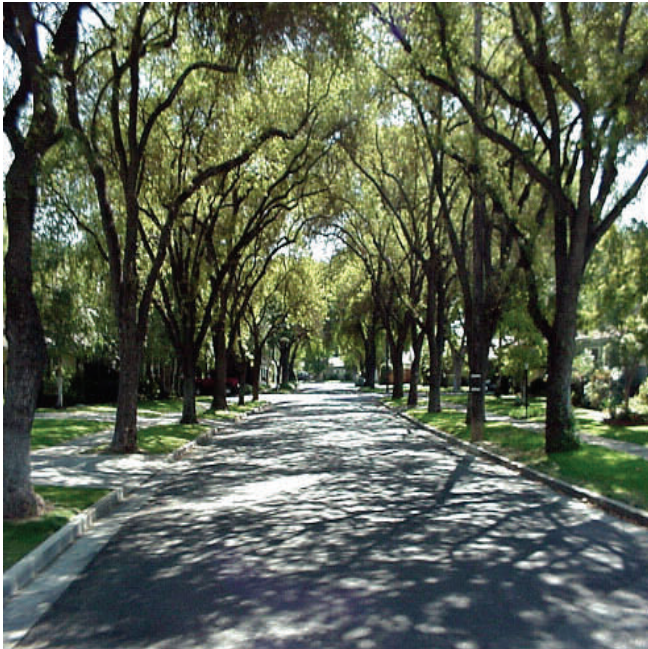




CITY *of* MERCED

Climate Action Plan BACKGROUND REPORT



January 6, 2011



CITY *of*
MERCED

Climate Action Plan
BACKGROUND REPORT

Prepared by

City of Merced
Planning Department

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- D. Catalog of “Co-Benefit” Laws and Programs
- E. Catalog of Private Financing Programs
- F. City Council Resolutions, 2010-53 and 2010-80
- G. Greenhouse Gas Emission Software Summary Data Sheets
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ACRONYMS

AB 32	The Global Warming Solutions Act of 2006
APS	Alternative Planning Strategy
ARB	California Air Resources Board (a.k.a. CARB)
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CTC	California Transportation Commission
COG	Council of Government
CRA	California Resource Agency
EECBG	Energy Efficiency Conservation Block Grant
EIR	Environmental Impact Report
GCC	Global Climate Change
GHG	Greenhouse Gas
GWP	Global Warming Potential
HCD	California Housing and Community Development Department
ICLEI	Local Governments for Sustainability
LGOP	Local Government Operations Protocol
LEED	Leadership in Energy and Environmental Design
MPO	Metropolitan Planning Organization
OPR	California Governor's Office of Planning and Research
RHNA	Regional Housing Needs Allocation
RPS	Renewable Portfolio Standard
RTAC	Regional Targets Advisory Committee
RTP	Regional Transportation Plan
SCEA	Sustainable Communities Environmental Assessment
SCS	Sustainable Community Strategy
TPP	Transit Priority Project



Executive Summary

Introduction

Global Climate Change (GCC), which is now generally accepted by the scientific community to be occurring and caused by Greenhouse Gases (GHGs), is a widely discussed scientific, economic, and political issue in the United States and internationally. Briefly stated, GCC is the cumulative change in the average weather of the earth that may be measured by changes in temperature, precipitation, storms, and wind. GHGs are gases that trap heat in the atmosphere. The scientific and policy communities in the State of California have collectively concluded that a significant and growing scientific body of evidence supports the need for regulating GHG emissions.

The time for a response has never been more demanding, yet the threat presents opportunities in sustaining and creating a more livable, equitable and economically vibrant communities. This is why the City of Merced has become one of over 600 cities to participate in the Cities for Climate Protection Campaign of the International Council for Local Environmental Initiatives (ICLEI). By teaming with ICLEI, the City of Merced, like many other cities in California, the nation and world, are establishing a framework of action, a Climate Action Plan (CAP) that will guide the community on a path to achieve a sustainable future for generations today and tomorrow.

On September 7, 2010, the City Council adopted Resolution #2010-80 (Appendix F), which emphasizes the leadership role of the City of Merced in reducing greenhouse gas emissions through future adoption of a Climate Action Plan; committed to seek input and participation from the community to draft a plan; and set a schedule to adopt said plan.

The Background Report describes the context of Climate Action Planning, enabling the City to move to the next step of setting a greenhouse gas reduction target and then to create a “how-to” approach of reaching environmental stewardship, while promoting goals and strategies that will work for *our* community. This Climate Action Plan (CAP) will be a community-based policy document that establishes the goal to reduce greenhouse gas emissions to be achieved through implementation of a variety of actions.

Purpose of this Background Report

The Background Report is a resource document that will assist City Staff, the Merced City Council and the appointed Ad-hoc Climate Action Committee in their respective roles to prepare a Climate Action Plan (CAP). For City Staff, an understanding of foundational principles of Climate Planning such as emission inventories and associated state laws and initiatives; for the Climate Action Committee, an outline of the challenges and opportunities of identifying actions to reduce greenhouse gas emissions; and for the City Council, findings on these and other topics of relevance in setting a greenhouse gas emission reduction target.



FIVE MILESTONE PROCESS

City Council Resolution #2010-80 formally initiated Climate Action Planning in the City of Merced. The approach taken in crafting the Background Report fits within ICLEI’s “Five Milestone Process” to create a Climate Action Plan, which is depicted in Figure ES-1 below. The Background Report includes the City’s emission inventory and sets the foundation for milestones 2, 3 and 4 to occur in 2011.

Figure ES-1: Climate Action Plan Development Process



Organization of the Report

ASSEMBLING THE REPORT

The Project Team opted to create a report that would be easy to read, taking into consideration length, format, language style, and topics of interest to the reader. Special effort was made to place lengthy or detailed technical information in the appendices, and to front-load findings for ease of use.

HOW THE PLAN IS ORGANIZED

The Background Report is organized into four parts. PART I is an overview of the plan containing the table of contents, acknowledgements, an executive summary of the Background Report findings, and next steps. PART 2 of the plan contains detailed assessments of six topics relevant to Climate Action Planning, including:

- Climate Action Planning Efforts of Other Cities



- City of Merced “Green” Goals, Policies and Activities
- Community “Green” Goals, Policies and Activities
- Legal Framework and Trends
- Overlapping Goals, Activities and Benefits
- Green Funding Trends, Constraints and Opportunities

Each sub-subsection above, and the greenhouse gas emission inventory of PART 3, contain findings about the topics relevant to Climate Action Planning. In turn, these findings are carried forward to the Executive Summary of the Background Report, and are presented below. Appendices are located in PART 4 of the Background Report.

Report Findings

Climate Action Planning Efforts of Other Cities:

- The reason most City’s adopt a Climate Action Plan is due to a concern that the climate is changing in a way that will negatively affect their community. For example, elderly and young Merced residents will see serious public health consequences due to intensified heat waves and exacerbated local air pollution, but that adopting a Climate Action Plan will help reduce greenhouse gas emissions and therefore these impacts.
- Benefits from the development of a Climate Action Plan go beyond the science of climate change and provide additional economic, public health, quality of life and environmental benefits.
- Many cities have set a reduction target to be achieved in a five, ten, or twenty year time frame. These targets are equal to or, in some cases, greater than the reduction targets set by the State of California. Several cities have set a goal of becoming “carbon neutral”, thus producing no greenhouse gas emissions.
- Numerous cities throughout the state and nation have employed various strategies and programs to reduce greenhouse gas emissions. These strategies range from complex to easily implementable. The cost and time needed for implementation are as varied as the measures themselves.
- Implementation of a Climate Action Plan may require the cooperation and coordination with other government entities (i.e., schools, county, etc.). Still others may require coordination with utility companies or other private sector businesses. Staff will need to take leadership roles to initiate and track effort and progress.



- Climate Action Plan measures can be implemented through the land use entitlement and building permit process.
- A major concern behind the implementation of a CAP and the targets it sets out to achieve is the process of feasibility, concerning its cost-effectiveness, in a depressed economic setting. Implementing a Climate Change program relies on availability of funds and staff resources. A variety of funding strategies exist that can help pay to implement the Climate Action Plan

City of Merced “Green” Goals, Policies and Activities:

- Significant existing programs and policies relevant to community GHG emissions reductions include: Smart Growth Policies; infill development policies; bicycle transportation; municipal energy-retrofit program; and downtown revitalization.
- In keeping with its namesake, the vision of the *Merced Vision 2015 General Plan*, notably the Urban Village Concept, is in substantial alignment with land-use greenhouse gas reduction strategies of Climate Action Plans.

Community “Green” Actions and Resources:

- An essential component of a successful plan to reduce greenhouse gases is a comprehensive plan to engage and partner with the community.
- There is a deep and broad network of groups (academic, economic, research, advocate, and all levels of government) at the local, state, federal and international stages focused on Climate Action Planning and associated issues and programs. As a whole, these groups offer a wide range of services including financing, education, research, and community collaboration.

Legal Framework and Trends:

- Although Assembly Bill (AB) 32 – *The California Global Warming Solutions Act of 2006* – does not require local governments to adopt a Climate Action Plan or an associated greenhouse gas reduction target, there is a plethora of rules, regulations, and incentive programs derived from AB32 or other sources that will have the effect of reducing GHG reductions at the local level.
- Establishment of a policy document such as a CAP could be beneficial to the City as a means to track the ever-changing legislative environment and to coordinate city and community-based actions in a cost-effective manner.
- Establishment of a CAP could be a useful development permitting tool by streamlining the CEQA review process and by adding certainty to the review process. In order to achieve these benefits, however, the GHG reduction target of the CAP would need to be consistent of those of the state.



- The Attorney General’s Office of the State of California has taken a proactive role to ensure that local governments and the industrial sector to comply with GHG reduction regulations. The most common approach toward this end is through the California Environmental Quality Act (CEQA), which requires lead agencies, such as the City of Merced, to identify, evaluate and apply feasible measures on a project to reduce its environmental impacts, including impacts to climate change.
- Similar to the State of California, the Federal government regulates emitters of large pollution sources; has ramped-up emission regulations on the auto industry; has pursued a Cap-and-Trade bill; and has identified carbon dioxide as a pollutant, which allows the EPA to regulate CO2 emissions through the Clean Air Act.

Green Funding Trends, Constraints and Opportunities:

- There are multiple grant and loan programs through federal, state and regional programs that can fund greenhouse gas emission reduction programs.
- In addition to grants, financial incentives from the State of California and associated agencies are available to assist local governments and communities to implement greenhouse gas emission reduction efforts. The form of the incentives are varied, and include rebates, reduced upfront costs, tax exempt status, subsidies, low interest loans and funding sources.

Co-Beneficial Goals, Activities and Benefits:

- There are several laws outside of AB32 that local governments must already comply with, and which have a secondary effect of reducing greenhouse gas emissions. For example:
 - SB97 regarding CEQA; and
 - the requirement under SBx 7 to reduced per capita water consumption by 20% by 2020;
- Originating at the state level, the AB32 Scoping Plan requires reductions in greenhouse emissions that will indirectly affect local communities’, for example, the Green-Fuel Standard and Green Building Code.
- Many “green” programs existed prior to AB32 and can be tapped for both their primary purpose and to reduce greenhouse gas emissions, for example , Urban Forest Programs.

2008 Greenhouse Gas Emission Baseline Inventory:

- The “Community” sector, which includes “Local Government” emissions, emitted approximately 399,097 metric tons of CO2 equivalent emissions in 2008. The “Local Government” sector, a subcomponent of the “Community,” emitted approximately 17,655 metric tons of GHG emissions in 2008, which represents approximately 4% of the emissions produced by the “Community,” a ratio that is normal for many cities and counties.



- GHG emissions from residential uses amounted to about 104,457 metric tons of CO₂e, which represents about 26% of the total Community emissions.
- The commercial and industrial GHG emissions for the baseline year of 2008 amounted to 147,974 metric tons of CO₂e, which represent about 36% of the overall Community emissions for the City of Merced.
- Transportation-related GHG emissions, estimated at 145,563 metric tons of CO₂e, amounts to 36% of the overall Community.

NEXT STEPS

With this foundational Background Report established, the next steps to establish a Climate Action Plan (CAP) for the City of Merced will be to:

- Select a Greenhouse Gas Reduction Target
- Identify and Prioritize Potential Implementation Actions
- Select and Prioritize Recommended Actions
- Draft a Climate Action Plan containing a Phasing and Funding/Approach Strategy
- Adopt Climate Action Plan

During 2011, the City of Merced Development Services Department will coordinate efforts of the City Technical Advisory Committee with the Climate Action Plan Ad-Hoc Advisory Committee to produce the Climate Action Plan.



Chapter 1

Global Climate Change

Introduction

The purpose of this “Global Climate Change” Chapter is to provide a basic understanding of climate change science and to highlight international, national, state and local climate planning efforts.

This assessment is presented as follows:

- Introduction to Climate Change Science
- Actions Being Taken on Climate Change
- Effect and Impacts of Climate Change in California

Introduction to Climate Change Science

THE GREENHOUSE EFFECT

To fully understand global climate change, it is important to recognize the naturally occurring “greenhouse effect” and to define the greenhouse gases (GHG) that contribute to this phenomenon. The temperature on Earth is regulated by this greenhouse effect, which is so named because the Earth’s atmosphere acts like a greenhouse, warming the planet in much the same way that an ordinary greenhouse warms the air inside its glass walls. Like glass, the gases in the atmosphere let in light, yet limits heat from escaping.

GHG are naturally occurring gases such as water vapor, carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Greenhouse gases are transparent to certain wavelengths of the sun’s radiant energy, allowing them to penetrate deep into the atmosphere or all the way to the Earth’s surface. Clouds, ice caps, and particles in the air reflect about 30 percent of this radiation, but oceans and land masses absorb the rest (70 percent of the radiation received from the sun) before releasing it back toward space as infrared radiation. GHG and clouds effectively prevent some of the infrared radiation from escaping; they trap the heat near Earth’s surface where it warms the lower atmosphere.

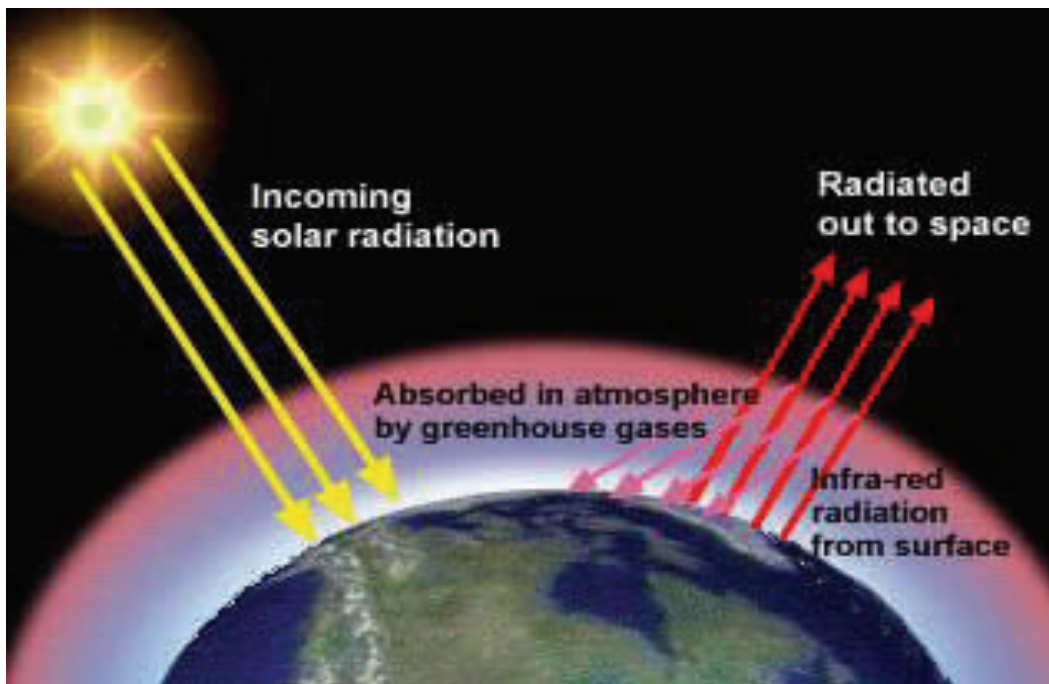
There are two meanings of the term "greenhouse effect". There is a "natural" greenhouse effect that keeps the Earth's climate warm and habitable. About 80-90% of the Earth's “natural” greenhouse effect is due to water vapor, a strong greenhouse gas. The remainder is due to carbon dioxide, methane, and a few other minor gases. There is also the "man-made" (anthropogenic) greenhouse effect, which is the enhancement of Earth's natural greenhouse effect by the addition of greenhouse gases from the burning of fossil fuels (mainly petroleum, coal, and natural gas).



Human activities are exerting a major and growing influence on climate by changing the composition of the atmosphere and by modifying the land surface. Particularly, the increased consumption of fossil fuels (natural gas, coal, gasoline, etc.) has substantially increased atmospheric levels of greenhouse gases.

Source: (Weatherquestions.com, 2010)

Figure 1-1: Greenhouse Effect



Source: Tufts University

Global GHG emissions resulting from human activities, especially the consumption of fossil fuels, have grown since pre-industrial-times, with an increase of 70% between 1970 and 2004, (NASA, 2007). This increase in atmospheric levels of GHG unnaturally enhances the greenhouse effect by trapping more infrared radiation as it rebounds from the Earth's surface and thus trapping more heat near the Earth's surface. Prominent GHGs contributing to the greenhouse effect and climate change include carbon dioxide (CO₂), methane (CH₄), ozone, nitrous oxide (N₂O), and chlorofluorocarbons (CFCs). Emissions of these gases are attributable to human activities associated with the industrial/manufacturing, utilities, transportation, residential, and agricultural sectors (IPCC,1).

DISTINCTION BETWEEN CLIMATE CHANGE AND GLOBAL WARMING

“Global warming” describes the average global *surface* temperature increase from human emissions of greenhouse gases. Its first use was in a 1975 Science article by geochemist Wallace Broecker of Columbia University's Lamont-Doherty Geological Observatory: "Climatic Change: Are We on the Brink of a Pronounced Global Warming?"



Broecker's term was a break with tradition. Earlier studies of human impact on climate had called it "inadvertent climate modification." This was because while many scientists accepted that human activities could cause climate change, they did not know what the direction of change might be. Industrial emissions of tiny airborne particles called aerosols might cause cooling, while greenhouse gas emissions would cause warming. Which effect would dominate? For most of the 1970s, nobody knew. So "inadvertent climate modification," while clunky and dull, was an accurate reflection of the state of knowledge.

The first decisive National Academy of Science study of carbon dioxide's impact on climate, published in 1979, abandoned "inadvertent climate modification." Often called the Charney Report for its chairman, Jule Charney of the Massachusetts Institute of Technology in Cambridge, declared: "if carbon dioxide continues to increase, [we find] no reason to doubt that climate changes will result and no reason to believe that these changes will be negligible."

In place of inadvertent climate modification, Charney adopted Broecker's usage. When referring to surface temperature change, Charney used "global warming." When discussing the many other changes that would be induced by increasing carbon dioxide, Charney used "climate change."

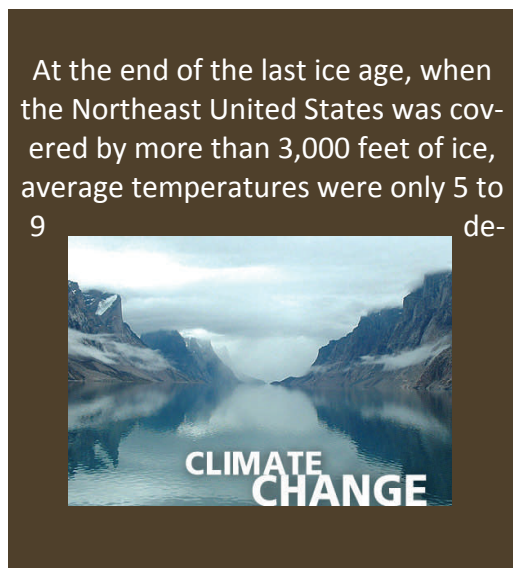
Source: (NASA.gov, 2010)

SIGNIFICANCE OF CLIMATE CHANGE

A Degree of Difference

The Earth's average temperature has increased about 1 degree Fahrenheit during the 20th century. What's the big deal? One degree may sound like a small amount, but it's an unusual event in our planet's recent history. Earth's climate record, preserved in tree rings, ice cores, and coral reefs, shows that the global average temperature is stable over long periods of time. Furthermore, small changes in temperature correspond to enormous changes in the environment.

Source: (NASA.gov, 2010)



Released on November 17, 2007, the Summary for Policymakers of the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Synthesis Report represents the IPCC's most comprehensive and definitive statement to date on climate change. The report presents the key findings of the three Working Group reports.



The following are some of the key highlights addressed in the Synthesis Report:

- There is strong certainty that most of the observed warming of the past half-century is due to human influences, and a clear relationship between the growth in manmade greenhouse gas emissions and the observed impacts of climate change.
- The climate system is more vulnerable to abrupt or irreversible changes than previously thought.
- Avoiding the most serious impacts of climate change -- including irreversible changes -- will require significant reductions in greenhouse gas emissions.
- Mitigation efforts must also be combined with adaptation measures to minimize the risks of climate change

(Source: pewclimate.org, 2010)

Actions Being Taken on Climate Change

The scientific and political communities in the State of California have collectively concluded that a significant and growing scientific body of evidence supports the need for regulating GHG emissions. Compilations of data and analyses, such as the above 2007 report from the Intergovernmental Panel on Climate Change (IPCC), have provided a generally accepted scientific basis for implementing climate change policy (*SJVAPCD, 2009*).

According to the IPCC Report, global temperatures are expected to rise approximately 0.2 degree Celsius per decade for the next couple of decades under a variety of scenarios (IPCC 2007). Further, global temperatures are expected to continue to increase for centuries as a result of human activities due to the time scales associated with climate processes and feedbacks, even if GHG concentrations are stabilized. As a result, based on the current understanding of climate-carbon feedback, model studies show that substantial GHG emission reductions are necessary to avoid substantial increases in global air and ocean temperatures (*SJVAPCD, 2009*).

As a result of human activities, such as electricity production, vehicle use, etc., GHGs have been accumulating in the earth's atmosphere at a faster rate than has occurred historically, i.e., prior to the Industrial Age starting approximately 150 years ago (*SJVAPCD, 2009*).

INTERNATIONAL ACTIONS

United Nations Framework Convention on Climate Change (UNFCCC)

The first treaty to address climate change, the United Nations Framework Convention on Climate Change (UNFCCC), was completed and opened for signature in 1992. This treaty includes commitments to establish national action plans for voluntary measures that could reduce greenhouse gas emissions to 1990 levels in order to begin mitigating possible global warming. The United States was one of the first nations to sign and ratify this treaty, and it entered into force in 1994.



Kyoto Protocol

It was soon concluded by parties to the UNFCCC treaty that mandatory reductions in the six major greenhouse gases (of which carbon dioxide, mainly from burning of fossil fuels, is the most prevalent) would be required. The resulting Kyoto Protocol, which was completed in 1997 and entered into force in February 2005, committed industrialized nations that ratify it to specified, legally binding reductions in emissions of the six major greenhouse gases. Each of the industrialized nations listed in Annex B of the Kyoto Protocol has a specified emissions target. Overall, the collective commitments are to reduce the Parties' emissions by at least 5% below their 1990 levels, averaged over the "commitment period" 2008 to 2012.

The Copenhagen Accord

The 2009 United Nations Climate Change Conference held in Copenhagen, Denmark is officially referred to as the 15th session of the Conference of the Parties (COP 15) to the United Nations Framework Convention on Climate Change (UNFCCC). On December 18, 2009, at the final conference plenary session, the conference delegates agreed to "take note of" the accord. The Copenhagen Accord is not legally binding and does not commit countries to agree to a binding successor to the Kyoto Protocol, whose present round ends in 2012.

Clinton Climate Initiative

C40 is a group of large cities committed to tackling climate change. Through effective partnerships working with the Clinton Climate Initiative, the C40 helps cities reduce greenhouse gas emissions through a range of energy efficiency and clean energy programs.

Figure 1-2: C40 Cities



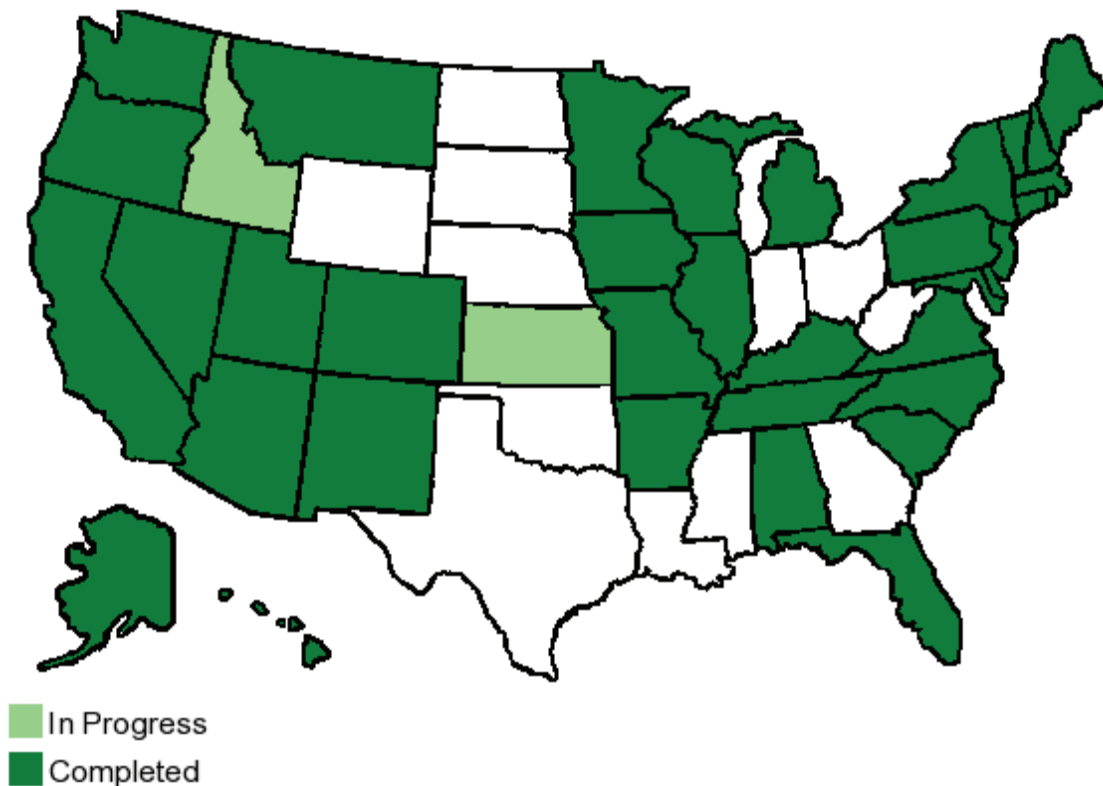
ACTIONS BY THE US FEDERAL GOVERNMENT

The United States signed the Kyoto Protocol in late 1998, but has not ratified it, notably because conditions calling for “meaningful participation by developing countries in binding commitments limiting greenhouse gases,” have not been met. In March 2001, the Bush Administration rejected the Kyoto Protocol, and subsequently announced a U.S. policy for climate change that relies on voluntary actions to reduce the “greenhouse gas intensity” (ratio of emissions to economic output) of the U.S. economy by 18% over the next 10 years. On a “parallel track” of activities, the United States took an initiative in 2005, the *Asia-Pacific Partnership for Clean Development and Climate*, together with China, India, Japan, Australia, and South Korea, which is a voluntary effort (though without specific targets) to reduce the greenhouse gas intensity of their economies through technology cooperation.

(Source: CRS, 2007)

As depicted in Figure 1-3 below, many states have completed comprehensive Climate Action Plans, or are in the process of revising or developing one. The plans detail steps that the states can take to reduce their contribution to climate change.

Figure 1-3: State Climate Action Planning Efforts



(Source: Pewclimate.org, 2010)



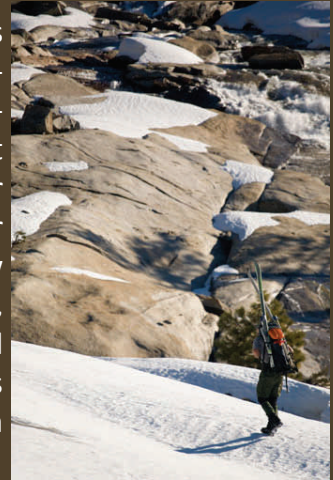
Effects and Impacts of Climate Change in California

ACTIONS BY THE STATE

Recognizing California's vulnerability to the impacts of climate change, Governor Arnold Schwarzenegger issued Executive Order S-03-05 on June 1, 2005, mandating (among other directives) the preparation of biennial science reports on the potential impacts of climate change on California and the identification of adaptation options. The Climate Action Team (CAT), headed by the Secretary for Environmental Protection, submits these reports to the Governor and the Legislature. "The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California," (Moser, 2009) is a report conducted by the California Energy Commission's California Climate Change Center, and presents an interim summary of the latest in climate change science and outlines recommended response options for decision makers in California. This document contains four key messages:

- Observed changes in temperature, sea level, precipitation regime, fire frequency, and agricultural and ecological systems reveal that California is already experiencing the measurable effects of climate change.
- Scientific confidence in attributing climate change to human activities has increased since the Fourth Assessment Report (AR4), which was recently made available by the Intergovernmental Panel on Climate Change.
- New scientific studies suggest that the climatic and hydrologic changes already experienced in California are due to human activity.
- Unmitigated climate change will lead to grave consequences for California's economy and ecosystems. Furthermore, it appears that even a scenario that drastically curtails emissions of greenhouse gases may still lead to undesirable trends in warming and sea-level rise.

The Sierra snowpack provides as much as 65 percent of California's water supply by accumulating snow during our wet winters and releasing it slowly when we need it during our dry springs and summers. Warmer temperatures will cause what snow we do get to melt faster and earlier, making it more difficult to store and use. By 2050, scientists project a loss of at least 25 percent of the Sierra snowpack.



California is a leader in addressing climate change in the United States. To respond to the challenge of climate change, Governor Schwarzenegger issued a landmark Executive Order, in June of 2005, establishing greenhouse gas emission targets for the entire state. To support these GHG reduction targets, the California legislature adopted the *California Global Warming Solutions Act of 2006*, also known as AB 32. The law requires the California Air Resources Board (CARB) to develop regulatory and market mechanisms that will reduce greenhouse gas emissions to 1990 levels by 2020. In De-



ember 2008, CARB approved the AB 32 Scoping Plan outlining regulatory and market mechanisms to achieve the goal of AB 32. The state also requires analysis of environmental impacts of new GHG emissions related to discretionary project approvals under the California Environmental Quality Act (CEQA).

ACTIONS BY ADVOCACY GROUPS

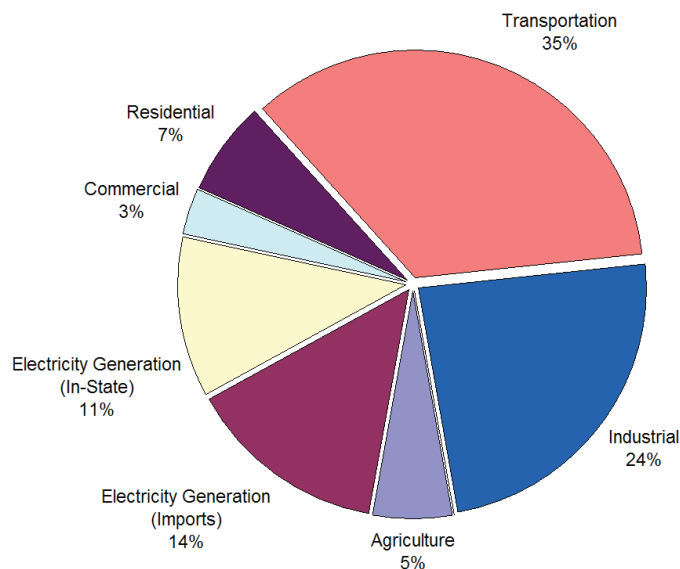
Climate change is not only an interest of the State of California, but of several public policy research and support entities, such as the *Pacific Council on International Policy*. The Task Force on Adaptation to Climate Change was established in the spring of 2009 by the *Pacific Council on International Policy* (Pacific Council) to address the prospect of climate change for California. The task force recommends several important steps to be taken in the near term to set California on the best path for the future. The first of these near term actions is for the state to maintain, enhance and expand the data gathering and monitoring responsibilities of government and research entities on the actual uses of, and changes to, the natural and physical resources most likely to be affected by climate change. For example, although significant uncertainty remains, recent projections suggest as much as 55 inches of possible sea level rise by 2100 (Pacific Council, 2010).



CALIFORNIA GHG EMISSIONS

A significant component of any plan to reduce greenhouse gas emissions is to identify the emission sources. The 1990 California greenhouse gas (GHG) inventory, depicted in Figure 1-4 below, compiles statewide anthropogenic GHG emissions. Emissions from transportation and electrical generation are the largest sources of emissions. In 2008, total statewide gross emissions were estimated to be 477.7 MMT of carbon dioxide equivalent, an increase of 50 MMTCO_{2e}.

Figure 1-4: 1990 Greenhouse Gas Emissions by Sector / 427 MMTCO_{2e} Net Emissions



Addressing wide-ranging impacts of climate change requires a state-wide and coordinated multi-agency response. As such, Governor Schwarzenegger, in 2005, established the California Environmental Protection Agency (CalEPA) as the lead for coordinating all state agency actions for reducing greenhouse gas emissions. A Climate Action Team (CAT) was established representing representatives from key state agencies responsible for implementing strategies and programs to reduce greenhouse gas emissions.

Achieving these ambitious goals for reducing greenhouse gas emissions will require significant collaboration and support from all public entities and private stakeholders representing all sectors of California's diverse economy. The Scoping Plan of AB32 cites local government action as an integral partner to achieving the State's goals.

LOCAL ACTIONS

California's Climate Change Scoping Plan encourages local governments to reduce municipal greenhouse gas (GHG) emissions consistent with statewide targets. Every California community contributes to emission of greenhouse gases and it is those communities which hold the most potential in contributing to the solution. As of March, 2009, nearly 30% of California cities (over 141 cities) have signed on to the U.S. Conference of Mayors Climate Protection Agreement (CPA) to reduce GHG emissions 7% below 1990 levels by 2020. At least 13 California cities are members of the United Nations Green Cities Declaration with a goal to reduce 25% of GHG emissions by 2030. A total of 30 cities are members of ICLEI-Local Governments for Sustainability Cities for Climate Protection (CCP) campaign. As of November 2010, 23 California cities have adopted a Climate Action Plan, and 30 others have adopted Sustainability Plans.

In the Central Valley, Sacramento has adopted a Climate Action Plan, and Fresno has a sustainability plan. The City of Merced, Visalia, Chico, Davis, West Sacramento Roseville, Tracy, Madera, Amador County and Tulare County are currently preparing Climate Action Plans.

CITY OF MERCED ACTIONS

In November 2009, the City Council accepted the Energy Efficiency and Conservation Block Grant funds from the Federal Department of Energy to undertake several projects to increase energy efficiency. One of these projects is the drafting of a Climate Action Plan (CAP). In May 2010, the City of Merced applied to and became a member of the

The Great Valley Center, with funding from PG&E and the California Public Utilities Commission and implemented with the help of ICLEI, has kicked off the "The Green Communities Program," which provides local communities with assistance to prepare greenhouse gas emission inventories. Modesto, Turlock, Ceres, Patterson, Oakdale, Riverbank, Hughson, Waterford, Newman and Livingston are members of the Program. Stanislaus County and the cities of Los Banos and Sanger are also looking into the program.



“International Council for Local Environmental Initiatives – Local Governments for Sustainability” (ICLEI) to assist in this effort. In preparation for the Merced City Council to select a GHG Reduction Target and to begin to draft a Climate Action Plan, the Planning Division prepared this Background Report, including the City’s first Greenhouse Gas Emission Inventory. The City of Merced Climate Action Plan will be the framework for the City and community to begin implementing emission reduction programs and policies in the areas of green buildings, energy efficiency, renewable energy, and expansion of recycling and composting programs, transportation and land use.



Chapter 2

Climate Action Planning Efforts of Other Cities

Introduction

The purpose of Chapter 2, “Climate Action Planning Efforts of Other Cities,” is to identify: (a) the motivation behind a city’s selection of their emission reduction targets; (b) the extent of greenhouse gas emission reductions by other cities; and (c) funding, staffing and approach strategies to achieve their selected reduction targets.

The chapter includes the following components:

- Chapter Findings
- Identification of Reasons and Support for GHG Reduction Efforts
- Identification of Greenhouse Gas (GHG) Emission Reduction efforts of California Communities
- Identification of Key Implementation Strategies

Chapter Findings

1. The reason most Cities adopt a Climate Action Plan is due to a concern that the climate is changing in a way that will negatively affect their communities. For example, elderly and young residents will see serious public health consequences due to intensified heat waves and exacerbated local air pollution, but that adoption of a Climate Action Plan will help reduce greenhouse gas emissions and therefore these impacts.
2. Benefits from the development of a Climate Action Plan go beyond the science of climate change and provide additional economic, public health, quality of life and environmental benefits.
3. Many cities have set a reduction target to be achieved in a five, ten, or twenty year time frame. These targets are equal to or, in some cases, greater than the reduction targets set by the State of California. Several cities have set a goal of becoming “carbon neutral,” thus producing no greenhouse gas emissions.
4. Numerous cities throughout the state and nation have employed various strategies and programs to reduce greenhouse gas emissions. These strategies range from complex to easy to implement. The cost and time needed for implementation are as varied as the measures themselves.



5. Implementation of a Climate Action Plan may require the cooperation and coordination with other government entities (i.e., schools, county, etc.), utility companies and private sector businesses. A staff person or team will need to take a leadership role to initiate and track effort and progress.
6. Climate Action Plan measures can be implemented through the land use entitlement and building permit process.
7. The major concern behind the implementation of a CAP and the targets it sets out to achieve is the process of feasibility concerning its cost-effectiveness in a depressed economic setting. Implementing a Climate Change program relies on availability of funds and staff resources. A variety of funding strategies exist that can help pay to implement the Climate Action Plan.

Identification of Reasons and Support for GHG Reduction Efforts

The reason most Cities adopt a Climate Action Plan is due to a concern that the climate is changing in a way that will negatively affect their communities. Overwhelmingly, the literature of other city's Climate Action Plans state that the uncertainty of climate change is the main goal for reducing GHG emissions. Forecasted climate change impacts include:

- Rising sea levels for coastal communities
- Extreme weather patterns (e.g. heat waves and increased frost seasons)
- Decline of public health
- Decreases to fresh water supply with increasing temperatures leading to lower snowpack in the Sierra Nevada
- Loss of ecosystems and species
- Changes to food supply
- Uncertainties of climate change affecting future generations

Benefits from the development of a Climate Action Plan go beyond the science of climate change and provide additional economic, public health, quality of life and environmental benefits. The following are a few examples of how a community could benefit from a climate protection programs.

Economic Benefits

- Energy and water efficiency programs can provide homeowners and businesses with cost savings.
- An economic analysis by Governor Schwarzenegger's Climate Action Team found that meeting GHG targets may create \$4 billion in additional income and 83,000 new jobs for Califor-



nians by 2020. As demand for clean, renewable energy continues to grow, cities that tap into this increasing demand will have a competitive economic advantage.

- Residential, commercial and municipal green building provides reduced operating costs, increased productivity and improves indoor air quality. Recent reports show that green buildings have increased real-estate value and hold or rise in value versus traditional buildings.
- Energy and water-efficiency improvements have the potential to save cities significant operating costs.

Public Health and Quality of Life Benefits

- Elderly and young residents will experience negative public health consequences due to intensified heat waves and exacerbated local air pollution. Climate protection programs can help to improve air quality and decrease negative health impacts such as asthma.
- Climate protection programs can provide more healthy lifestyles for the community by providing more public transportation, bicycling and walking opportunities.
- Climate protection programs provide co-benefits such as bicycle friendly, healthy and walkable neighborhoods that create vibrant communities.

Knowledge Base

- An important indirect benefit is knowledge gained of legal trends and funding opportunities for infrastructure projects and updating long range local and regional plans.

Identification of GHG Emission Reduction Efforts of Other Cities

EXTENT AND APPROACH OF REDUCTION EFFORTS

There is not a one-size-fits-all approach to setting greenhouse gas emission reductions. There is great variety in terms of the amounts and timeframe to achieve selected reductions. This is partly due to the fact that AB32, the State of California’s Global Warming Solution Act, encourages local governments to set GHG reduction targets and does not set a specific standard. Thus, many cities have set greenhouse gas reduction targets to be achieved in a variety of time frames, such as five, ten, or twenty years. There is also variety to whom the reduction efforts apply. For example, they can apply to government functions, the entire community, or both. The GHG reduction targets selected by local governments are equal to, less than, or in some cases, greater than the reduction targets set by the State of California. Some cities have set a goal of becoming “carbon neutral”, thus producing no greenhouse gas emissions.

The following table presents the GHG reduction targets of 43 California local governments.



Table 2-1: California Communities' Greenhouse Gas Emissions Reduction Targets

California Communities' Greenhouse Gas Emissions Reduction Targets			
August 2010			
City Name	GHG Reduction Target	Baseline Year	Goal Year
Alameda	25%	2005	2020
Alameda County	15%	2005	2020
— - long-term target	80%	1990	2050
Albany	25%	2004	2020
Arcata	20%	2000	2010
Benicia city	25%	2000	2010
— - long-term target	33%	2000	2020
Benica Community	0%	2005	2010
— - long-term target		2000	2020
Berkeley	80%	2000	2050
— - long-term target	33%	2000	2020
Belmont	90%	2007	2050
Belvedere	0%	1990	2020
Burbank	25%		2030
Burlingame	15%	2005	2020
— - long-term target	80%	2005	2050
Chula Vista	20%	1990	2010
Davis		1990	
Emeryville	25%	2004	2020
Fremont	25%	2005	2020
Fresno	0%	1990	2020
— - long-term target	80%	1990	2050
Hayward	6%	2005	2013
— - mid-term target	12%	2005	2020
— - long-term target	82.50%	2005	2050
Huntington Beach			
Long Beach (City Operations)	15%	2007	2020
Los Angeles	35%	1990	2030
Manhattan Beach (Gov_ Emmisions)	7%	1990	2012
Marinez (non except AB 32)	0%	1990	2020
Menlo Park	15%	2005	2020
Palo Alto	5%	2005	2012
— - long-term target	15%	2005	2020
Pasadena	25%	2006	2030
Piedmont	15%	2005	2020
Redwood City	15%	2005	2020

Richmond		2005	
Riverside	7%	1990	2012
Rohnert Park (City Only)	20%	2000	2010
Sacramento/SACOG	80%	1990	2050
-- <i>mid-term target</i>	25%	1990	2030
-- <i>long-term target</i>	0%	1990	2020
San Carlos	15%	2005	2020
-- <i>long-term target</i>	35%	2005	2035
San Diego	15%	1990	2010
San Francisco	20%	1990	2012
San Jose	25%	2005	2015
-- <i>interim-term target</i>	30%	2005	2020
-- <i>interim-term target</i>	35%	2005	2030
-- <i>interim-term target</i>	65%	2005	2040
-- <i>long-term target</i>	80%	2005	2045
San Leandro	25%	2005	2020
San Rafael (City Government only)	15%	2005	2020
San Rafael	25%	2005	2020
Santa Barbara	80%	1990	2050
Santa Cruz	30%	1990	2020
-- <i>long-term target</i>	80%	1990	2050
Santa Monica	15%	1990	2015
Santa Monica (City Operations only)	30%	1990	2015
Sebastopol (City Operations only)	42%	2000	2010
Stockton	***meet AB 32		
Windsor *internal city	20%	2000	2010
Tulare	26% overall, only 1% at County level, achieving AB32 goal		

The Scoping Plan of AB 32 encourages local agencies to voluntarily adopt a reduction goal for **municipal operations** emissions to reduce greenhouse gas emissions by 15 percent from current levels by 2020, and to do this through their general plans or as part of a separate climate action plan (ILG, 2010b).



Figure 2.1: Greenhouse Gas Reduction Targets

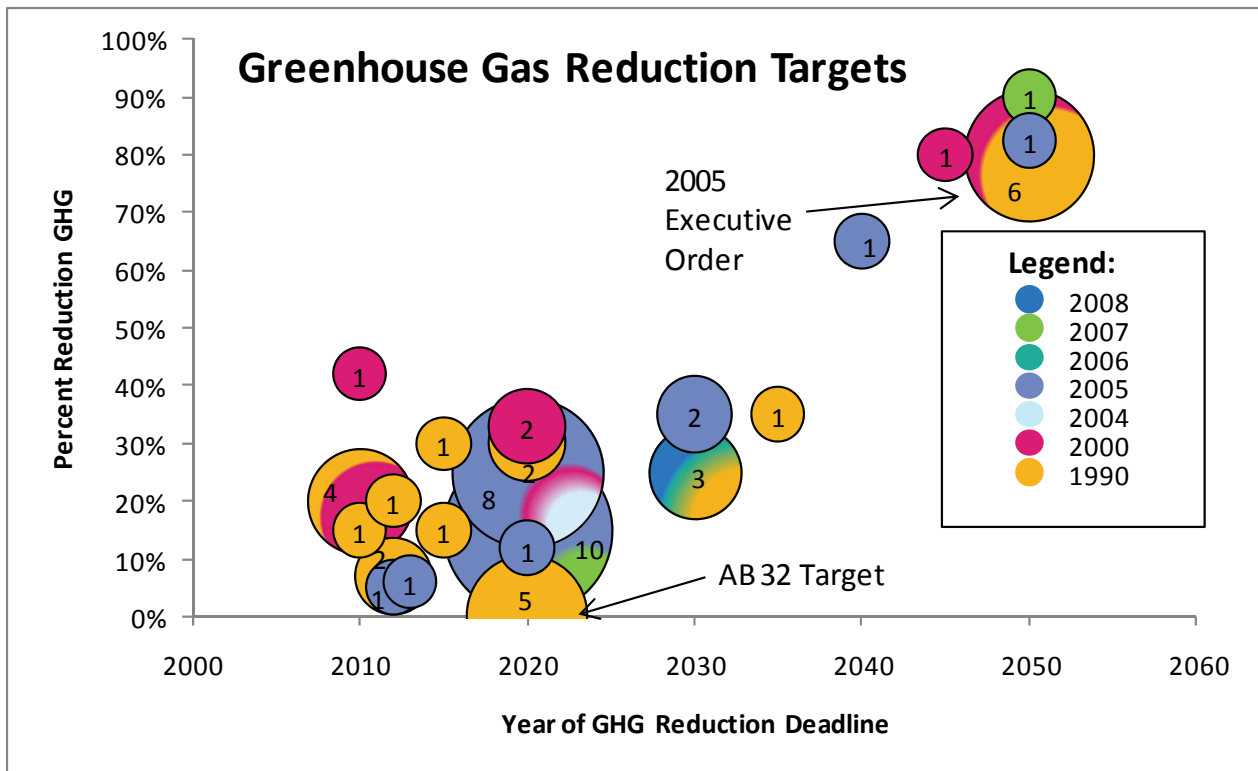


Figure 2.1 above, is a comparative depiction of 63 greenhouse gas emission reduction targets of 43 California cities and counties, as of August 2010, along with those established by the State of California via AB 32 and Executive Order S-3-05. The bubbles represent city and county GHG emission reduction targets. Numbers inside each bubble indicates the number of cities or counties that have adopted the correlating GHG reduction target. Some targets, that multiple cities have adopted, may have different baselines; these are indicated by multicolored bubbles. For example, five cities or counties have adopted the AB 32 target, which seeks to attain 1990 emission levels by YR 2020. Similarly, six cities or counties matched the GHG emission reduction target of Executive Order S-3-05 of 80% below 1990 levels or 2000 levels. The magenta bubble in the upper left section depicts a GHG reduction target of 45% below YR 2000 levels by 2010, however this target was established solely for municipal operations, not the entire community. Nevertheless, the diagram shows that most cities and counties have adopted GHG reduction targets that are more aggressive than the State of California.

Identification of Key Implementation Strategies

Numerous cities throughout the state and nation have employed various strategies and programs to reduce greenhouse gas emissions. These strategies range from complex to easy to implement. The cost and time needed for implementation are as varied as the measures themselves.



In light of the challenges facing the State due to the economic downturn, a key component of this Background Report is to identify all potential implementation strategies. The purpose here is to introduce, in a general manner, all potential strategies that could cover costs related to implementing a Climate Action Plan. Using this broad framework of data as a springboard, the City of Merced Climate Action Plan will construct a matrix that matches greenhouse gas reduction actions with specific and appropriate approaches, staffing, and funding mechanisms.

PHASING & SUBSEQUENT REVIEWS

A phased approach could be devised to focus on the different term measures. For example, Phase 1 measures could provide the highest-impact GHG reductions that are lowest in cost, leverage regional resources and focus on Merced's major emission sectors. Phase 2 measures could provide essential education and promotion program components to allow sufficient time for community and staff training prior to consideration of mandatory requirements.

The Climate Action Plan will be a guiding document that identifies methods that the City and Community can implement to significantly reduce GHG emissions. After the Council adopts the Climate Action Plan, individual recommendations and their related technical documents could be developed by staff and/or consultants and presented for the City Council's consideration before they are implemented.

STAFFING

Implementation of a Climate Action Plan may require the cooperation and coordination with other government entities (i.e., schools, county, etc.), utility companies, and private sector businesses. A staff person or team will need to take a leadership role to initiate and track effort and progress.

Partnerships with Private Companies and Other Organizations

The success of the CAP will depend in part on collaboration between businesses and the City and/or public. For example, solar companies will also be an important asset to the CAP, as a variety of agreements and tax credits can enable businesses, residents, and the City to install solar panels and access solar power at reduced costs. Partnering with these businesses, as well as new businesses as they arise, will enable the City to both save money and provide the community with the most up-to-date green infrastructure.

Integrate Climate Protection Concepts into Existing Work Systems

The commitment from City Council, City staff and the community will be essential to reduce GHG emissions and meet reduction targets. In lieu of establishing new programs and staff, the City could explore methods to incorporate climate protection concepts into existing workloads and systems.

Either in combination with City Staff efforts or as a stand-alone approach, CAP programs and initiatives could be implemented through "green" internships.



The development of a “City Green Team” could begin to expand sustainable programs within the City and assist in the promotion and education of sustainable programs for the community.

The inclusion of annual sustainable goals for city departments could assist with monitoring the progression of emission reductions.

LAND USE ENTITLEMENTS AND PERMITS

Climate Action Plan measures can be implemented through the land use entitlement and building permit process.

Building Permit Process

GHG emission reductions can be obtained through conditions on new development. Although energy efficiency improvements can increase construction costs, these improvements result in savings over time due to reduced energy costs for the homeowners and building owners.

General Plan Policy

Another source of GHG reductions can be from consistent application of the “urban expansion,” “land use,” “transportation” and “public facility” implementation actions of the *Merced Vision 2015 General Plan* during the land-use entitlement review process. Abiding by these policies will result in lower costs, due to more efficient provision of infrastructure and services to new development.

FUNDING

The major concern behind the implementation of a CAP and the targets it sets out to achieve is the process of feasibility concerning its cost-effectiveness in a depressed economic setting. Implementing a Climate Change program relies on availability of funds and staff resources. A variety of funding strategies exist that can help pay to implement the Climate Action Plan, including:

Establish a Revolving “Energy” Fund

The City can realize cost savings from the implementation of energy and water efficiency programs at city facilities. The City could continue to implement these cost saving programs and potentially use these funds to fund additional sustainable projects in the City.

Federal, State and Regional Funding Programs

Currently, there are multiple federal, state and regional grant and loan programs that can fund emission reduction efforts (See Chapter 6 and 7, and Appendix B, C and D). The City can also benefit from adoption of a Climate Action Plan by using the Plan as a component of a grant application. Thus, the City could leverage local and regional partnerships to begin reducing emissions in the near term, through programs such as those listed below:

- Livable Communities & Housing Incentive Program
- Safe Routes to Schools



- CaliforniaFIRST: Property Assessed Clean Energy (PACE) / AB 811.
- California Energy Commission Energy Efficiency Financing
- California Comprehensive Residential Building Retrofit Program
- Other Public Finance Qualified Energy Conservation Bonds (QECBs)
- Infrastructure State Revolving Fund Program

(a detailed description of these and other funding mechanisms is described in Appendix B, C and D)

Private Financing

- Power Purchase Agreements
- Energy Savings Performance Contracting (ESPC)
- PG&E On-Bill Financing
- Energy Efficiency Mortgages

(a detailed description of these and other funding mechanisms is described in Appendix E)



Chapter 3

City of Merced “Green” Goals, Policies and Activities

Introduction

The purpose of Chapter 3, “City of Merced “Green” Goals, Policies and Activities,” is to describe the extent to which the City of Merced has established, is in the process of, or has accomplished projects that are related to the reduction of greenhouse gases. Such description has several uses: (a) It will identify whether or not the City is already moving in the direction of Climate-related planning; (b) how fast or strong the motion is toward this goal; and (d) assessment of the foundation upon which the Climate Action Plan will be constructed, or conversely, how these goals, policies and actions will be incorporated into a Climate Action Plan.

This assessment is presented as follows:

- Chapter Findings
- Identification of Existing City Goals, Policies and Activities

Chapter Findings

1. Significant existing City programs and policies relevant to community GHG emissions reductions include: Smart Growth Policies; infill development policies; bicycle transportation; municipal energy-retrofit program; “build a green-fleet” program; employee trip reduction plan; and downtown revitalization.
2. In keeping with its namesake, the vision of the *Merced Vision 2015 General Plan*, notably the Urban Village Concept, is in substantial alignment with land-use greenhouse gas reduction strategies of Climate Action Plans.

Identification of Existing City Goals, Policies and Activities

ACHIEVEMENTS TO DATE

The City of Merced has implemented a number of policies, programs, and incentives to assist the community in preserving the local environment. This Background Report included an assessment of the *Merced Vision 2015 General Plan* Policies and a survey completed by City Department Heads that identifies GHG-related actions and programs. The survey is located in Appendix A. Significant existing programs and policies relevant to community GHG emissions reductions include the following:

- Smart Growth Policies** – The City of Merced is a “Smart Growth” leader in the Central Valley as evidenced by inclusion of “mixed-use urban villages” in the *Merced Vision 2015 General Plan*, and also by contributing the highest residential density to the San Joaquin Valley Blueprint. The following general plan policies attest to this statement: Land Use Policy-1.7: “Encourage the location of multi-family developments on sites with good access to transportation, shopping, and services;” and Urban Design Policy 1.2: “Distribute and design Urban Villages to promote convenient vehicular, pedestrian, and transit access .”
- Infill Development Policies** – The City’s General Plan recognizes the financial and quality of life aspects of developing infill sites. These policies attest to this statement: Urban Expansion-UE 1.2: “Promote a compact urban form;” Land Use L-3.2: “Encourage infill development and a compact urban form;” and Public Facilities P-1.2: “Utilize existing infrastructure and public service capacities to the maximum extent possible and provide for the logical, timely and economically efficient extension of infrastructure and services where necessary .”
- Municipal Retrofit Program** – In 2010, the City Public Works Department, in conjunction with SIEMENS industry Inc., conducted an assessment to identify future energy and water efficiency upgrades on municipal buildings and facilities. Improvements will include retrofits of interior lights, appliance upgrades, installation of low-flow toilets, and implementation of a number of water conserving measures in municipal landscapes.
- Bicycle Transportation** – The City of Merced has a strong Bicycle Planning program as evidenced by general plan policies, an established bicycle committee, and continued improvement of bicycle facilities. These General Plan policies attest to this statement: Transportation T-2.6: “Maintain and expand the community’s existing bicycle circulation system;” and Land Use L-3.1: “Create land use patterns that will encourage people to walk, bicycle, or use public transit for an increased number of their daily trips. “In February 2009, the City Council established the Bicycle Advisory Committee to serve as an advisory body to the City Council on matters having to do with bicycle transportation within the City of Merced.
- Downtown Revitalization** – The 2007 Downtown Strategy is the culmination of three decades of progress in response to high vacancy rates in the 1970’s. Today, downtown is experiencing a renaissance, resulting from the City of Merced Redevelopment Agency projects including Mainplace Merced, the Mondo Building, the Multi-Cultural Arts Center, the Merced

In 2010, the City was awarded “Honorable Mention” from the League of American Bicyclists’ (LAB) Bike Friendly Community program in recognition of the City’s achievement in bicycle planning and implementation.




Theatre and the Merced (Residential) Lofts situated on Main Street in the heart of downtown.

The Green Vehicle Guide found at www.epa.gov/greenvehicles is for cities considering the purchase of new vehicles. The www.coolfleets.com web site provides a cost/value analysis to assist in determining the "best value" for vehicle selection decisions.



- **“Build a Green Fleet” Program** – The City of Merced aspires to be a leader among cities when it comes to creating a “green” vehicle fleet. Using Energy Efficiency Conservation Community Block Grant (EECBG) funds, the first phase of the “green fleet” program replaces three older standard gasoline vehicles with three newer high-efficiency hybrid vehicles. Future phases will eventually include the replacement of forty-seven diesel-powered trucks to CNG or CNG hydraulic assist hybrids. The City was

recently awarded *Congestion Mitigation Air Quality* (CMAQ) funds which will be utilized to purchase 20 hybrid vehicles. A portion of funds would also go towards training mechanics to maintain these vehicles.

- **Employee Trip Reduction Plan** – As part of its early response to the San Joaquin Air Pollution Control District Rule 9410, the City of Merced’s City Council adopted Resolution 2010-53 (Appendix F) authorizing the City to become a Healthy Air Living (HAL) Partner with the San Joaquin Air Pollution Control District. An immediate action of the resolution was to form the “Alternative Transportation Team,” whose primary goal is to increase employee walking, biking and carpooling to work. This goal will be reached through an education and incentive program that includes a monthly HAL Newsletter.

GENERAL PLAN POLICIES

The *Merced Vision 2015 General Plan* is a statement of the community’s vision of its long-term or ultimate physical form. An assessment of existing policies of the General Plan was made as part of the Climate Action Plan Background Report to gauge its alignment with current planning trends relative to Climate Action Planning, such as smart growth, transit-oriented development, and mixed-use development. In keeping with its namesake, the vision of the General Plan is in substantial alignment with these concepts, as evidenced by the list below:

Urban Expansion

- UE-1.1: Designate areas for new urban development that recognize the physical characteristics and environmental constraints of the planning area.
- UE-1.2: Promote a compact urban form
- UE-1.3: Control the timing, density, and location of new land uses within the City’s urban expansion boundaries



- UE-1.7: Promote annexation of developed areas within the City’s Specific Urban Development Plan (SUDP) during the planning period.

Land Use

- L-1.1: Promote balanced development which provides jobs, services and housing.
- L-1.7: Encourage the location of multi-family developments on sites with good access to transportation, shopping, and services
- L-1.8: Create livable and identifiable residential neighborhoods
- L-2.4: Provide a range of services adjacent to and within industrial areas to reduce auto trips.
- L-2.6: Provide neighborhood commercial centers in proportion to residential development in the City
- L-2.7: Locate and design new commercial development to provide good access from adjacent neighborhoods and reduce congestion on major streets
- L-2.8: Encourage a mixture of uses and activities that will maintain the vitality of the downtown area
- L-3.1: Create land use patterns that will encourage people to walk, bicycle, or use public transit for an increased number of their daily trips
- L-3.2: Encourage infill development and a compact urban form
- L-3.3: Promote site designs that encourage walking, cycling, and transit use

Transportation and Circulation

- T-2.1: Provide for and maintain a major transitway along "M" Street and possibly Bellevue Road
- T-2.2: Support and enhance the use of public transit
- T-2.3: Support a safe and effective public transit system
- T-2.4: Encourage the use of bicycles as alternative transportation
- T-2.5: Provide convenient bicycle support facilities to encourage bicycle use
- T-2.6: Maintain and expand the community’s existing bicycle circulation system
- T-2.7: Maintain a pedestrian-friendly environment
- T-2.8: Improve planning for pedestrians

Public Services

- P-1.2: Utilize existing infrastructure and public service capacities to the maximum extent possible and provide for the logical, timely and economically efficient extension of infrastructure and services where necessary



- P-3.2: In cooperation with the County and the Merced Irrigation District, work to stabilize the region's aquifer
- P-4.2: Consider the use of reclaimed water to reduce non-potable water demands when ever practical
- P-5.2: Integrate drainage facilities with bike paths, sidewalks, recreation facilities, agricultural activities, groundwater recharge, and landscaping
- P-6.1: Establish programs to recover recyclable materials and energy from solid wastes generated within the City

Urban Design

- UD-1.1: Apply Urban Village design principles to new development in the City's new growth areas
- UD-1.2: Distribute and design Urban Villages to promote convenient vehicular, pedestrian, and transit access

Open Space

- OS-1.1: Identify and preserve wildlife habitats which support rare, endangered, or threatened species
- OS-1.2: Preserve and enhance creeks in their natural state throughout the planning area.
- OS-1.4: Improve and expand the City's urban forest
- OS-1.5: Preserve and enhance water quality
- OS-2.2: Relieve pressures on converting areas containing large concentrations of "prime" agricultural soils to urban uses by providing adequate urban development land within the Merced City SUDP
- OS-3.2: Maintain and expand the City's Bikeway and Trail System
- OS-5.1: Promote water conservation throughout the planning area
- OS-5.2: Protect soil resources from the erosive forces of wind and water

Sustainable Development

- SD-1.1: Accurately determine and fairly mitigate the local and regional air quality impacts of projects proposed in the City of Merced
- SD-1.3: Integrate land use planning, transportation planning, and air quality planning for the most efficient use of public resources and for a healthier environment.
- SD-1.4: Educate the public on the impact of individual transportation, lifestyle, and land use decisions on air quality
- SD-1.5: Provide public facilities and operations which can serve as a model for the private sector in implementation of air quality programs



- SD-3.1: Promote the use of Solar Energy technology
- SD-3.2: Encourage the use of energy conservation features and low-emission equipment for all new residential and commercial development

Housing

- H-2.2: Promote preventative maintenance and energy conservation in older housing units.

EXISTING CITY OF MERCED PROGRAMS AND ACTIONS

In August 2010, the department heads of the City of Merced met to review a broad range of GHG emission reduction measures that are part of adopted Climate Action Plans of other California cities and counties. The purpose of the review was to learn how climate action planning and actions can affect their operations, as well as to compare City of Merced “green” programs with those of other local governments. This was accomplished through provision of a list of measures, and a simple survey indicating whether or not, and the extent to which, the City was engaged in the described measure. The Merced County Association of Governments (MCAG) also participated in this effort. The list and survey are in Appendix A. The list below identifies those measures that are being implemented.

Airport

- Exploring solar energy generation.
- Exploring LED lighting systems to reduce energy needs.

Redevelopment

- Prepare a Specific Plan for commercial areas that identifies the potential for high quality, pedestrian-oriented, mixed-use development.
- Install bike racks in commercial and civic areas of the City where racks do not currently exist.
- Consider incorporating pedestrian-friendly design features into the City's civic/commercial centers.
- Make available underutilized City land within 1,500 feet of transit for housing and mixed use development.
- Support renovation of declining commercial strip developments along arterial streets and in residential areas.

Economic Development

- Prepare local workforce for green jobs.
- Incubate new green technologies and collaborate with local universities to leverage research funds for GHG reductions.
- Compete for Federal and State funding opportunities in the green technology sector.



- Work with property owners and evaluate use of public lands or green tech development.
- Advocate legislation that supports the growth of Green Technology Industry
- Partner with local hotels and visitor destinations to provide information about public transit.
- Identify and develop financial incentives and low-cost financing products and programs to encourage investment in energy efficiency and renewable energy within existing commercial buildings.
- Develop small business incentive programs to encourage new neighborhood serving uses in commercial areas.

Fire Department

- Utilize ultra-low sulfur diesel (ULSD) applications in heavy duty vehicles.

Police Department

- Implement bicycle and pedestrian police units.
- Improve fuel efficiency of the City vehicle fleet by purchasing low or zero emission vehicles when vehicles are retired.
- Strictly enforce pedestrian and bike rights laws on City streets.

Public Works Department

Decrease Water and Energy Demand through Efficient Use

- Create benefits for both the owner and the renter of residential and non-residential units that utilize energy and water efficiency measures.
- Develop landscaping program with minimal maintenance.
- Produce materials on sustainable landscaping techniques that require less water and energy to maintain.
- Facilitate the installation of weather based evapotranspiration (ET) controller irrigation systems in both City and private landscapes. (Development Services)
- Convert street lights to LED bulbs or LED solar systems.
- Retrofit lighting in City buildings with motion sensors.
- Develop a master lighting plan for the City, allowing for reduced energy consumption.

Wastewater Management

- Identify the feasibility of the City's Wastewater Treatment Plant (WWTP) utilizing bio-gas co-generation.



Recycling, Composting & Reuse

- Provide “Welcome Basket” information for new Merced homeowners with information on waste diversion,
- Expand outreach programs to maximize participation in waste reduction and diversion programs.
- Update solid waste disposal billing rates to cover costs of providing basic refuse, recycling, and composting service to the community. Analyze new rate structure options with the goal of maintaining and enhancing incentives to recycle.
- Review the service impacts and operational and financial aspects of offering every-other-week residential refuse service.
- Provide on-site assistance and containers for City building managers to set up recycling and in existing buildings.
- Provide more public recycling containers on commercial corridors and in parks and public places.
- Locate recycling areas in the center of activity so recycling may be located in convenient areas.
- Prepare a recycling guide for local event organizers/planners.
- Use single stream recycling system for ease of use.
- Identify if recycling of construction and demolition materials can be carried out by City or transferred.
- Use City fleet as a moving billboard for reducing waste, energy, and water.
- Evaluate current energy portfolio and identify ways to move towards “Green” energy.

Expand Local Tree Plantings and Maintenance

- Promote an urban forest campaign, such as the “Millions of Trees” LA program.
- Create tree master plans for sub-areas within the City. Such plans would guide the selection of appropriate tree species for streets and open spaces and outline a regular maintenance and planting cycle to ensure that hazards to trees are minimized and that the local tree stock continues to increase.
- Provide tree planting guidelines for residents, businesses, and public institutions.
- Maintain and protect mature trees.
- Investigate underground public utilities and the potential for planting larger street tree species.
- Develop an integrated pest management program for exterminating weeds and bugs that will minimize the use of pesticides in the City.



- Relative to green waste, review the service impacts and operational and financial aspects of offering every-other-week residential refuse service.

Road Maintenance/Design

- Provide signs linking bicycle networks between parks and other City areas.

Housing

- Integrate low-income household programs with energy efficiency and cost-saving measures.
- As part of the City's Housing Rehabilitation Program, the following energy efficiency improvements are available: attic insulation, water heater insulation, hot water pipe insulation, programmable thermostats, and draft elimination (caulking and sealing).

Planning Department

- Evaluate the potential for mixed use development in Merced's existing commercial center.
- Adjust zoning policy to facilitate a mix of housing and commercial development in transit-served areas.
- Develop an air quality plan for the City, providing health benefits, and reducing greenhouse gases.
- Develop or expand City bicycle plan and infrastructure.
- Scale and design streetscapes to reduce traffic speed and improve walking and bicycling conditions. (Engineering)
- Promote a bike-to-work day.
- Encourage development of housing, retail, and employment centers in areas served by public transit.
- Encourage development of affordable housing in areas served by public transit.
- Promote high density housing near transportation arterials.
- Increase the number of bike trails, as well as safety and interconnectivity.
- Work with regional, state, federal, and private entities to secure funding and sponsorship of bike trails.
- Require new landscaping projects to reduce outdoor potable water use.

Engineering Department

- Scale and design streetscapes to reduce traffic speed and improve walking and bicycling conditions.
- Identify ways to alter City streets to meet needs of bicyclists and pedestrians.

Fleet and Facilities

- Improve fuel efficiency of the City vehicle fleet by purchasing low- or zero-emission vehicles when vehicles are retired.
- Utilize ultra-low sulfur diesel (ULSD) applications in heavy duty vehicles.
- Use green cleaning products in public facilities and offer training for effective use of non-hazardous cleaners to maintenance staff.
- Design universal access bus shelters to provide easy access for persons in wheelchairs, with walkers, and other mobility impairments.
- Increase water storage capacity to allow for off-peak pumping of water.
- Review projects for accessibility features and create standards for enhanced accessibility in design.
- Synchronize traffic signals along primary City arterials.
- Scale and design streetscapes to reduce traffic speed and improve walking and bicycling conditions.
- Mid-block pedestrian crossings in between intersections with high pedestrian traffic.

Building Department

- Require water efficiency measures in new construction.
- Adopt or expand on a Green Building Ordinance incorporating energy and water efficiency standards contained in Chapter 5 and 6 of the 2008 California Green Building Code.
- Require energy performance standards in new construction.
- Require water efficiency measures in new construction.
- Facilitate the installation of weather-based evapotranspiration (ET) controller irrigation systems in both City and private landscapes.
- Enhance construction and demolition recycling outreach and assistance to improve enforcement of existing ordinance and convenience of compliance for local builders.

Merced County Association of Governments

- Implement a pass program for people or businesses funding public transit to receive free or reduced rates on City buses
- Market car-pooling programs. Rideshare website
- Community-wide marketing campaign to increase bike and pedestrian transit.
- Make transit information, including alternative/public transit methods easily understandable.



- Community-wide marketing campaign to increase bike and pedestrian transit.
- Make transit information, including alternative/public transit methods easily understandable.
- Work with Busing/Transit to conduct a public transit gap study and provide bus stops with safe and convenient bicycle and pedestrian access and essential improvements.
- Ensure bus shelters are safe, well maintained, and lit.
- Create a list prioritizing alternative transport options (Electric buses, bio-diesel, ride share), to be incorporated into alternative transportation funding plan.
- Engage actively with federal, state and regional organizations to secure capital and funding for sustainable transportation.



Chapter 4

Community “Green” Actions and Resources

Introduction

The purpose of Chapter 4, “Community Green Actions and Resources,” is to describe the extent to which the community of Merced is involved in climate action-related issues and programs. Such description will identify the segments of the Community that can be partners, or which may offer resources, that can be utilized to create and implement a Climate Action Plan.

This assessment is presented as follows:

- Chapter Findings
- Identification of Existing Community “Green” Actions and Resources

Chapter Findings

1. An essential component of a successful plan to reduce greenhouse gases is a comprehensive plan to engage and partner with the community.
2. There is a deep and broad network of groups (academic, economic, research, advocate, and all levels of government) at the local, state, federal and international stages focused on Climate Action Planning and associated issues and programs. As a whole, these groups offer a wide range of services including financing, education, research, and community collaboration.

Identification of Existing Community “Green” Actions and Resources

This section lists and describes some of the community organizations and other public agencies that either have or will be involved or affected by Climate Action Planning initiatives or laws.

UTILITIES

Pacific Gas and Electric (PG&E)

PG&E provides customers with a portfolio of options to help reduce their carbon footprint, including rebates and incentives for customers to use energy more efficiently, incentives to make customer-owned



rooftop solar more affordable and the opportunity for customers to offset the greenhouse gas emissions from their energy use by voluntarily signing up for the *ClimateSmart* program. In total, PG&E has connected more than 40,000 customer-owned solar systems, far more than any other utility in the nation.

PG&E delivers some of the nation’s cleanest energy, with a carbon dioxide emissions rate that is about half the national average for utilities. PG&E provides more than 20 percent of its future power deliveries from renewables.

PG&E’s *Green Communities Program* provides free training, data and tools to help city and county governments achieve their greenhouse gas reduction goals related to energy usage.



Merced Irrigation District (MID)

The California Public Utilities Commission mandates that public utilities collect a 2.85% public benefits charge from their customers in their electric bills for energy efficiency and other public benefit programs. Merced Irrigation District electric services allocates a significant portion of its collected public benefit program funds toward energy efficiency programs to their commercial and industrial customers. These programs are provided to qualifying commercial and industrial customers in the form of financial rebates and incentives for the retrofit of existing electrical equipment with more energy efficient equipment.

MID offers several financial incentives for commercial and residential customers to conserve energy.



NON GOVERNMENT ORGANIZATIONS

Merced County Community Action Agency

The Merced County Community Action Agency operates a weatherization program that helps families control their energy costs, thereby freeing income for other essential expenditures. Their goal is to help 400 families move to a more self-reliant position each year, eventually solving the home energy-related problems for low-income families. A typical household saves \$193 a year on energy costs after weatherization is completed. The program is financed by the Low Income Home Energy Program (LIHEAP) and Department of Energy (DOE).



Building Healthy Communities

The California Endowment’s founding mission to improve the health of Californians, and is currently focused in pursuit of a single vision: *Building Healthy Communities* in the state of California. The California Endowment recognizes that the Merced area has the potential to make meaningful changes that will result in improved community health.



To guide planning and help measure success of *Building Healthy Communities*, 10 Outcomes have been identified as the main ingredients of community health. Outcome Four, “Residents Live In Communities with Health-Promoting Land Use, Transportation, and Community Development,” is based on the conclusion that conditions in our physical surroundings (environment) where we live, work, play, learn, and shop; how we travel and transport goods; and even where our food comes from; all impact our health and well-being.

Merced/Mariposa County Asthma Coalition (MMCAC)

The Merced/Mariposa County Asthma Coalition's vision is to fight asthma through education, medical and environmental techniques. In the spirit of a true partnership, the Coalition strives to improve the quality of life of people who have asthma. This diverse, broad and collaborative partnership aims to affect initiatives through the sharing of information, the commitment of time, and the voice of advocacy. Over the last decade, the group has grown to a membership of over 150 individuals from diverse backgrounds

Central Valley Coalition for Affordable Housing

The Central Valley Coalition for Affordable Housing was established in 1989, by the Housing Authority of the County of Merced due to a need for a local non-governmental organization to bring together the available funding programs within the community with the goal of providing more affordable housing. To date, the Coalition has completed over 5,270 units of low income housing, (see list below of those located in the City of Merced) to meet its original intent, and has started to expand more into social services. The coalition can be a key partner in reducing greenhouse gas emissions by being a leader in the areas of energy efficiency and conservation of buildings and appropriate siting of new high-density housing developments within the urban core, near transit, and within Merced’s urban villages.



- Childs Avenue Apartments- 27 Units
- Laurel Glenn Apartments- 128 Units
- Merced Golden Senior Apartments- 50 Units
- Sierra Meadows Seniors Apartments- 100 Units
- The Grove Apartments- 204 Units



EDUCATION

UC Merced

UC Merced has a comprehensive approach to achieving sustainability, which involves the administration and students, who both sit on the Campus Sustainability Committee. The overall goal is to pilot a replicable sustainable energy strategy, including the following focus areas related to Climate Action Planning:



- Water-related goal: Create a model 21st century sustainable water management plan.
- Waste & Recycling-related goal: Create an action plan to achieve a zero waste campus by 2020.
- Transportation-related goal: Reduce the carbon footprint of UC Merced Transportation, Parking and Fleet Services.
- Building-related goal: UC Merced has a market-leading new building energy-efficiency program that will significantly reduce the direct climate impact of the university.
- Generating Renewable Power: UC Merced installed a 1-megawatt solar array that produces about two-thirds of the campus electricity load on a summer afternoon and twenty percent of its annual electricity needs.

UC Merced seeks to maximize energy efficiency in building design and operations - with an initial goal to consume half the energy and demand of other university buildings in California and exceed Title 24 by 30% in all buildings by 2010.



The student led *Alliance to Save Energy's Green Campus Program* at UC Merced is on the cutting edge of sustainability. UC Merced students have 4 primary pillars of focus: energy efficiency, water conservation, green work force development, and academic infusion.

PRIVATE ENTERPRISE

Building Industry Association of Central California

The Building Industry Association of Central California (BIACC) is a nonprofit trade association representing 300 member companies who are engaged in all aspects of the home building industry.



These companies play a key role in the design and building of communities and can provide extensive knowledge of the industry and innovative capacity to find solutions to the challenge of reducing greenhouse gas emissions.

The understanding and ability of the BIACC to comply with applicable laws such as SB 375 and codes such as the California Green Code are essential to achieving greenhouse gas reduction targets.



OTHER POTENTIAL LOCAL PARTNERS

- ***Chambers of Commerce***
- ***Hotel Associations***
- ***Bicycle, Pedestrian and Transit Advocates***
- ***Local School Districts***
- ***Green Businesses and Industries***
- ***THE-BUS***
- ***Medical Community***

GROUPS ENGAGED IN CLIMATE PLANNING AND ISSUES

There is a deep and broad network of groups (academic, economic, research, advocate, and all levels of government) at the local, state, federal and international stages focused on Climate Action Planning and associated issues and programs. As a whole, these groups offer a wide range of services including financing, education, research, and community collaboration. Climate Action issues exist at all levels of government and non-governmental organizations; to simply list the organizations would fill pages, and a volume of text could be written about their programs. A list of just some of these groups is provided below:

California State Departments and Affiliates

California Air Resources Board (CARB)

Board of Forestry

California Coastal Commission

California Coastal Conservancy

California Conservation Corps

California Department of Food and Agriculture (CDFA)

California Department of Forestry and Fire Protection (CAL FIRE)

California Energy Commission (CEC)

Energy Commission's PIER Program

California Environmental Protection Agency (Cal/EPA)

CALFED Bay-Delta Program



California Ocean Protection Council
California Public Utilities Commission (CPUC)
California Department of Resources Recycling and Recovery (CalRecycle)
California Resources Agency
Caltrans
California Technology, Trade and Commerce Agency (CTTCA)
Department of Conservation (DOC)
Delta Protection Committee
Department of Fish and Game (DFG)
Department of General Services (DGS)
Department of Toxic Substances Control (DTSC)
Department of Water Resources (DWR)
Office of Planning and Research (OPR)
San Francisco Bay Conservation and Development Commission
Sierra Nevada Conservancy
State and Consumer Services Agency (SCSA)
State Lands Commission
State Parks
State Water Resources Control Board (SWRCB)
University of California

Federal Agencies

Department of Housing and Urban Development (HUD)
Department of Transportation (DOT)
Environmental Protection Agency (EPA)

Multi-Public Agency Cabinets and Partnerships

Climate Action Team (CAT)
Strategic Growth Council (SGC)
Federal Interagency Partnership for Sustainable Communities
American Association of State Highway and Transportation Officials (AASHTO)

Non-Government Organization Advocates

Local Government Commission (LGC)
League of California Cities (LCC)
Institute for Local Government (ILG)
Western Climate Initiative (WCI)
Next 10
Center for Clean Air Policy

Foundations

Kresge Foundation



Chapter 5

Legal Framework and Trends

Introduction

The purpose of Chapter 5, “Legal Framework and Trends,” is to gain a knowledge of existing legal framework and trends that will affect the City’s drafting and implementing a Climate Action Plan. Such work includes: (a) the review, assessment and written description of associated state and or federal laws such as California Assembly Bill AB 32; and (b) an examination of the influence of court-related actions and agreements related to climate-action planning. This assessment is presented as follows:

- Chapter Findings
- Identification of Climate Action Planning Regulations, Laws and Trends

Chapter Findings

1. Although Assembly Bill (AB) 32 – The California Global Warming Solutions Act of 2006 does not require local governments to adopt a Climate Action Plan (CAP) or associated greenhouse gas reduction target, there is a plethora of rules, regulations and incentive programs derived from AB32 or other sources that will have the effect of reducing GHG reductions at the local level.
2. Establishment of a policy document such as a CAP could be beneficial to the City as a means to track the ever-changing legislative environment and to coordinate City and community-based actions in a cost-effective manner.
3. Establishment of a CAP could be a useful development permitting tool by streamlining the CEQA review process and by adding certainty to the review process. In order to achieve these benefits, however, the GHG reduction target of the CAP would need to be consistent with those of the state.
4. The Attorney General’s Office of the State of California has taken a proactive role to ensure that local governments and the industrial sector comply with GHG reduction regulations. The most common approach toward this end is through the California Environmental Quality Act (CEQA), which requires lead agencies, such as the City of Merced, to identify, evaluate and apply feasible measures on a project to reduce its environmental impacts, including impacts to climate change..
5. Similar to the State of California, the Federal government regulates emitters of large pollution sources; has ramped-up emission regulations on the auto industry; has pursued a Cap-and-Trade bill; and has identified carbon dioxide as a pollutant, which allows the EPA to regulate CO2 emissions through the Clean Air Act.



Identification of Climate Action Planning Regulations, Laws and Trends

This section lists and briefly describes key laws, court-related actions, agencies and advocacy groups that frame the approach and methodologies to reduce greenhouse gas emissions at the federal level and in the State of California. In summary, Assembly Bill 32 provides the overall guidance, while its “Scoping Plan” sets forth a comprehensive menu of mandatory and voluntary actions that will be implemented by numerous state agencies and local governments.

FEDERAL ACTIONS

In September 2009, the U.S. Environmental Protection Agency (EPA) issued regulations requiring the reporting of greenhouse gas emissions from sources emitting greater than 25,000 metric tons (CO₂-equivalent) per year. For example, starting in 2011, these regulations will require PG&E to report on the greenhouse gas emissions of their power plants and natural gas compressor stations.

Also, in September 2009, the EPA and the U.S. Department of Transportation’s National Highway Traffic Safety Administration proposed regulations that would reduce greenhouse gas emissions and improve the fuel economy of new cars and trucks. As a result of provisions in the Clean Air Act, if the EPA regulates motor vehicle emissions, then greenhouse gas emissions from stationary sources, such as power plants and natural gas compressor stations, also become subject to the EPA regulation.

In November 2009, the EPA issued a finding that greenhouse gas emissions cause or contribute to air pollution that endangers public health and welfare. This "Endangerment Finding" was required before the EPA could issue its final motor vehicle greenhouse gas emissions regulations or proceed with regulating stationary sources.

BENCHMARK GREENHOUSE GAS-RELATED LAWS IN CALIFORNIA

Executive Order S-3-05

This executive order recognizes California’s vulnerability to reduced snowpack in the Sierra Nevada Mountains, exacerbation of air quality problems, and sea level rise due to a changing climate. To address these concerns, Governor Schwarzenegger issued Executive Order S-3-05 in June 2005, which established several greenhouse gas (GHG) emission reduction targets for California, specifically, GHG emission reductions: to 2000 emission levels by 2010; to 1990 emission levels by 2020; and to 80% below 1990 levels by 2050.

Worldwide, California is estimated to be the 15th largest emitter of carbon dioxide (CARB 2008), and this fact has added to the impetus behind California’s leadership in this area.

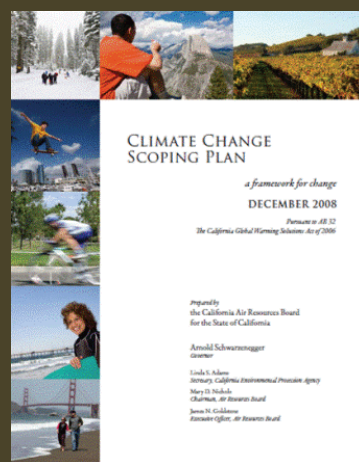


AB32

In 2006, subsequent to the Governor's issuance of Executive Order S-3-05, the California State Legislature adopted Assembly Bill (AB) 32 – "The California Global Warming Solutions Act of 2006," the goal of which is to reduce statewide GHG emissions to 1990 levels by 2020. AB 32 directs the California Air Resources Board (CARB) to develop and implement regulations that reduce statewide GHG emissions. AB 32 directed the California Air Resources Board (CARB) to begin developing discrete "Early Actions" to reduce greenhouse gases while also preparing a "Scoping Plan" to identify how best to reach the 2020 limit. Reduction measures to meet the 2020 target are to be adopted by the start of 2011. Several implementing actions and benchmarks of AB32 have already or are planned to occur in the near future. Table 5-1 summarizes AB32 benchmarks, and a status summary follows.

AB32 does not require local governments to prepare Climate Action Plans (CAP), nor to adopt a greenhouse gas (GHG) reduction target. AB32 is essentially a state-level CAP that focuses greenhouse gas reduction actions to be implemented at the state level through its regulatory agencies, specifically the California Air Resources Board (CARB). At this point in time, the State is taking a leadership role in the effort to reduce GHG emissions and is encouraging, assisting and providing incentives for local governments to do the same. There are aspects of the CAP Scoping Plan that will affect local governments, however, including a requirement for commercial recycling programs and a requirement to include a Sustainability Conservation Strategy (SCS) in the Regional Transportation Plan.

The Climate Change Scoping Plan requires local governments to establish commercial recycling programs, including the standard that businesses generating 4 cubic yards or more per week must recycle.



SB 104 (Oropeza) (2009). California Global Warming Solutions Act of 2006: Nitrogen Trifluoride.

This measure adds nitrogen trifluoride (NF₃) to the list of greenhouse gases regulated by the California Air Resources Board pursuant to the Global Warming Solutions Act of 2006 (AB 32, Núñez, Chapter 488, Statutes of 2006). NF₃ is used in the manufacture of several consumer items, including photovoltaic solar panels, LCD television screens, and microprocessors.

AB 32 AFFECT ON LOCAL AGENCIES

Three areas of AB32 Air Resources Board regulation have an immediate impact on cities and counties: (1) Methane gas emissions reductions from municipal solid waste landfills; (2) Greenhouse gas emissions reductions from increased energy efficiency and use of renewable sources of electricity from municipally-owned electric utilities; and (3) mandatory commercial recycling.



The City of Merced does not own or operate either a landfill or electric utility, but does manage solid waste collection. The California Department of Resources, Recycling, and Recovery (Cal Recycle) and the Air Resources Board is working toward final adoption of commercial recycling regulations in 2011. Local governments must implement a commercial recycling program even if the jurisdiction has met its 50 percent per capita equivalent disposal target under AB 939. CalRecycle will review the adequacy of a city or county's commercial recycling program as part of its periodic review of the jurisdiction's AB 939 Program.(ILG, 2010a).



Table 5-1: AB 32 Timeline and Other Requirements

AB 32 Timeline and Other Requirements	
Due Date	Action
7-1-07	1. Adopt a list of early action measures that can be implemented by regulation before January 2010.
1-1-08	2. Adopt mandatory reporting requirements for significant sources.
1-1-08	3. Establish a statewide GHG emission cap for 2020 based upon 1990 emissions levels.
1-1-09	4. Adopt a plan (Scoping Plan) indicating how emission reductions will be achieved for significant GHG sources via regulations, market mechanisms, or other measures, to reach the 2020 emissions goal.
2009 & 2010	5. ARB staff and other agencies drafts rule language to implement the Scoping Plan; hold a series of public workshop on each measure (including market mechanisms); and adopt GHG regulations including rules governing market mechanisms.
1-1-11	6. Adopt regulations to achieve the maximum technologically feasible and cost effective reductions in GHG.
1-1-12	7. All greenhouse gas rules take effect. GHG rules and market mechanisms adopted by ARB take effect and are legally enforceable.
12-31-20	8. Deadline for achieving 2020 GHG emissions cap



Detailed Status of Timeline Actions

1. Early Action Items: In 2007, ARB identified nine discrete “early action” measures including regulations affecting landfills, motor vehicle fuels, refrigerants in cars, tire pressure, port operations and other sources that included ship electrification at ports and reduction of high GWP gases in consumer products. By June 25, 2009, ARB completes adoption of all discrete early action measures. On January 1, 2010, early action measures take effect.
2. Large Industrial Sources: On December 6, 2007, ARB adopted a regulation requiring the largest industrial sources to report and verify their greenhouse gas emissions. The reporting regulation serves as a solid foundation to determine greenhouse gas emissions and track future changes in emission levels. The 2008 GHG emissions reports include data from the following industrial sectors: cement plants, oil refineries, hydrogen plants, electricity generating facilities, cogeneration facilities, other large stationary combustion sources, and electricity retail providers and marketers. Only sources that meet certain size thresholds are subject to reporting. Oil refineries, hydrogen plants, and large stationary combustion facilities emitting 25,000 metric tons (MT) or more of CO₂ per year are subject to reporting. No industries in Merced CA are on this list.
3. 2020 Emission Cap: In December 2007, the ARB approved the 2020 emission limit of 427 million metric tons of carbon dioxide equivalent (MMTCO₂E) of greenhouse gases.
4. Scoping Plan. On December 12, 2008, ARB approves AB 32 Climate Change Scoping Plan .
5. “Low Carbon Fuel Standard” & “Cap and Trade”: On April 23, 2009, ARB adopts Low Carbon Fuel Standard. On May 22, 2009, ARB and Cal/EPA create the Economic and Allocation Advisory Committee (EAAC) to advise on Cap-and-Trade Program. The ARB approved the Cap-and-Trade regulation in December 2010.
6. Adopt Maximum Technologically Feasible and Cost Effective Regulations: January 1, 2011 deadline.
7. All greenhouse gas rules take effect. GHG rules and market mechanisms adopted by ARB take effect and are legally enforceable.
8. Deadline for achieving 2020 GHG emissions cap

In addition to the other action items, on an ongoing basis, ensure early voluntary reductions receive appropriate credit in the implementation of AB 32 (HSC §38562(b)(3)). In February 2008, the Board approved a policy statement encouraging voluntary early actions and establishing a procedure for project proponents to submit quantification methods to be evaluated by ARB. ARB, along with California’s local air districts and the *California Climate Action Registry*, is working to implement this program.



EARLY ACTION ITEMS

Low Carbon Fuel Standard

Executive Order S-1-07, the Low Carbon Fuel Standard (LCFS) (issued on January 18, 2007), calls for a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. It instructed the California Environmental Protection Agency to coordinate activities between the University of California, the California Energy Commission and other state agencies to develop and propose a draft compliance schedule to meet the 2020 target.

Landfill Methane

On June 21, 2007, the California Air Resources Board (ARB) approved the Landfill Methane Capture Strategy as an early action measure. Accordingly, ARB staff, in collaboration with California Integrated Waste Management Board (CIWMB) staff, is developing a control measure to provide enhanced control of methane emissions from municipal solid waste (MSW) landfills. The control measure will reduce methane emissions from MSW landfills by requiring gas collection and control systems on landfills where these systems are not currently required and will establish statewide performance standards to maximize methane capture efficiencies. Additionally, as part of this process, ARB and CIWMB staff will explore opportunities to increase energy recovery from landfill methane gas.

Mobile Air-Conditioning

On June 21, 2007, the California Air Resources Board (ARB) approved an early action measures to reduce the hydrofluorocarbon (HFC) emissions from mobile air conditioning (MAC) systems. These measures will control HFC release from Do-It-Yourself motor vehicle air conditioning (MVAC) servicing, require addition of AC leak tightness test / repair to smog check, enforce the federal regulations on banning HFC release from MVAC servicing / dismantling, and require using low-GWP refrigerants for new MVAC. On October 25, 2007, the ARB approved a measure to establish tracking, reporting and recovery protocols for high-GWP refrigerants, which includes refrigerant recovery from decommissioned refrigerated shipping containers.

Semiconductor Perfluorocarbon

On October 25, 2007, the Board approved the addition of the Semiconductor Perfluorocarbon Emissions Reduction Strategy as a discrete early action measure. This measure was adopted by the Board on February 26, 2009. Sulfur hexafluoride is a potent greenhouse gas, with a global warming potential (GWP) of 23,900, the highest identified by the Intergovernmental Panel on Climate Change. Accordingly, ARB staff developed a measure to reduce sulfur hexafluoride emissions from other uses including magnesium die-casting, fume vent hood testing, tracer gas use, and other niche uses. Sulfur hexafluoride emissions from semiconductor manufacture and electric utilities are being examined separately. ARB approved the regulation to reduce sulfur hexafluoride emissions in February 2009.

High GWP

Reduction of compounds with high GWP that are used in consumer products was designated as an early action measure and became part of the State's comprehensive strategy when the Board approved the Scoping Plan on December 12, 2008. Limiting the use of high GWP compounds in con-



sumer products is a long-term effort. This measure is only a small part of a much larger program, ARB's Consumer Products Program. Various consumer products may contain GHGs in their formulations. Products containing high GWP GHGs include pressurized containers that utilize hydrofluorocarbon (HFC) propellants and nitrous oxide (N₂O), as well as other miscellaneous products such as boat horns, dusters, and tire inflators. The objective of the consumer products early action measure is to reduce the impact of compounds with high GWPs when alternatives are available. Consumer product formulations may be required to reduce or eliminate the use of GHGs with high GWPs.

Heavy-Duty Tractors

In December 2008, the California Air Resources Board adopted a new regulation to reduce greenhouse gas emissions by improving the fuel efficiency of heavy-duty tractors that pull 53-foot or longer box-type trailers. Fuel efficiency is improved through improvements in tractor and trailer aerodynamics and the use of low rolling resistance tires. The regulation is expected to reduce greenhouse gas emissions by approximately 1 million metric tons of carbon dioxide-equivalents by 2020, statewide. Over the 11 years between 2010, when the rule goes into effect, and the end of 2020, it is estimated that truckers and trucking companies will save about \$8.6 billion when diesel fuel consumption is reduced by as much as 750 million gallons in California and 5 billion gallons across the nation. The tractors and trailers subject to this regulation must use U.S. Environmental Protection Agency SmartWaySM certified tractors and trailers, or retrofit their existing fleet with SmartWay verified technologies.

Tire Pressure Strategy

While current Federal law requires auto manufactures to install tire pressure monitoring systems in all new vehicles beginning September 1, 2007, owners of older vehicles will lack this important tool to help them reduce their climate change emissions. ARB staff is currently investigating various options to ensure that tire pressures in older vehicles are also properly maintained.

Shore Power

In December 2007, the Board approved a regulation to reduce emissions from diesel auxiliary engines on container ships, passenger ships, and refrigerated-cargo ships while berthing at a California Port. The regulation defines a California Port as the Ports of Los Angeles, Long Beach, Oakland, San Diego, San Francisco, and Hueneme. The regulation provides vessel fleet operators visiting these ports two options to reduce at-berth emissions from auxiliary engines: 1) turn off auxiliary engines for most of a vessel's stay in port and connect the vessel to some other source of power, most likely grid-based shore power; or 2) use alternative control technique(s) that achieve equivalent emission reductions.



AB 32 SCOPING PLAN

The Global Warming Solutions Act of 2006 (AB 32) required the Air Resources Board to prepare a “Scoping Plan” to achieve reductions in greenhouse gas (GHG) emissions in California. The “Scoping Plan,” approved by the ARB Board December 2008, provides the outline for actions to achieve a reduction of 169 MMT of carbon dioxide equivalent (CO₂e), or approximately 28% from the State’s projected 2020 emission level. While some of the actions are voluntary, many are mandatory. The key strategies of the AB 32 “Scoping Plan” include:

Cap-and-Trade Program: Broad-based to provide a firm limit on emissions; covers 85% of California’s emissions: electricity generation, large industrial sources, transportation fuels, and residential and commercial use of natural gas, and provides regional linkage with the Western Climate Initiative which allows greater environmental and economic benefits.

Transportation: Reduction of 30% in vehicle greenhouse gas emissions by 2016 (known as the ‘Pavley standards’) followed by further reductions from 2017. Decrease 10% by 2020 carbon intensive vehicle fuels through the low-carbon fuel standard. Lastly, changes in the way we build, plan and develop our cities through better land-use planning (SB 375). Other transportation measures include more efficient delivery trucks, heavy duty trucks and goods movement.

Electricity and Energy (imported included): Improved appliance efficiency standards and other aggressive energy efficiency measures; 33% renewables by 2020; increased use of efficient “combined heat and power”; Million Solar Roofs, Solar Hot Water Heating; Green Buildings; and water efficiency.

Industry: 800 largest emission sources in California including cement; audit of the largest industrial sources to identify greenhouse gas reduction opportunities; regulations on refinery flaring, and fugitive emissions; considerations for cement to address “leakage.”

High Global Warming Potential Gases: Capture refrigerants and other high global warming potential gases already in use; reduce future impact through leak-resistant equipment, restrictions on use, and fees. High global warming chemicals trap heat in the atmosphere at levels many times that of carbon dioxide, the primary cause of global warming.

Forestry: Preserve forest sequestration and voluntary reductions possible from forestry projects.

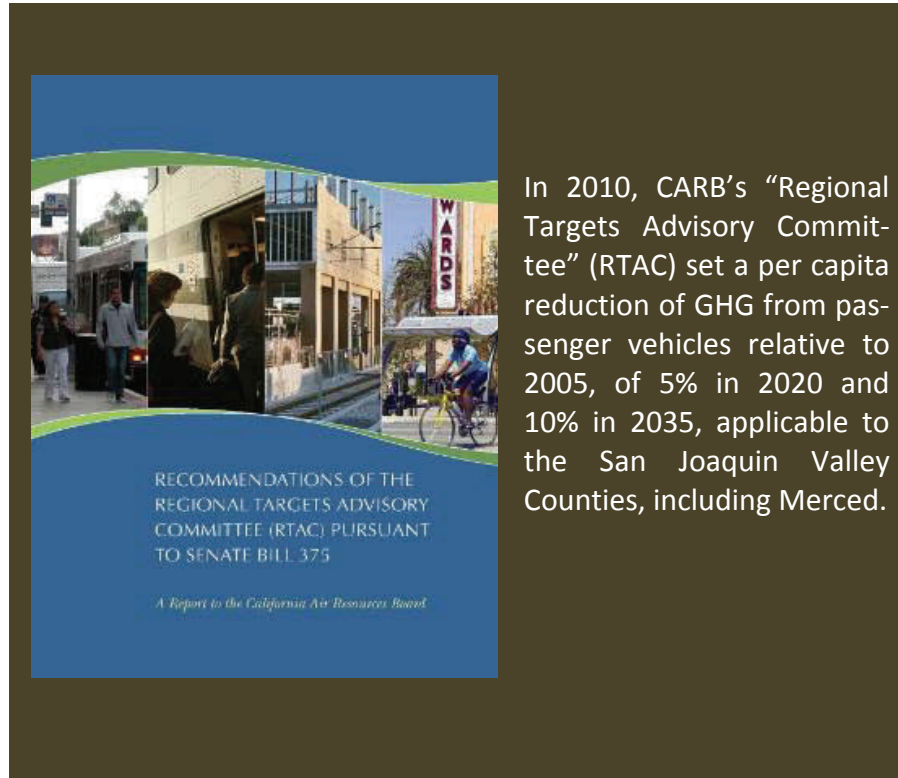
Agriculture: More efficient agricultural equipment, fuel use and water use through transportation and energy measures; reductions from manure digesters at dairies; address impacts on productivity of crops and livestock.

Waste and Recycling: Reduce methane emissions from landfills and move toward high recycling and zero waste.



Senate Bill 375

On September 30, 2008, Governor Schwarzenegger signed into law SB 375 (Steinberg), which aligns affordable housing allocation and transportation planning decisions to reduce fossil fuel consumption and conserve farmlands and habitat. SB 375 provides a path for better planning by providing incentives to locate housing developments closer to where people work and go to school, allowing them to reduce vehicle miles traveled (VMT) every year. SB 375 requires the Metropolitan Planning Organizations, for example, the Merced County Association of Governments, to create Sustainable Communities Strategies (SCS) in their regional transportation plans to reduce vehicle miles traveled and sprawl. If regions develop integrated land use, housing and transportation plans that meet the SB 375 targets, new projects in these regions can be relieved of certain review requirements of the California Environmental Quality Act. The AB 32 Scoping Plan estimated that the state's emissions will be reduced by an estimated 1% by 2020 as a result of SB 375.



FUNDING FOR SB 375 PROJECTS

The State of California plans to provide \$90 million in grants from Proposition 84 to local agencies to develop plans to implement SB 375. Proposition 84 is the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006, which authorized \$5.388 billion in general obligation bonds to fund safe drinking water, water quality and supply, flood control, waterway and natural resource protection, water pollution and contamination control, state and local park improvements, public access to natural resources, and water conservation efforts.

The City of Merced was awarded a grant of Proposition 84 funds from the California Strategic Growth Council to prepare the Bellevue Corridor Plan.



Table 5-2: SB 375 Timeline and Other Requirements

<i>SB 375 Timeline and Other Requirements</i>		
#	Due Date	Action
1	Dec 2008	Projects specifically listed on a local ballot measure prior to this date are exempt from the requirement to be consistent with the SCS.
2	Jan 2009	CARB shall appoint a Regional Targets Advisory Committee (RTAC) to recommend factors to be considered and methodologies to be used for setting reduction targets.
3	Sept 2009	Draft “vehicle miles traveled (VMT) reduction target recommendation by RTAC
4	June 2010	CARB deadline to issue draft VMT reduction targets
5	Sept 2010	CARB deadline to adopt final VMT reduction targets
6	Oct 2010	Beginning this date, MPOs updating their RTP will begin 8-year housing element planning cycle that includes SCS-APS and alignment for the Regional Housing Needs (RHNA) process.
7	----	Within 18 months of RTP adopted after Sept 2010, adopt new housing element.
8	Dec 2011	Federal Statewide Transportation Improvement Projects programmed before this date are exempt from the requirement to be consistent with the SCS.

POLICY IMPACT OF SB 375

Nothing in SB 375 requires a city or county to change its land use policies or decisions. However, if a county or city wants to take advantage of streamlined environmental review or be eligible for transportation project funding through the regional transportation planning process, it might decide to make the necessary change to its local planning policies in order to be consistent with the metropolitan planning organization’s strategy for reducing greenhouse gas emissions. This strategy is made manifest in the “Sustainable Community Strategy,” a required part of the Regional Transportation Plan.

The general public, including county supervisors and city council may comment and provide input on the preparation of a SCS, but it is the Governing Boards of the Metropolitan Planning Organizations and the Air Resources Board that decide the content of the SCS as well as whether or not it would achieve the greenhouse gas emission reduction targets established for the region. If the ARB rejects the decision of the MPO, then the MPO must revise its strategy or adopt an alternative planning strategy and resubmit to the Air Resources Board (ILG, 2010c).



BUILDING/ENERGY EFFICIENCY RELATED LAWS

Executive Order S-20-04

Governor Arnold Schwarzenegger issued Executive Order S-20-04 on July 27 2004, and began the process of implementing the nation's first green building action plan, which requires: (1) all new state construction to achieve *Leadership in Energy and Environmental Design* (LEED) Silver certification or higher; (2) renovation of all state-owned buildings and certification of existing building stock through the LEED for Existing Buildings program; and (3) that lease space be sought out that is certified and rated by the U.S. EPA's Energy Star program.

Assembly Bill 811 (2008)

Authorizes cities and counties in California to designate districts within which willing property owners could enter into contractual assessments to finance the installation of renewable energy generation, as well as energy efficiency improvements, that are permanently fixed to the property owner's residential, commercial, industrial or other real 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.

Assembly Bill (AB) 758 (Skinner) (2009). Energy: Energy Audit.

AB 758 requires the California Energy Commission to develop and implement a comprehensive program to achieve greater energy savings in *existing* residential and commercial buildings by March 2010. The program as designed should include resources for energy assessment, cost effective improvements, financing option, and public outreach and education. The program may include energy audits, energy efficiency improvements, financing options, and green workforce training. It also requires the California Public Utilities Commission and publicly-owned utilities to implement energy efficiency programs consistent with the Legislature's intent to encourage energy savings and greenhouse gas reductions. AB 758 requires locally owned electric utilities to implement energy efficiency programs for residential and nonresidential customers based on annual targets. AB 758 targets stimulus funds for existing buildings

California Green Building Code (CALGreen)

As part of the compliance with Assembly Bill 32, the State of California has developed a new, mandatory green building code (CALGreen), which will take effect on January 1, 2011. CALGreen establishes standard and compulsory minimum green building regulations that affect all construction state-wide, and may affect local municipalities, which may need to amend existing local green building ordinances to comply with the new building code. The new code does not prohibit municipalities from implementing their own green building standards before the code takes effect, but reviewing the new code and making adjustments to local ordinances is recommended.

AB 210 (Hayashi) (2009). Green Buildings.

This measure clarifies in statute that local governments can amend state green building standards if the city makes a finding that the amendments are reasonably necessary because of local climatic, geological, or topographical conditions. While a number of cities have been amend-



ing state green building standards, this is the first time the local authority is clarified in state statute.

SB 77 (Pavley, 2010). Energy: California Alternative Energy and Advanced Transportation Financing Authority: Property Assessed Clean Energy (PACE)

This measure creates a state PACE Reserve program to assist local jurisdictions in financing the installation of distributed generation of renewable energy sources, energy or water efficiency improvements. This measure authorizes the California Alternative Energy and Advanced Transportation Financing Authority to purchase and pool locally issued PACE bonds for sale.

SB 855 (Committee on Budget, 2010). Resources Trailer Bill

This measure includes a number of technical provisions dealing with the state's public resources. Among the issues within this trailer bill include: Extends, from 2011 to 2013, the sunset on the California Energy Commission Energy Conservation Assistance Program that provides grants and loans to local governments and public institutions to maximize energy use savings.

WATER CONSERVATION RELATED LAWS

SB 7, Steinberg. Water Conservation

This bill would require the state to achieve a 20% reduction in urban per capita water use in California by December 31, 2020.

AB 474 (Blumenfeld) (2009). Contractual Assessments: Water Efficiency Improvements.

This measure expands the authorization that allows public agencies to enter into contractual assessments to finance the installation of energy efficiency improvements to now include water efficiency improvements. The original measure, AB 811 (Levine, Chapter 159, Statutes of 2008) authorizes a city to designate an area within the city, within which authorized city officials and property owners may voluntarily enter into contractual assessments to finance the installation of energy efficiency improvements.

SB 518 (A. Lowenthal, 2010). Building Standards: Graywater

This measure requires the state Building Standards Commission, on or after January 1, 2011, to establish nonresidential building standards for the construction, installation and alteration of graywater systems for both indoor and outdoor uses.

TRANSPORTATION RELATED LAWS

Assembly Bill 1493 (2002)

AB 1493 requires ARB to develop and adopt regulations to reduce GHG emissions from passenger vehicles, light-duty trucks, and other non-commercial vehicles for personal transportation. In 2004, the California Air Resources Board adopted regulations that created increasingly stringent standards to reduce global warming emissions from cars and light trucks between 2009 and 2016. The AB 32 Scoping Plan estimated that the state's emissions will be reduced by an estimated 5.5% by 2020 resulting from AB 1493.



Executive Order S-1-07

This executive order established a Low-Carbon Fuel Standard to reduce the carbon intensity of transportation fuels sold in California by a minimum of 10% by 2020.

SB 728 (A. Lowenthal) (2009). Air Pollution: Parking Cash-Out Program.

This measure allows cities, counties, and air districts, to establish by ordinance or resolution, a penalty or other mechanism to ensure compliance with the state's existing parking cash-out law. The existing parking cash-out law requires each employer with 50 or more employees located in an air basin designated nonattainment for any state air quality standard (at this time, this means every county except Lake County) that provides a parking subsidy to employees to provide a cash allowance to an employee who does not use the parking space in an amount equivalent to the amount the employer would otherwise pay to provide that employee a parking space.

AB 1507 (Lieu, 2010). Motor Vehicle Greenhouse Gas Emission Reduction Projects

This measure requires the Air Resources Board, by July 1, 2011, to revise project guidelines for the Carl Moyer Air Quality Standards Attainment Program. This measure allows coordination of funds from federal and state funding programs for clean transportation projects to be used on a project to achieve greater air quality benefits and greenhouse gas emission reductions.

CEQA RELATED LAWS

Senate Bill 97 (2007)

Directs the Governor's Office of Planning and Research to develop CEQA guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions."

UTILITY RELATED LAWS

Senate Bill 1078 (2002)

Establishes a Renewable Portfolio Standard requiring electricity providers to increase purchases of renewable energy resources by 1 percent per year until they have attained a portfolio of 20 percent renewable resources.

Senate Bill 107 (2006) and Executive Order S-14-08

SB 107 changed the target date for the Renewable Portfolio Standard to 2010. Executive Order S-14-08 expands the state's Renewable Energy Standard to 33% renewable power by 2020.

Executive Order S-21-09

California's existing *Renewables Portfolio Standard* (RPS) is one of the most ambitious in the United States, requiring retail sellers of electricity to procure 20 percent of their electricity from eligible renewable energy resources by 2010. On September 15, 2009, the Governor issued Executive Order S-21-09 requiring the California Air Resources Board (CARB) to adopt regulations by July 31, 2010 to meet the 33 percent RPS by the 2020 target. Governor Schwarzenegger's Executive Order sends a strong signal that the state executive branch seeks to facilitate California utilities' ability to meet the state's ambitious 33 percent goal through at least partial reliance on out-of-state generation. And, by designating CARB as the agency for implementing



the 33 percent standard, the Executive Order also marks a significant administrative shift in which that state agency will take the lead on key features of RPS implementation, a role normally under the authority of the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC).

Senate Bill 1368 (2006)

SB 1368 requires the California Public Utilities Commission (PUC) to establish a GHG emission performance standard for base-load generation from investor-owned utilities, and requires the California Energy Commission (CEC) to establish a similar standard for local publicly owned utilities. The legislation further requires that all electricity provided to California must be generated in plants that meet standards set by PUC and CEC.

SB 17 (Padilla). Electricity: Smart Grid Systems

This measure requires the California Public Utilities Commission, in consultation with other state agencies and key stakeholders, to determine the requirements for a smart grid deployment plan and requires the utilities (including municipal utilities with more than 100,000 service connections) to develop a smart grid deployment plan by January, 2011. This measure is intended to advance California's clean energy policies by improving reliability and efficiency in power distribution in California.

AB 920 (Huffman) (2009). Solar and Wind Distributed Generation.

This measure expands the current net-metering programs for wind and solar, to allow net-metered customers to sell any excess electricity they produce in a year to their electric utility.

AB 162 (Ruskin) (2009). Energy: Disclosure of Sources of Electrical Generation.

This measure streamlines electricity reporting procedures for publicly owned utilities in California, including requiring that every California retail seller of electricity disclose its electricity sources to end-use customers on an annual basis.

BUSINESS AND INDUSTRY RELATED LAWS

Senate Bill 1771

Requires the California Energy Commission (CEC) to prepare an inventory of the state's greenhouse gas emissions, to study data on global climate change, and to provide government agencies and businesses with information on the costs and methods for reducing greenhouse gases. It also established the California Climate Action Registry to serve as a certifying agency for companies and local governments to quantify and register their greenhouse gas emissions for possible future trading systems.

Senate Bill (SB) 71 (Padilla, Alquist)

The Governor-approved Senate Bill 71 exempts green technology equipment, including the design, manufacture, production, and assembly of equipment, from the Sales and Use Tax. The bill is aimed to promote alternative energy and advanced transportation technology production within companies. Projects must be approved by the California Alternative Energy and Advanced Transportation Financing Authority, and the exemption expires on January 1, 2021.



SB 855 (Committee on Budget, 2010). Resources Trailer Bill

This measure includes a number of technical provisions dealing with the state's public resources. Among the issues within this trailer bill include: Allows the California Energy Commission to use unspent American Recovery and Reinvestment Act of 2009 funds (non city grant funds) to implement the new Clean and Renewable Energy Business Financing Revolving Loan Program to provide low interest loans to California clean and renewable energy manufacturing businesses.

WASTE MANAGEMENT RELATED LAWS

AB 2398 (J.A. Pérez, 2010). Product Stewardship: Carpet

This measure requires carpet manufacturers in California to implement stewardship programs to increase the recycling rate of carpet in the state. This measure also requires a fee, per unit of carpet sold in the state, to pay for the costs of the stewardship plans.

SB 855 (Committee on Budget, 2010). Resources Trailer Bill

This measure includes a number of technical provisions dealing with the state's public resources. Among the issues within this trailer bill include: Prohibits the use of city/county grants from the state's beverage container recycling and litter cleanup fund for any use unrelated to beverage container recycling or litter reduction.

REAL ESTATE MARKET RELATED LAWS

AB 1011 (Jones, 2010). Insurance, Green Investments

Current law requires insurance companies to provide information on all community development and infrastructure investments. This measure adds energy efficiency, infill housing and other measures to reduce greenhouse gases to the definition of community development and infrastructure investments and requires the Insurance Commissioner to post summaries of each company's investments every two years.

AB 1809 (Smyth, 2010). Home Inspections: Energy Audits

This measure authorizes a home inspection to include, if requested by the client, a Home Energy Rating System audit. The audit must conform to regulations for such audits established by the California Energy Commission.

AB 2036 (B. Berryhill, 2010). Public Contracts. Contract Document Distribution

This measure requires state departments and local agencies to provide, at no charge, an electronic copy of the project's contract documents to a contractor plan room service upon request from the contractor plan room service.

CLIMATE ADAPTION RELATED LAWS

Executive Order S-13-08

This Executive Order directs the California Resources Agency (CRA) to develop a State Climate Adaptation Strategy by June 30, 2009 and to convene an independent panel to complete the first California Sea Level Rise Assessment Report. The order also directs the Governor's Office of



Planning and Research (OPR), in cooperation with the California Resources Agency (CRA), by May 30, 2009, to provide state land-use planning guidance related to sea level rise and other climate change impacts. OPR has begun to prepare an amendment to the States General Plan Guidelines, which all local governments must use to prepare their general plans.

POLICIES AND INITIATIVES

California Solar Initiative Program (2006)

This is a comprehensive \$2.8 billion program that provides incentives toward residential and commercial solar development over 11 years.

In 2006, the California legislature passed SB-1, which is commonly called the California Solar Initiative. It mandates utilities put into place programs to assure that 3000MW of solar installations on homes is in place within 10 years.



San Joaquin Air Pollution Control District, Rule 9410

Proposed Rule 9410 (Employer Based Trip Reduction) was crafted as a feasible and cost-effective measure to meet the applicable state and federal mandates of the Clean Air Act. Rule 9410 is applicable to employers within the San Joaquin Valley Air basin with at least 100 eligible employers. The employer must create an employer trip reduction plan submitted by September 1, 2011, with resubmission requirements. The employer must begin commuter verification submissions by January 1, 2014. Annual reports of the ETRIP and commuter verification must be first submitted March 31, 2015 and every year thereafter.

Assembly Bill (AB) 118: California Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act of 2007

The California's Strategic Growth Council's funding program to create "Master Urban Greening Plan's, call for project's that provide multiple benefits including: *decreasing air and water pollution, reducing the consumption of natural resources and energy, increasing the reliability of local water supplies, or increasing adaptability to climate change.* In order for the City to benefit from the SGC's parallel grant program that funds projects, the City's CAP should be crafted to include future projects that fall under these categories.

ACR 133 (J.A. Pérez, 2010). Earth Hour

This resolution endorses the efforts to raise awareness of climate change and energy efficiency and declares the hour of 8:30 p.m. to 9:30 p.m. on the last Saturday of March to be Earth Hour. The resolution encourages city, county and state employees and businesses to turn off nonessential lights in government

California Energy Commission / Integrated Energy Policy Report Recommendation

The California Energy Commission (CEC) has been linking land use and energy for a number of years. In practice, the CEC develops an *Integrated Energy Policy Report* (IEPR) every two years that includes assessments and forecasts of all aspects of the energy industry. The CEC uses these assessments and forecasts to develop state energy policies. The CEC, as part of its 2008 IEPR, stated that im-



provements were needed by local governments including an *energy element* in their general plans, something that continues to be a goal of the CEC (APA, 2010b).

CALIFORNIA ATTORNEY GENERAL LITIGATION

AB 32 has caused a ripple effect among cities, counties and environment groups throughout the state. In *State of California Attorney General v. San Bernardino County* in 2007, the California Attorney General's office argued that the Environmental Impact Report for San Bernardino's new general plan did not conform to the overall goals of AB 32 because it did not adequately analyze or mitigate the effects of development on global warming. The County settled with the State by agreeing to produce a greenhouse gas emissions reduction plan and, thereby furthering California's commitment to addressing climate change.

The San Bernardino Settlement Agreement led Senators to write SB 97 in August 2007. This law formally acknowledges that climate change is an important environmental issue that requires analysis under the California Environmental Quality Act (CEQA).



In September 2008, the Attorney General reached another settlement agreement concerning climate change, this time with the City of Stockton. According to the Attorney General's office and the Sierra Club, the City of Stockton did not adequately address climate change in its 2035 General Plan update and corresponding Environmental Impact Report. The City of Stockton settled with the Attorney General by agreeing to adopt a climate action plan designed to reduce sprawl, increase infill development, promote public transit and encourage more energy-efficient buildings.

