020.

\(^\text{13}\) Inventory updates provide the best indication of CAP effectiveness as they will allow for comparison to the 2005 baseline. If an update reveals that the plan is not making progress toward meeting the GHG reduction target, the City will adjust the measures as necessary.
IMPLEMENTATION AND MONITORING

- U. S. Department of Energy
- U.S. Environmental Protection Agency
- U.S. Department of Housing and Urban Development
- California Energy Commission
- California Strategic Growth Council
- California Public Utilities Commission
- Caltrans
- CAL FIRE
- California Statewide Communities Development Authority
- Foundation for Renewable Energy and Environment
- SLOCOG
- SoCalGas
- PG&E
To reduce costs and improve the CAP’s effectiveness, actions should be pursued concurrently whenever possible. Which funding sources the City decides to pursue will be addressed as implementation occurs.

The City can, in part, provide funding for various measures outlined in this CAP. This can be accomplished through the City’s annual budgeting and Capital Improvement Program process which provides an opportunity for citizen input and guides decision-makers while helping them set priorities. The City can also partner with SLOCOG, local jurisdictions within San Luis Obispo County, community-based organizations, and private companies for joint programs.

5.3.1 ENERGY-RELATED FUNDING SOURCES

Many of the financing and incentive programs relevant to the CAP concern energy infrastructure and conservation. Some of these programs are tied to the American Recovery Reinvestment Act economic stimulus package enacted by Congress in February 2009. Access to these funds will be available for a limited period. The City should seek the most up-to-date information regarding the programs listed below.

**Energy Efficiency and Conservation Block Grant Program**
*U.S. Department of Energy*


**Strategic Growth Council Sustainable Communities Planning Grant Program**
*California Strategic Growth Council*

On behalf of the Strategic Growth Council, the Department of Conservation manages competitive grants to cities, counties, and designated regional agencies to promote sustainable community planning and natural resource conservation. The grant program supports development, adoption, and implementation of various planning elements. The Sustainable Communities Planning Grant Program offers a unique opportunity to improve and sustain the wise use of infrastructure and natural resources through a coordinated and collaborative approach.

**Urban Greening for Sustainable Communities Grant Program**
*California Strategic Growth Council*

Because of the built-out nature of California’s urban areas, the Urban Greening for Sustainable Communities Program provides funds to preserve, enhance, increase, or establish community green areas such as urban forests, open spaces, wetlands, and community spaces (e.g., community gardens). The goal is for these greening projects to incrementally create more viable and sustainable communities throughout the state. This program has both an Urban Greening Planning Program, which provides funds to assist entities in developing a master urban
greening plan, and an Urban Greening Project Program, which provides funds for projects that preserve, enhance, increase or establish community green areas.

**Urban and Community Forestry Grant Program**

**CAL FIRE**

The CAL FIRE Urban and Community Forestry Program works to expand and improve the management of trees and related vegetation in communities throughout California. This program offers funding through a variety of grants. The Urban Forest Management Plan Grant funds the development and implementation of a management plan to be used by a jurisdiction to manage its urban forest. Such plans will be holistic and long-term, must include the entire jurisdiction and take an ecosystem management approach, and may include a minimum level of a training or educational component. Local jurisdictions may request between $30,000 and $100,000 and matching contributions totaling 25 percent of the total project cost is required. The Green Trees for the Golden State Grant provides funding for urban tree planting projects and up to two years of initial maintenance. Local jurisdictions may request between $30,000 and $100,000. Matching contributions totaling 25 percent of the total project cost is required.

**California Investor Owned Utilities (IOUs) Programs**

**PG&E**

California IOUs, such as PG&E, are required by the CPUC to offer energy efficiency programs to their customers. Each IOU program is unique; generally the programs offer rebates, financing assistance, design assistance, educational seminars, and other forms of assistance. PG&E’s rebates may be calculated based on the amount of energy savings or, alternatively, may be fixed rate financial assistance for specific energy efficiency technology.

In conjunction with its rebates and incentives programs, PG&E offers an Energy-Efficiency Retrofit Loan Program, also known as On-Bill Financing. The program for public agencies includes: zero-percent financing on qualifying measures for up to ten years; offsets to energy-efficient upgrade costs after rebates and incentives through PG&E; loans ranging from a minimum of $5,000 up to $250,000 per meter; and loan installments added to monthly PG&E bills.

PG&E also offers the Green Communities and Innovator Pilots energy efficiency programs, which are administrated by PG&E, using funds from the Public Goods Charge (PGC) authorized by the California Public Utility Commission (CPUC). Customers of California’s three largest investor-owned utility companies pay the PGC through their electric utility bills. Customers pay the surcharge per unit of consumption (kilowatt-hours). Money raised by the PGC is spent on services and programs deemed to be in the public interest, including energy efficiency initiatives such as Green Communities and Innovator Pilots.

**SoCalGas**

Southern California Gas Company offers On-Bill Financing with rebates for energy efficient natural gas equipment. For institutional customers, such as the City of Atascadero, zero-percent financing is available from $5,000 to $250,000 per meter, with a maximum payback period of 10 years. Monthly loan payments are added directly to the customer’s energy bill.
**IMPLEMENTATION AND MONITORING**

**Energy Conservation Assistance Account Program (ECAA) Energy Efficiency Financing**  
*California Energy Commission*

The California Energy Commission offers low-interest loans (1-3 percent) to help local jurisdictions and other public agencies finance energy-efficient projects as part of the ECAA Program. Projects with proven energy and/or capacity savings are eligible, provided they meet the eligibility requirements. Examples of projects include: lighting systems, pumps and motors, energy efficient streetlights and traffic signals, automated energy management systems/controls, building insulation, renewable energy generation and combined heat and power projects, heating and air conditioning modifications, and wastewater treatment equipment. The maximum loan amount is $3 million per application for 15 years. There is no minimum loan amount.

**California Solar Initiative State Rebate Program**  
*California Energy Commission & California Public Utilities Commission*

California Solar Initiative will provide over $2 billion in statewide incentives over the next decade for solar photovoltaic systems, as well as other solar thermal generating technologies, such as water heaters, on existing residential homes, and existing and new commercial, industrial, and agricultural properties. Photovoltaic incentives are available for systems up to one megawatt in size for homeowners, commercial/industrial, government and non-profit customers. The program pays solar consumers an incentive based on system performance.

**California Feed-In Tariff**  

The California feed-in tariff allows eligible customer-generators to enter into 10-, 15- or 20-year standard contracts with their utilities to sell the electricity produced by small renewable energy systems -- up to three megawatts -- at time-differentiated market-based prices. Time-of-use adjustments will be applied by each utility and will reflect the increased value of the electricity to the utility during peak periods and its lesser value during off-peak periods. These tariffs are not available for facilities that have participated in the California Solar Initiative, Self-Generation Incentive Program, Renewables Portfolio Standard, or other ratepayer funded generation incentive programs, including net-metering tariffs. For customers generating renewable energy not covered by the California Solar Initiative or Self-Generation Incentive Program (e.g., biomass or geothermal) the feed-in tariff is applicable. If customers prefer a long-term contract at a fixed price over a financial incentive paid in the short term, feed-in tariffs may be a beneficial financing tool.

### 5.3.2 TRANSPORTATION-RELATED FUNDING SOURCES

Many federal, state, and regional grant programs are available to fund transportation and infrastructure improvements. The programs listed below represent the current status of the most relevant of these programs.

**Livability Grant Programs**  
*Federal Transportation Authority*

The Federal Transportation Authority provides resources on sustainable communities and transit oriented development. This includes access to transit oriented development resources and training free of charge to local government employees. The Federal Transportation Authority
Authority’s Livable and Sustainable Communities program supports initiatives that demonstrate ways to improve the link between public transit and communities. The Federal Transportation Authority offers a broad selection of Livability Grant Programs that fund projects for accessible, livable, and sustainable communities. In particular, the Bus and Bus Facilities Discretionary Program provides capital assistance for new buses and intermodal transit centers. The New Starts and Small Starts Program supports transit “guideway” capital investments, such as rapid rail, light rail, commuter rail, automated guideway transit, people movers, bus rapid transit, and other high occupancy vehicles. Additionally, the Intercity Bus Program supports transit access to residents in non-urbanized areas.

**Alternative and Renewable Fuel and Vehicle Technology Program**  
*California Energy Commission*

Assembly Bill 118 created the Alternative and Renewable Fuel and Vehicle Technology Program, within the California Energy Commission. The statute authorizes the Energy Commission to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state’s GHG reduction goals and reduce our dependence on foreign oil. The statute allows the Energy Commission to use grants, loans, loan guarantees, revolving loans, and other appropriate measures. Eligible recipients include: public agencies, private businesses, public-private partnerships, vehicle and technology consortia, workforce training partnerships and collaboratives, fleet owners, consumers, recreational boaters, and academic institutions. The Energy Commission must prepare and adopt an Investment Plan and convene an Advisory Committee to assist in preparing the Investment Plan. The Energy Commission has an annual program budget of approximately $100 million.

**Community-Based Transportation Planning Grant Program**  
*Caltrans*

The Community-Based Transportation Planning Grant Program is primarily used to seed planning activities that encourage livable communities. Grants assist local agencies to better integrate land use and transportation planning, to develop alternatives for addressing growth, and to assess efficient infrastructure investments that meet community needs. These planning activities are expected to help leverage projects that foster sustainable economies, increase available affordable housing, improve housing/jobs balance, encourage transit oriented and mixed use development, expand transportation choices, reflect community values, and include non-traditional participation in transportation decision making.

**Local Assistance Program**  
*Caltrans*

Caltrans' Local Assistance Program oversees more than one billion dollars in federal and state funds annually available to over 600 cities, counties, and regional agencies for the purpose of improving their transportation infrastructure or providing transportation services.

**Safe Routes to School Programs**  
*Caltrans*
Caltrans administers two separate Safe Routes to School Programs—one state program and one federal program. Both programs are intended to achieve the same basic goal of increasing the number of children walking and bicycling to school by making it safer for them to do so. Both programs fund qualifying infrastructure projects.

**Bicycle Transportation Account**
*Caltrans*

The Bicycle Transportation Account is an annual program providing state funds for city and county projects that improve safety and convenience for bicycle commuters. Caltrans expects to appropriate $7.2 million annually for projects, on a matching basis with local jurisdictions. A wide variety of projects are eligible, including but not limited to new bikeways serving major transportation corridors, new bikeways removing travel barriers, and secure bicycle parking.

**Environmental Enhancement and Mitigation Program**
*Caltrans*

The Environmental Enhancement and Mitigation Program offers a total of $10 million each year for grants to local, state, and federal government agencies and to nonprofit organizations for projects to mitigate the environmental impacts caused by new or modified public transportation facilities. Eligible projects must be directly or indirectly related to the environmental impact of the modification of an existing transportation facility or construction of a new transportation facility. Two of the grant categories include Highway Landscaping and Urban Forestry Projects, which are designed to offset vehicular emissions of carbon dioxide through the planting of trees and other suitable plants, and Roadside Recreation Projects, which provide for the acquisition and/or development of roadside recreational opportunities.

**Highway Safety Improvement Program**
*Caltrans*

The Highway Safety Improvement Program provides federal funding for work on any public road or publicly owned bicycle/pedestrian pathway or trail that corrects or improves the safety for its users. The program is intended to reduce traffic fatalities and serious injuries on all public roads. Local jurisdictions, such as counties and cities, may apply to Caltrans for funding ranging from $100,000 to $900,000 per project. Federal reimbursements cover up to 90 percent of total project costs. Eligible projects include, but are not limited to, improvements for pedestrian or bicyclist safety, intersection safety improvements, and shoulder widening.

**Community Development Block Grant**
*California Department of Housing and Community Development*
The Community Development Block Grant (CDBG) program funds projects and programs that develop viable urban communities by providing decent housing and a suitable living environment and by expanding economic opportunities, principally for persons of low and moderate income. Federal CDBG Grantees may use funds for activities that include, but are not limited to, acquiring real property; building public facilities and improvements, such as streets, sidewalks, and recreational facilities; and planning and administrative expenses, such as costs related to developing a consolidated plan and managing CDBG funds. The State makes funds available to eligible agencies (cities and counties) through a variety of different grant programs.

Infill Infrastructure Grant Program  
*California Department of Housing and Community Development*

The Infill Infrastructure Grant Program assists in the new construction and rehabilitation of infrastructure that supports higher-density affordable housing and mixed-income housing in locations designated as infill. Eligible applicants include, but are not limited to, localities and public housing authorities.

National Recreational Trails Program  
*California Department of Parks and Recreation*

In California, the National Recreational Trails Program is administered by Department of Parks and Recreation to provide funding to develop recreational trails and related facilities for uses such as bicycling and hiking.

Federal Transportation Improvement Program for the San Luis Obispo County Region  
*SLOCOG*

The Federal Transportation Improvement Program (FTIP) is a comprehensive listing of federally funded surface transportation projects in San Luis Obispo County. SLOCOG prepares and adopts the FTIP every two years in close cooperation with stakeholders such as cities and counties. As part of the FTIP, SLOCOG plans for the spending of flexible funding from the federal Surface Transportation Program, which applies to the following types of projects: enhanced transit services, expanding technology, freeway express bus stops, ridesharing, vanpooling, parallel routes along major transportation corridors, and Park-n-Ride lots. SLOCOG selects projects that promote the strategies and policies of the Regional Transportation Plan.

The FTIP also includes the allocation of funding under the state Transportation Development Act (TDA). Each year, SLOCOG disburses approximately $10 million in funding from the TDA toward bicycle and pedestrian infrastructure, traffic calming, and other planning and capital improvement projects in the region.

Infrastructure State Revolving Fund Program  
*California Infrastructure and Economic Development Bank*

The Infrastructure State Revolving Fund Program provides low-cost financing to public agencies for a wide variety of infrastructure projects. Program funding is available in amounts ranging
from $250,000 to $10 million, with loan terms of up to 30 years. Interest rates are set on a monthly basis. Eligible project categories include city streets, county highways, state highways, drainage, water supply and flood control, educational facilities, environmental mitigation measures, parks and recreational facilities, port facilities, public transit, sewage collection and treatment, solid waste collection and disposal, water treatment and distribution, defense conversion, public safety facilities, and power and communications facilities.

5.3.3 SOLID WASTE-RELATED FUNDING SOURCES

Beverage Container Recycling Grant and Payment Programs
California Department of Resources Recycling and Recovery (CalRecycle)

CalRecycle administers funding programs to assist organizations with establishing convenient beverage container recycling and litter abatement projects, and to encourage market development and expansion activities for beverage container materials. The Beverage Container Recycling Grant provides funding to local governments, businesses, individuals, and non-profit organizations for projects that implement new programs or enhance existing programs to provide convenient beverage container recycling opportunities in various locations statewide. Eligible projects include, but are not limited to, the following locations: parks and recreational areas, sporting complexes, community events, office buildings, multifamily dwellings, entertainment/hospitality venues, curbside, restaurants, and schools and colleges. CalRecycle issues up to $1.5 million annually for this program. The City/County Payment Program provides a total of $10.5 million in grant funds annually to eligible cities and counties for beverage container recycling and litter abatement activities. Each city is eligible to receive a minimum of $5,000 or an amount calculated by the Department based on per capita, whichever is greater.

5.3.4 OTHER FUNDING SOURCES

Community Assistance Grant
Bureau of Land Management

Funds are available to assist with hazardous fuels treatments, community wildfire protection planning, and education addressing wildfire safety and hazard risk reduction within the wildland-urban interface. Treatments may be focused on both Federal (with prior approval from local Bureau of Land Management field staff) and non-federal lands and aimed toward protecting communities at risk and resource values identified within a Community Wildfire Protection Plan and/or Community Fire Plans with an interdisciplinary and interagency collaborative process.

Wildland Urban Interface Grant
Fish and Wildlife Service

Wildland Urban Interface funds are available for hazard mitigation projects that protect communities at risk of wildfire by reducing hazardous fuels (non-federal lands), developing
IMPLEMENTATION AND MONITORING

Community Wildfire Protection Plans (includes associated planning and compliance documents), and implementing wildfire education and outreach initiatives.

Partnerships with Other Jurisdictions and Community Organizations
Partnering with neighboring jurisdictions and community organizations is a key implementation strategy supporting the CAP. Various jurisdictions and organizations within the County could serve as potential partners in implementing the CAP strategies. The City should seek to partner with appropriate local governments, as identified within CAP measures.
6.0 References and Preparers

References


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GLOSSARY

OF TERMS
Glossary of Terms

Actions: The steps that will be taken to implement the Climate Action Plan measures.

Adaptation: The ability to adjust to, or minimize, the potential impacts of climate change or other environmental disturbances.

Baseline Emissions: The amount of GHG emissions released in a designated year against which future changes in emissions levels are measured.

Business-as-Usual: A scenario used for the projection of GHG emissions at a future date based on current technologies and regulatory requirements in absence of other reductions.

California Environmental Quality Act (CEQA): A statute that requires state and local agencies to evaluate the environmental impacts of private or public proposed projects they undertake or permit and to avoid or mitigate potentially impacts, if feasible. If a proposed action has the potential for a significant environmental impact, an environmental impact report (EIR) must be prepared and certified before action can be taken.

Carbon Dioxide (CO₂): A naturally occurring gas, and also a by-product of burning fossil fuels and biomass, as well as land-use changes and other industrial processes. It is the principal anthropogenic GHG that affects the Earth's radiative balance. It is the reference gas against which other GHGs are measured and therefore has a Global Warming Potential of 1.

Carbon Dioxide Equivalent (CO₂e): A metric used to compare the emissions from various greenhouse gases based upon their global warming potential, or potency. Carbon dioxide equivalents are commonly expressed as "metric tons of carbon dioxide equivalents" (MT CO₂e). The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated global warming potential. For example, the global warming potential for methane is 21. This means that one metric ton of methane is equivalent to 21 metric tons of carbon dioxide.

Carbon Sequestration: The process through which agricultural and forestry practices remove carbon dioxide from the atmosphere. The term "carbon sinks" is also used to describe agricultural and forestry lands that absorb carbon dioxide.

Chlorofluorocarbons (CFCs): A family of inert, nontoxic, and easily liquefied chemicals used in refrigeration, air conditioning, packaging, insulation, or as solvents and aerosol propellants. Because CFCs are not destroyed in the lower atmosphere, they drift into the upper atmosphere, where their chlorine components destroy ozone.

Climate: Climate in a narrow sense is usually defined as the "average weather," or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands of years. The classical period is three decades, as defined by the World Meteorological Organization. These quantities
are most often surface variables such as temperature, precipitation, and wind. Climate in a wider sense is the state, including a statistical description, of the climate system.

**Climate Action Plan:** A description of the measures and actions that a local government will take to reduce GHG emissions and achieve an emissions reduction target. Most plans include a description of existing and future year emissions; a reduction target; a set of measures, including performance standards, that will collectively achieve the target; and a mechanism to monitor the plan and require amendment if it is not achieving specified levels. Interchangeable with GHG Reduction Plan.

**Climate Change:** Climate change refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from: natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun; natural processes within the climate system (e.g. changes in ocean circulation); human activities that change the atmosphere's composition (e.g. through burning fossil fuels) and the land surface (e.g. deforestation, reforestation, urbanization, desertification, etc.).

**Co-Benefit:** Additional benefits that occur as a result of GHG reduction measures. These include financial savings, improved air quality, increased health or safety, natural resource conservation, reduced energy use, etc.

**Connectivity:** A well connected circulation system with minimal physical barriers that provides continuous, safe, and convenient travel for all users of streets, roads, and highways.

**Emissions**: The release of a substance (usually a gas when referring to the subject of climate change) into the atmosphere.

**Emissions Factor:** A set of coefficients used to convert data provided on energy use and energy use reductions to emissions. These emission factors are the ratio of emissions of a particular pollutant (e.g., carbon dioxide) to the quantity of the fuel used (e.g., kilograms of coal). For example, when burned, 1 ton of coal = 2.071 tons of CO$_2$.

**Emissions Forecast:** The projected emissions that would occur in a future year based on growth multipliers applied to the baseline year.

**Energy Conservation:** Reducing energy consumption. Energy conservation can be achieved through energy efficiency (getting the most productivity from each unit of energy) or by reduced use of energy such as turning off appliances when not in use.

**Energy Efficiency:** Using less energy to provide the same level of service or complete the same task. For example, a more efficient light will use less electricity to provide the same amount of illumination.
**Fossil Fuel:** A general term for combustible geologic deposits of carbon, including coal, oil, natural gas, oil shale, and tar sands. These fuels emit carbon dioxide into the atmosphere when burned, thus significantly contributing to the enhanced greenhouse effect.

**Fuel Efficiency:** The distance a vehicle can travel on an amount of fuel. This is most often measured in miles traveled per gallon of fuel. A higher-efficiency vehicle travels farther on a gallon of fuel than similar vehicles.

**Global Warming:** Global warming is an average increase in the temperature of the atmosphere near the Earth's surface and in the troposphere, which can contribute to changes in global climate patterns. Global warming can occur from a variety of causes, both natural and human induced. In common usage, "global warming" often refers to the warming that can occur as a result of increased emissions of GHGs.

**Green Building:** Green, or sustainable, building is the practice of creating and using healthier and more resource-efficient models of construction, renovation, operation, maintenance and demolition.

**Greenhouse Effect:** Trapping and build-up of heat in the atmosphere (troposphere) near the Earth’s surface. Some of the heat flowing back toward space from the Earth's surface is absorbed by water vapor, carbon dioxide, ozone, and several other gases in the atmosphere and then reradiated back toward the Earth's surface. If the atmospheric concentrations of these GHGs rise, the average temperature of the lower atmosphere will gradually increase.

**Greenhouse Gas (GHG):** Any gas that absorbs infrared radiation in the atmosphere. GHGs include, but are not limited to, water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), ozone (O₃), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

**Greenhouse Gas Emissions Inventory:** A GHG emissions inventory provides estimates of the amount of GHGs emitted to and removed from the atmosphere by human activities. A city or county that conducts an inventory looks at both community emission sources as well as emissions from government operations. A base year is chosen and used to gather all data from that year. Inventories include data collection from such things as vehicle miles traveled (VMTs), energy usage from electricity and gas, and waste. Inventories include estimates for carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs), which are referred to as the “six Kyoto gases.”

**Hydrofluorocarbons (HFCs):** Man-made compounds containing hydrogen, fluorine, and carbon, many of which have been developed as alternatives to ozone-depleting substances for industrial, commercial, and consumer products, that have a range of global warming potentials. HFCs do not have the potential to destroy stratospheric ozone, but they are still powerful GHGs.
Infill Site: A site in an urbanized area that meets criteria defined in Public Resources Code Section 21061.3.

Intergovernmental Panel on Climate Change (IPCC): The IPCC was established jointly by the United Nations Environment Program and the World Meteorological Organization in 1988. The purpose of the IPCC is to assess information in the scientific and technical literature related to all significant components of the issue of climate change. The IPCC draws upon hundreds of the world's expert scientists as authors and thousands as expert reviewers. Leading experts on climate change and environmental, social, and economic sciences from some 60 nations have helped the IPCC to prepare periodic assessments of the scientific underpinnings for understanding global climate change and its consequences. With its capacity for reporting on climate change, its consequences, and the viability of adaptation and mitigation measures, the IPCC is also looked to as the official advisory body to the world's governments on the state of the science of the climate change issue. For example, the IPCC organized the development of internationally accepted methods for conducting national GHG emission inventories.

Kilowatt (kW): One thousand watts.

Kilowatt-hour (kWh): an amount of electricity equivalent to the use of one kilowatt for one hour. A hundred watt light bulb that is on for 10 hours uses one kilowatt-hour of electricity (100 watts x 10 hours = 1,000 watt-hours = 1 kilowatt-hour). Electricity production or consumption is often expressed as kilowatt- or megawatt-hours produced or consumed during a period of time.

Methane (CH₄): A hydrocarbon that is a GHG with a global warming potential estimated at 21 times that of carbon dioxide (CO₂). Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Measure: A way to reduce GHG emissions.

Metric Ton (MT): Common international measurement for the quantity of GHG emissions. A metric ton is equal to 2,205 pounds or 1.1 short tons.

Mitigation: An action to either reduce the amount of GHGs being emitted into the atmosphere or remove previously emitted gases from the atmosphere.

Mixed-Use: Mixed Use development means combining a variety of compatible land uses in a single development, and can be creatively used to create vibrant centers for living, working, and shopping. The primary purpose of the Mixed-Use land use designations is to implement the principals of smart growth by applying the designation to certain areas along the City’s main transportation corridors that could successfully support a combination of uses (multi-family residential, retail, office uses, etc.) within a single development plan.
**Natural Gas:** Underground deposits of gases consisting of 50 to 90 percent methane and small amounts of heavier gaseous hydrocarbon compounds such as propane and butane.

**Perfluorocarbons (PFCs):** Potent GHGs that accumulate in the atmosphere and remain there for thousands of years. Aluminum production and semiconductor manufacture are the largest known man-made sources of perfluorocarbons.

**Recycling:** Collecting and reprocessing a resource so it can be used again. An example is collecting aluminum cans, melting them down, and using the aluminum to make new cans or other aluminum products.

**Renewable Energy:** Energy generated from sources that are naturally replenished or not used up in the course of providing power (e.g., wind, solar, biomass, and geothermal).

**Retrofit:** The addition of new technology or features to older systems. For example, adding new energy-efficient lamps to existing lighting fixtures.

**Sector:** A term used to describe GHG emission inventory source categories for GHGs based on broad economic sectors.

**Smart Growth:** A compact, efficient, and environmentally sensitive pattern of development that provides people with additional travel, housing, and employment choices by focusing future growth closer to existing and planned job centers and public facilities, while preserving open space and natural resources.

**Solar Photovoltaic (PV):** A system that converts sunlight directly into electricity using cells made of silicon or other conductive materials. When sunlight hits the cells, a chemical reaction occurs, resulting in the release of electricity.

**Source:** Any process or activity that releases a GHG into the atmosphere.

**Target Year:** The year by which the GHG emissions reduction target should be achieved.

**Transportation Demand Management (TDM):** A general term for strategies that increase overall system efficiency by encouraging a shift from single-occupant vehicle trips to non-single-occupant vehicle modes, or shifting auto trips out of peak periods. TDM seeks to facilitate this shift by increasing travel options, by providing incentives and information, or by reducing the physical need to travel through transportation-efficient land uses.

**Vehicle-Miles Traveled (VMT):** One vehicle traveling the distance of one mile. Total vehicle miles is the aggregate mileage traveled by all vehicles. VMT is a key measure of overall street and highway use. Reducing VMT is often a major objective in efforts to reduce vehicular congestion and achieve air quality goals.