



MERCED CLIMATE ACTION PLAN

To Live for the Next Generation

The City of Merced's Climate Action Plan is Online.

In an effort to preserve trees and reduce greenhouse gas emissions, this document is available online at:

http://www.cityofmerced.org/depts/cd/planning/climate_action_plan/default.asp

CD's of the Plan are also available for purchase at the City of Merced Planning Department.

When printing, please print on recycled paper. We also hope that you will help us continue to be sustainable by sharing printed plans with friends and recycling it when needed.

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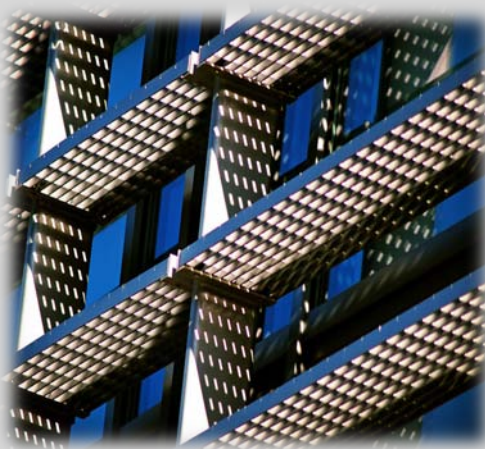


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ACKNOWLEDGMENTS

TECHNICAL ADVISORY COMMITTEE

Members of the Technical Advisory Committee (TAC) consisted of City Staff who are currently involved in actions that affect the generation of greenhouse gases in City government facilities, and have the capacity to affect change in the community, for example, through water conservation efforts. The TAC was established during the drafting of the Climate Action Plan Background Report to identify past sustainability efforts. As the process moved to preparing the Climate Action Plan (CAP), the TAC role shifted to: (1) describing the funding, capital resources, and personnel of existing programs; (2) review and comment on potential actions that would reduce emissions from City Government facilities and the community; and, (3) advise and inform the Climate Action Plan Ad-Hoc Advisory Committee about planning, waste management, water conservation, and “green” building codes.

Dan Arnold — Public Works Manager, Internal Services

Kim Espinosa — Planning Manager

Stan Murdock — Director of Public Works, Operations

Frank Quintero — Director of Economic Development

Michael Stephenson — Assistant Chief Building Official

Michael Wegley — Director of Public Works, Water and Wastewater

Daniel Ainslie — Development Manager

AGENCIES AND COMMUNITY PARTNERS

Prior to formal presentation and action by the City Council, many local agencies, peers and partners were invited to review and comment on the Climate Action Plan to offer technical and professional guidance, and include:

to be added soon 😊



CLIMATE ACTION PLAN ADVISORY AD-HOC COMMITTEE

On September 7, 2010, the City Council took two key Climate Action Planning steps: (1) adopting City Council Resolution 2010-80 committing to take steps to reduce greenhouse gas emissions through adoption of a Climate Action Plan; and (2) directing staff to begin the recruitment process for members of a Climate Action Plan Ad-Hoc Advisory Committee. The appointment of the Committee was made by the City Council on December 20, 2010. The Committee has met monthly since January 2011, and concluded its work with City Staff in September 2011.

In December 2010, the City Council appointed the Climate Action Plan Ad-Hoc Advisory Committee and provided objectives to craft a Climate Action Plan for the City of Merced. The Committee reviewed Merced's Greenhouse Gas Emission Inventory and Background Report, provided comments on funding, leadership, and community partners, and reviewed GHG reduction strategies of similar communities that could result in significant emission reductions for Merced to meet the target of 20% below 1990 levels by the year 2020.

The Committee framed the Plan by four sustainability values that support healthy, prosperous, and livable communities. Each value is supported by goals, which directly align with primary methods to reduce greenhouse gas emissions.

VALUES	GOALS
<i>Healthy Communities</i>	Enhance Mobility of all Transportation Modes Sustainable Community Design
<i>Quality Natural Resources</i>	Water Conservation and Technology Protect Air Resources Waste Reduction
<i>Energy Resources</i>	Increase the Use of Renewable Energy Resources Building Energy Conservation
<i>Leaders and Partners</i>	Public Outreach and Involvement

The Committee met with City Staff over a period of several months and reviewed best practices of GHG reduction strategies that would have the greatest impact on reducing emissions in Merced, and were suitable to implement in the current economic climate. After consideration of specific actions and



offering broad guidance to Staff, the Committee narrowed the recommendations down to 31 strategies. These strategies support the goals listed above.

The Committee found that achieving the City's GHG reduction goals will require considerable changes within the community during the implementation stage, from 2012 to 2020. Merced will need to improve alternative transportation infrastructure, accommodate infill development, increase energy and water efficiency, increase use of renewable energy, reduce waste, and enhance the urban forest. To ensure this transformation is realized, the CAP contains 160 actions that are both ambitious and attainable. Many of these actions are either the *Merced Vision 2030 General Plan* policies or are based upon them.



Climate Action Plan Ad-Hoc Advisory Committee Members

Christina Alley -- Chief Executive Officer
Central Valley Coalition for Affordable Housing

Brett Baker -- Brett Baker Construction, Inc. doing business as (dba) G.J. Gardner Homes

Lyndsey Baladad -- Golden Valley Health Centers and Merced/Mariposa County Asthma Coalition

Michael Belluomini -- Facility Manager, Merced Union High School District

Kahri Boykin -- Kahri Boykin is a renewable energy project developer for Castle Solar. His job duties include site analysis, energy audits, feasibility studies, and project management for turn-key energy solutions. Mr. Boykin has ten years experience working in power generation, power distribution, and the construction industry. In addition to his interests in the energy industry, Mr. Boykin has a passion for teaching, and is a state credentialed instructor in the industry sector of energy and utilities and provides instruction in support of Merced County Office of Education's "Green Jobs Training Corps."

Wayne Eisenhart -- Wayne Eisenhart is retired from being the Public Defender of Merced County. He grew up in Fullerton, California, where he graduated from high school. He attended Santa Clara University and the University of California Hastings College of the Law. He practiced law in Merced for over 30 years, mostly as a public defender. Wayne has a lifelong interest in community planning and transportation issues. He served for eight years on the City of Merced Planning Commission.

Matt Fell -- Matt Fell is a Senior Planner with the Merced County Association of Governments (MCAG), which is an association of City and county governments, with members who meet to solve regional problems such as transportation, solid waste, and air quality. Mr. Fell has 15 years experience in regional transportation planning, project financing, traffic modeling, and air quality. Recently, he has worked extensively responding to the State of California's Greenhouse Gas initiatives, especially Senate Bill 375.

Jim Genes -- Jim Genes serves as Special Assistant to the Administrative Vice Chancellor at the University of California, Merced. Mr. Genes has over 25 years of start-up experience with the University of California System successfully creating new academic and administrative enterprises for three UC campuses—UC Merced, UC Santa Cruz, and UC Davis. He co-chairs the UCM Chancellor's Advisory Committee on Sustainability and serves as the water stakeholder. He was a significant contributor to UCM's inaugural Sustainability Strategic Plan, as well as a contributor to the Campus Climate Action Plan and the UCM *Triple Zero Commitment*—zero net energy, zero waste, and zero net emissions by 2020. Jim received his BS from UC Davis and MBA from California State University, Fresno.

Rod Ghearing -- Rod Ghearing is the Transit Manager for the Transit Joint Powers Authority for Merced County, the operator of Merced County Transit "The Bus." Mr. Ghearing has worked in the transit industry for almost 35 years, starting his transit life as a bus operator for the Indiana University transit system in 1972. He attended graduate school at Indiana University, getting his MBA in Urban Transportation Management in 1977. Mr. Ghearing has worked in various management positions in transit systems in Virginia, Alabama, Michigan, New York, Colorado, Connecticut, and now in Merced.



Lisa Kayser-Grant -- Lisa Kayser-Grant is a community advocate for sustainable development, participating and taking leadership roles in a variety of venues, notably the following activities: (a) to influence legislation to reduce emission of air pollutants at the regional and state level through lobbying, attending conferences, giving presentations to the public, attending hearings, and participating in press conferences; (b) to promote general plan policies that reduce vehicle miles traveled, support bicycling, expand mass transit, conserve water, improve energy efficiency, and replace existing energy sources with sustainable sources such as solar thermal; and (c) mobilizing youth to learn about sustainable lifestyles and choices and providing them opportunities to participate in public hearings and lobbying on these issue. Her commitment to the livability of Merced is also manifested in her role as a Commissioner on the City's Bicycle Advisory Commission.

Matthew Hirota -- Owner of "Recycle Merced"

Vanessa Lara -- Merced Irrigation District
Public Benefits and Major Accounts Manager

Lane Puckett -- Account Executive
Pacific Gas and Electric Company
Energy Solutions and Service

Jim Marks -- Jim Marks is the General Manager of The Cirrus Company, a real estate services company based in Merced, California, and the General Manager of Heritage Management Group, a property management company managing both residential and commercial/retail properties, also based in Merced. Mr. Marks has an interest in affordable and cost-effective climate change initiatives that can be supported by property owners, developers, and management companies. He has twenty-five years experience in management positions in building materials companies, property and real estate services companies, and has served on the Merced City School District Board of Trustees and numerous business strategy committees for companies that he has worked for.

Kraig Magnussen -- Kraig Magnussen is the Chief Operations Officer for the Merced City School District. He holds a MBA and an BS in Business Administration with a concentration in finance from California State University, Stanislaus. He manages, directs, and leads duties for various divisions at the District including: Facilities Department, Maintenance and Operations Department, Transportation Department, Nutrition Services, and Warehouse, as well as being responsible for the department's efficient operation and community relations. Mr. Magnussen is a member of the California Association of School Business Officials (CASBO), and is the Chair of the Board of Directors Central Section/Transportation Research and Development of the CASBO.

Nellie Muniz Smith -- Executive Director, Merced County Hispanic Chamber of Commerce

Kevin Rico -- Kevin Rico is the CEO and co-founder of SunTherm Energy, Inc., based in Merced, California. His company works with customers interested in "greening" their organization from multiple aspects, notably [REDACTED]. SunTherm Energy, Inc. is experienced with renewable energy both in electricity and in thermal energy. Though young to the emerging field, Mr. Rico is becoming an expert of energy and can speak on the issues related to energy conservation, urban energy planning, and renewable energy.

John Wiersma -- John Wiersma is a Planning Analyst with the Merced Irrigation District and has experience managing and administrating heavy civil construction projects. As an analyst with MID, Mr. Wiersma tracks regulations of the California Air Resources Board, and works with other small utilities to represent common interests in the State of California “Cap and Trade” program, and prepares MID for changes forthcoming due to these regulations.

CAP INTERNSHIP/VOLUNTEER TEAM

The City of Merced extends its gratitude and appreciation to several student interns who contributed greatly to the preparation of the Climate Action Plan and its background report.

Kevin Deniz – Local Government Approaches to Emission Reductions

Jared Calinisan – Plan Graphic Design Concept

Fizza Hasani – Plan Graphic Design Concept

Ashley Chiang – 2008 City of Merced Greenhouse Gas Emission Inventory (Background Report)

Pamela Contreras – Federal Funding Programs (Background Report)

Denise Zitnik – Co-Benefits (Background Report)

Caitlin Kniazewycz – Green Funding Trends (Background Report)

PHOTOGRAPHY CREDITS

The CAP includes images from many contributing local photographers. Images where recognition has been requested is provided by a reference number to the lower left of the image and noted here. Other photographs were contributed by Jared Calinisan, Fizza Hasani, and Bill King

David Husted -

Marina Ortiz – 6,



Acknowledgement of Financial Support

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Energy Efficiency and Block Grant Program

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GLOBAL CLIMATE CHANGE

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.

Merced's Climate Action Plan includes goals, strategies, and actions to reduce GHG emissions to 20% below 1990 levels by the year 2020. Taking action on climate change provides tangible benefits for citizens today – and ensures that future generations will have access to the resources that support healthy, prosperous, and livable communities. The Merced Climate Action Plan seeks to reduce GHG emissions within this larger framework of sustainability. These benefits include:

- A vibrant downtown, urban centers, and livable neighborhoods
- Walkable communities with increased mobility options
- Efficient and convenient transportation systems and services
- Energy efficient / low cost utility buildings
- Increased water supplies
- Reduced conversion of agricultural, resource, and open space lands
- Improved air quality
- Less municipal waste
- Informed and engaged citizenry / opportunities for community partnerships



Although the City of Merced has taken significant steps in the past to address climate change, this is the first document to assemble the City's climate action efforts for both government operations and the community as a whole. The City of Merced Climate Action Plan is the beginning of an ongoing effort and assessment of our response as a community to climate change. This Plan is by no means a strict road map through the year 2020. Future updates will evaluate progress and modify or expand current reduction and adaptation strategies as we learn more about our own community and about climate change.

**The State of California's AB32's Scoping
Plan States:**

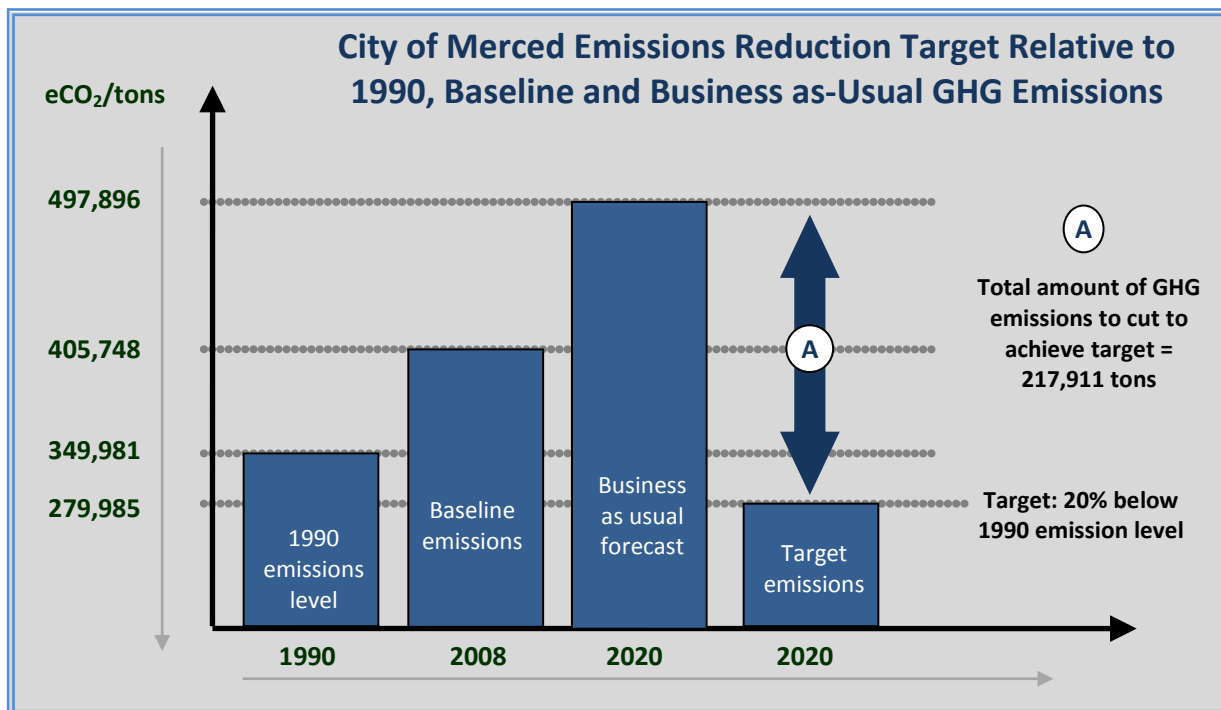
"Local governments are essential partners in achieving California's goals to reduce greenhouse gas emissions...and have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect greenhouse gas emissions through their planning and permitting processes, local ordinances, outreach and education" efforts, and municipal operations." ²⁵



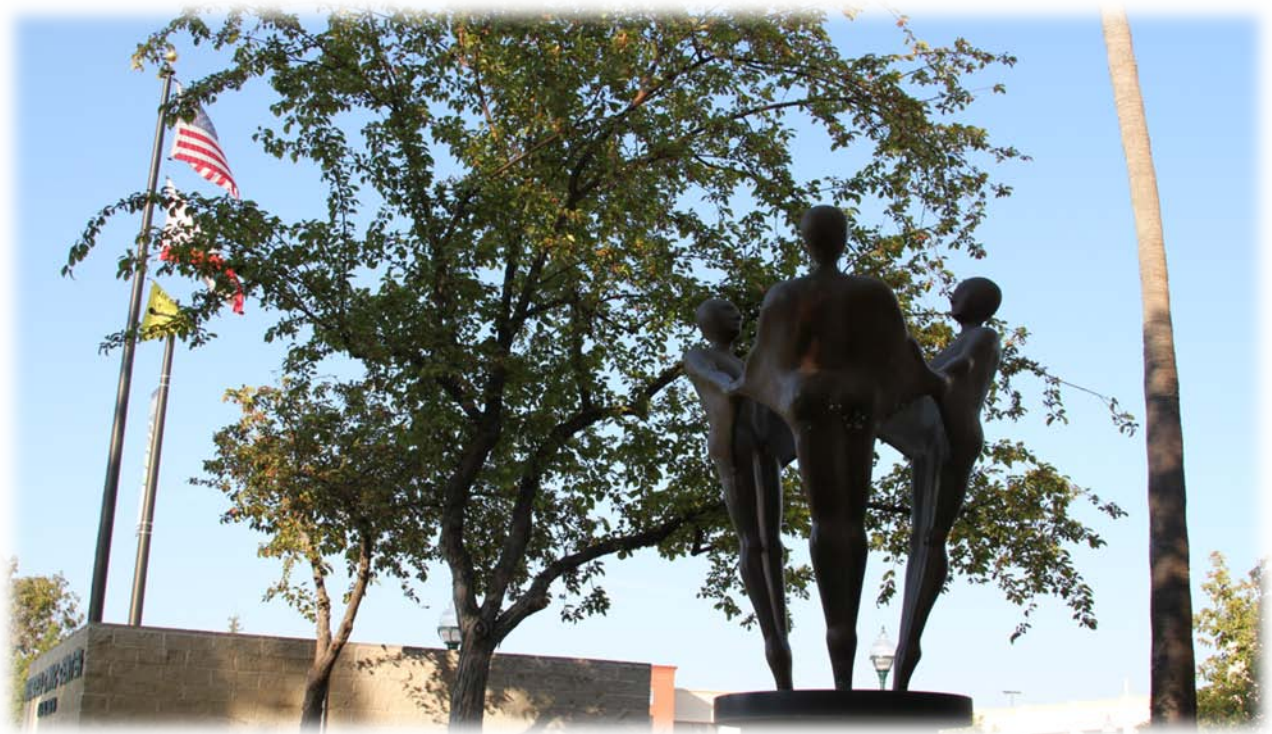
VISION AND GOALS OF THE CLIMATE ACTION PLAN

Merced is at a transformative period of growth. New pressures and influences exist, and include: 1) Central Valley's 2009 population of 7 million is expected to grow to 12 million people by 2040¹; 2) increased direction of State planning, housing, and transportation visions of compact cities; 3) economic recession and associated budget-related influence on growth patterns; and, 4) infusion of ideas, solutions, and partnerships of California's tenth UC Campus, including its focus on sustainable communities.

How will these factors affect Merced? Despite these influences, our decisions and actions are a powerful variable in what our outcome will be. What will Merced be known for in 2020? Population growth will demand a response from local leaders. On February 22, 2011, the Merced City Council adopted a greenhouse gas reduction target of 20% below 1990 levels by 2020 for Government-based facilities and the Community as a whole. A GHG inventory of year 2008 emissions was completed in 2010; this year was selected due to the availability of data and suitability to estimate the 1990 emission level. Based on the 2008 baseline emission and the business-as-usual emission projection, 217,911 metric tons of CO₂e will need to be removed from the community. Future adjustments to this amount may result due to differences between growth forecasts and actual population.



Merced's Climate Action Plan provides a comprehensive strategy to lead to reduced greenhouse gas emissions and increased energy-efficiency, and in doing so will protect our water and air resources, reduce waste stream to the landfill, enhance choice in mobility, and create livable communities. UC Merced's efforts in developing sustainable communities is inspiring entrepreneurs to develop the technologies and conservation that will ensure reliable, clean energy sources, reduce carbon emissions, minimize the use of non-renewable power, and mitigate harmful impacts on the environment. The Plan is a blueprint that supports sustainable communities at the City-level.



A Path to Sustainability

The vision of Merced's Climate Action Plan includes 8 bold goals that will serve as a roadmap to take a sustainability route in Merced's transformation. Realization of these goals is possible through dedicated leadership and an engaged community. By pushing the limits of what is possible, visions of our future are achieved -- a vision of healthy communities, quality natural resources, and clean energy resources. Within 8 years, the City of Merced, in partnership with its residents and businesses, will achieve the following goals framed by four sustainability-based values.

The percentages below are representative of the emission amounts described in the City's 2008 GHG Emission Inventory, for example, large reductions through energy conservation and equipment retrofits respond directly to the large amount of emissions coming from Merced's existing buildings.

HEALTHY COMMUNITIES

- 1.** 21% of the GHG Emissions targeted for reduction will be accomplished through enhanced mobility programs and projects.
- 2.** 10% of the GHG Emissions targeted for reduction will be accomplished through sustainable land use designs and urban growth management.

QUALITY NATURAL RESOURCES

- 3.** 5% of the GHG Emissions targeted for reduction will be accomplished through water management practices.
- 4.** 10% of the GHG Emissions targeted for reduction will be accomplished through programs and actions that protect the quality of Merced's air resources.
- 5.** 1% of the GHG Emissions targeted for reduction will be accomplished through waste reduction programs.

CLEAN ENERGY RESOURCES

- 6.** 23% of the GHG Emissions targeted for reduction will be accomplished through utilization of renewable resources.
- 7.** 30% of the GHG Emissions targeted for reduction will be accomplished through energy conservation habits and equipment.

LEADERS AND PARTNERS

- 8.** The Public Outreach goal facilitates achievement of all targets and is not accounted separately.



The summary table below identifies the Plan's goals, the number of strategies and actions within each goal area, and the goal's contribution toward the GHG reduction goal. Each goal area has a dedicated section within this document (PART 4) where specific strategies and actions are described. The while code changes are proposed to attain the aggressive GHG reduction target, the majority of the Plan's recommended actions are based in public outreach and education, incentives, capital projects and volunteer actions.

While the City of Merced local government cannot address climate change by itself, government policies and practices can dramatically reduce greenhouse gas emissions from a range of sources and help prepare Merced for the anticipated impacts of climate change. In addition, the City of Merced will assist residents and businesses in their endeavors to reduce emissions through programs explained in this Plan. By working together, Merced can not only do its part toward achieving a stable climate - we can reap the benefits of healthier air, lower costs for utilities and services, improved transportation and accessibility, a more vibrant local economy, and many other positive side effects of reducing our carbon footprint.

Numbers of Strategies and Actions and GHG Reduction Targets by Goal				
Merced CAP Goals	Number of Distinct Strategies	Number of Distinct Actions	Percent of Total Reduction	Anticipated MTCO₂e by 2020
Enhance Mobility (EM)	5	16	21.0%	45,761
Sustainable Community Design (SC)	5	25	10.0%	21,791
Air Resources (AR)	4	20	10.0%	21,791
				89,344
Water Conservation (WC)	4	21	5.0%	10,896
Renewable Energy (RE)	2	11	23.0%	50,120
Building Energy Conservation (BE)	6	36	30.5%	66,463
				127,478
Waste Reduction (WR)	2	15	0.50%	1,090
Public Outreach	3	16	0.0%	0
TOTALS	31	160	100%	217,911



Outline of the Plan's Values, Goals and Strategies

VALUE 1: HEALTHY COMMUNITIES

Goal 1: Enhance Mobility of all Transportation Modes (EM)

Strategy Topics

- Site Design Planning
- Transit Planning
- Bicycle Planning & Projects
- Pedestrian Planning & Projects
- Mobility Development Review Policies

Goal 2: Sustainable Community Design (SC)

Strategy Topics

- Compact Urban Form / Infill
- Mixed Use Transit Oriented Development
- Growth Management Planning
- Community Appearance
- Community Design Development Review Policies

VALUE 2: QUALITY NATURAL RESOURCES

Goal 3: Water Conservation and Technology (WC)

Strategy Topics

- Water Conservation and Technology
- Reduce Groundwater Pumping
- Water Efficient Landscapes
- Water Conservation Development Review Policies

Goal 4: Protect Air Resources (AR)

Strategy Topics

- Reduced Vehicle Trips
- Clean Trips – Clean Vehicles
- Reduce Non-Vehicular Emissions
- Air Resource Development Review Policies

Goal 5: Waste Reduction (WR)

Strategy Topics

- Reduce, Reuse, and Recycle
- Waste Reduction Development Review Policies



VALUE 3: CLEAN ENERGY RESOURCES

Goal 6: Increase the Use of Renewable Energy Sources (RE)

Strategy Topics

- Renewable Energy Systems
- Renewable Energy Development Review Policies

Goal 7: Building Energy Conservation (BE)

Strategy Topics

- Green City Facilities and Infrastructure
- Energy Efficiency in New Development
- Residential Energy Efficiency
- Commercial and Industrial Performance
- Urban Forestry / Heat Island Effect
- Building Energy Conservation Development Review Policies

VALUE 4: LEADERS AND PARTNERS

Goal 8: Public Outreach and Involvement (PO)

Strategy Topics

- Community Resources
- Support a Green Economy
- Support Sustainable Neighborhoods

* Although the CAP establishes specific strategies and actions that the City and community can implement over time, it is not binding on the City Council or the community.



HOW THE CAP WAS DEVELOPED

Climate Action Planning – Broad Planning Process and Objectives

BROAD PLANNING PROCESS

While the City of Merced has already begun to reduce greenhouse gas emissions through a variety of sustainability actions, the City of Merced Climate Action Plan is *Milestone No. 3* of a comprehensive approach by the International Council for Local Environmental Initiatives (ICLEI) to reducing emissions; the approach is called the Five Milestones for Climate Mitigation, which is depicted below.

Milestone One: Conduct a baseline emissions inventory and forecast

Milestone Two: Adopt an emissions reduction target for the forecast year

Milestone Three: Develop a local climate action plan

Milestone Four: Implement the climate action plan

Milestone Five: Monitor progress and report results



MERCED'S MILESTONES

In November 2009, the City Council accepted 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 was the drafting of a Climate Action Plan (CAP). Work by City Staff on Climate Action Planning began in January 2010, and focused on drafting the *City of Merced Climate Action Plan Background Report*, which included the City's first Greenhouse Gas Emission Inventory. The background report was completed in January 2011 and helped frame the next steps in the process, selecting a greenhouse gas reduction target and drafting the Climate Action Plan.

On September 7, 2010, the City Council took two key Climate Action Planning steps: (1) adopted City Council Resolution 2010-80 committing to take steps to reduce greenhouse gas emissions through adoption of a Climate Action Plan; and, (2) directed staff to begin the recruitment process for members of a Climate Action Plan Ad-Hoc Advisory Committee. The appointment of the Committee was made by the City Council on December 20, 2010. The Committee has met monthly since January 2011, and concluded its work with City Staff in September 2011.

On February 22, 2011, the Merced City Council adopted greenhouse gas reduction parameters, targets, and an approach to drafting the City's Climate Action Plan, notably, to work with a community-based



Merced Vision 2030
General Plan Policy SD-1.7:
"Develop and Implement a Climate Action Plan for the City." Through recent changes in State and Federal law, local governments like the City of Merced have begun to pay more attention to what can be done regarding Climate Change and Greenhouse Gas reduction on the local level.

Committee to identify ways to reduce GHG emissions to 20% below 1990 levels by 2020 for Government-based facilities and the Community as a whole.

On (insert approval date), the Merced City Council adopted the City of Merced Climate Action Plan by Resolution (Appendix H).

OBJECTIVES OF THE CAP PLANNING PROCESS

The Merced CAP was developed following the City Council objectives:

- Current City policies will form the foundation upon which specific strategies will be crafted;
- The Climate Action Plan will include a set of recommended strategies and implementation plan;
- Among other topics, the recommended strategies will address state-mandated programs, such as Water Conservation (SB x7-7 2009), Commercial Recycling (AB32), Building Efficiency (CalGreen Code), and other “Co-Benefit” categories and items;
- Strategies will be financially feasible;
- The plan’s focus will be qualitative, in the sense of identifying and crafting feasible strategies that can be implemented in Merced;
- The Plan will seek to create linkages between it and established City plans such as the City’s general, specific, and master plans so that they can work together to achieve the reduction target;
- The strategies will complement and be consistent with the Merced County Association of Government’s (MCAG) charge to craft a Sustainable Communities Strategy as part of Merced County’s Regional Transportation Plan, which has implications for future transportation funding and review of development projects; and,
- Strategies will be implemented in an incremental manner, based on the needs and ability of the Community.

IMPLEMENTATION

The actions that we take today will ensure a sustainable future tomorrow. Merced’s CAP Vision can only be accomplished with the help and participation of every member of our community. Though it won’t be simple to change course, the CAP provides tools for new community partnerships to thrive and succeed. These tools identify funding sources, partners, and responsible entities to accomplish detailed tasks within specified timelines. Positive change will also require implementing adopted policies. Most importantly, achieving a sustainable future will require the enthusiasm and participation of every resident of Merced.



CLIMATE ACTION PLAN FINDINGS

City Staff worked with the Climate Action Plan Ad-Hoc Committee to understand how the *Context* of Climate Action Planning and the *Capacity* of the community would affect which GHG reduction actions would be selected. The *Context* of climate action planning includes: the City's 2008 Greenhouse Gas Emission Inventory, the City Council greenhouse gas reduction target, and regulations applicable to "New Development," "Local Government," and the "Community." The *Capacity* to implement the CAP includes such topics as opportunities, constraints, community partnerships, leadership, funding, and past and current sustainability efforts of the City. Based on this overall direction, committee assessment teams were formed, and CAP goals, strategies, and actions were then reviewed, amended, and finally confirmed by the Committee.

CAP Context -- Overview

In PART 2 of this Climate Action Plan, several factors that influence Climate Action Planning were identified and are the origin of several recommended GHG reduction strategies and actions.

Regulatory Drivers of Greenhouse Gas Reduction

Although AB32 (The California Global Warming Solutions Act of 2006) does not require local governments to adopt a Climate Action Plan, a plethora of related rules, regulations, and incentive programs have originated from AB32 that affect local governance, and include:

- Sustainable Communities Strategy (SB 375)
- CEQA – Global Warming Guidelines (SB97, Dutton, 2007)
- California Green Building Standards Code (CALGreen, Title 24, Part 11)
- Building Energy Audit (at time of Sale, Lease or Refinance). California AB 1103 (2007)
- Complete Streets (AB 1358, Leno, 2007)
- eTRIP / Rule 9410 – Employer Based Trip Reduction
- Model water Efficient Landscape Ordinance
- Water Conservation Bill of 2009 (SBx7.7, Steinberg, 2009)
- Commercial Recycling



The City's initial GHG reduction efforts focus on strategies and actions that respond to these regulatory drivers.



Climate Adaption

The potential impacts of climate change should be considered. Climate hazards exacerbated by climate change that may directly affect Merced include high temperatures, flooding, and drought. Strategies and actions that reduce greenhouse gas emissions and prepare the community for changing weather patterns should be identified and implemented, such as expanding the City's urban forest and weatherizing homes and businesses.



Merced's Greenhouse Gas Reduction Target

The selected target calling for a 20% reduction below 1990 levels by 2020 is aggressive, giving the "Local Government" and "Community" a mere eight years to remove approximately 218,000 metric tons of carbon dioxide, an amount equivalent to twice the amount of emissions emitted from the residential sector in 2008.

Emission reductions apply to both local government facilities and the community. Based on the fact that local government facilities account for only 4% of the total community emissions, the bulk of emission reduction potential will need to come from independent private sources. Efforts should be focused on changing the composition and use habits within Merced's residential, commercial, and industrial buildings, and of its transportation modes. Emissions from new uses should be limited to the greatest degree possible.



Sustainable Merced

Merced has and will continue to strive toward sustainable actions. The Merced Climate Action Plan is framed by sustainability values that support healthy, prosperous, and livable communities. Current and future programs worth continuing as GHG reduction strategies and actions include:

- Development of the High Speed Rail Station and Environs
- Land Use Development Consistency with the San Joaquin Valley Blueprint
- Continued Implementation of Merced's Urban Village Concept
- Water Supply Conservation Efforts
- Waste Management Efforts
- Bicycle Transportation and Planning
- Employee Trip Reduction Plan
- Fleet Management



CAP Capacity -- Overview

In PART 3 of the Climate Action Plan, the capacity of the Merced Community was assessed to gauge its ability to implement the Plan. The assessment discussed opportunities, challenges, community partners, leadership, and funding. The key findings of this assessment are summarized below:

Opportunities

As noted in a study by UC Davis ¹, the City of Merced has a good potential to transition into a sustainable community. The capacity assessment identified several opportunities that support this conclusion, and include the following:

- *University of California, Merced:* From the beginning, UC Merced was envisioned to be a campus shaped by sustainability, possessing the potential to pilot sustainability strategies that can be a model for other growing communities.² Such strategies include the following efforts: Sustainability Strategic Plan, Triple Net Zero Commitment, LEED (Leadership in Energy and Environmental Design) Buildings, and Public Engagement.
- *Merced's Urban Villages:* The City's General Plan is based on the concept of the "urban village," a form of transit oriented development and mixed use development, which are foundational elements of reducing GHG emissions through land use planning.
- *High Speed Rail Station:* The planned High Speed Downtown Rail Station has the potential to reduce GHG emissions through reconstruction projects, provision of an alternative long distance travel mode, and infill development.
- *Housing:* The older housing units in the City of Merced provide an opportunity for energy-efficiency upgrades. Model programs such as the Valley Innovative Energy Watch (VIEW) Partnership should be considered in Merced to achieve such upgrades. The VIEW Partnership is between Southern California Edison (SCE), Southern California Gas Company (SCG), the counties of Kings and Tulare, and the cities of Hanford, Lindsay, Porterville, Tulare, Visalia, and Woodlake.²¹
- *San Joaquin Valley Blueprint:* The San Joaquin Valley Blueprint is a long range vision for a more efficient, sustainable, and livable future for the Valley. While the Valley-wide average target density is 6.8 units per acre, Merced County has the highest average dwelling unit density, coming in at 8.6 units per acre for new residential growth to the year 2050, establishing Merced County, and most likely the City of Merced, as a leader in constructing more compact development. Additionally, Blueprint Planning efforts are highly regarded as probable templates for creating Sustainable Community Strategies (SCS) in the next generation of Regional Transportation Plans, giving the Blueprint Plans a greater role in regional and local land use planning. The SCS is the key AB32 driver to reduce GHG emissions through land use planning.



- *Bellevue Corridor Community Plan:* The award of the “Bellevue Corridor Community Plan,” which establishes a “Greenfield” sustainability development model, was a direct result of the City’s alignment with the State’s regional planning policies. The State’s objective for the grant is to support the development and implementation of effective and/or innovative local plans that support the State’s AB 32 GHG emission reduction targets and implement SB 375, while creating sustainable communities. Looking to the future, the City’s alignment with the State’s sustainability objectives will pay dividends to the community in federal and state funding for transportation projects, land use, and short and long-range planning efforts.
- *Compact Urban Growth:* Urban growth occurs as redevelopment, infill, or urban expansion. The City’s General Plan emphasizes compact urban growth and infill over urban expansion, and recognizes that large scale redevelopment is a less likely method of accommodating population demands. Although the General Plan update includes a large potential future growth area, Urban Expansion policies are in place to slow the rate of urban expansion based on community needs.



- *Water Conservation Efforts:* The Mission of the City’s Water Division is to provide the City of Merced with a continuous supply of clean and safe drinking water, while promoting water conservation. These goals are implemented through several conservation programs and through collaboration with other water supply agencies.
- *City’s Sustainability Efforts:* The City is engaged in several programs that reduce GHG emissions, including: land use planning, bicycle transportation planning, downtown revitalization, waste management, “Build a Green Fleet” program, water conservation, employee trip reduction plan, and a municipal energy-efficiency retrofit program.



Challenges

There are challenges and potential obstacles to implementation of the City of Merced Climate Action Plan that need to be acknowledged and overcome if the benefits of the Climate Action Plan (CAP) are to be realized. The Climate Action Plan (CAP) is being implemented during one of the most challenging economic times for California and the nation in memory; it is especially challenging in California's Central Valley. However, it must be remembered that while the challenges are great at the inception of the implementation phase, conditions will shift and shift again during the period of implementation (2012 – 2020).

While the Community faces several challenges, there could also be positive flip-sides to them. For example, while many members of the community may lack the financial resources to perform energy upgrades, this trait could also make them eligible for financial grants and aid or program assistance. Implementers of the Plan should be aware that challenges may be portals of opportunity. Challenges include: Local Economy and Associated Unemployment and Low Wages; Low Public Awareness and Associated Support; Limited Supply of Funds and Staff; and Language Barriers

Leadership

Effective implementation of the strategies will require the participation and cooperation of an array of Federal, State, and local government agencies and quasi-public and non-profit organizations, and is best served by a local dedicated Sustainability Manager. In these times of reduced budgets and staff, a balanced use of resources and coordination of efforts will be necessary to successfully implement the plan.

Community Partnerships

Several community groups focused on sustainability programs exist in the community. These include Merced County Community Action Agency, CALPIRG's Energy Service Corps (ESC), the **Greater Merced Chamber's** REACON Team, among others, who implement activities to improve energy efficiency, and waste management.

Funding

Implementing the Climate Action Plan (CAP) will require substantial financial resources throughout the community. A broad range of funding sources and financial tools at the federal and state level may continue to be available to implement portions of the Climate Action Plan (CAP). Without an expanded local leadership model, preparing the City to compete and to recognize these potential funding sources will be difficult, however. Successful implementation of the plan requires a long-term source of funding for positions charged with sustainability efforts.

