

INTRODUCTION



The Case for the Plan

Operating Efficiently and Saving Money

The City of Missoula is committed to maintaining the high levels of service to the community that make Missoula a wonderful place to live and do business. As a result, the City is always looking for ways to reduce operations costs and to do more with less. Conservation & Climate Action Planning is an effective way to identify strategies that reduce energy and fuel consumption, lean operations, save money and free up funds to allow for long-term stability and viability. Implementing the strategies and activities in this plan emphasizes resourcefulness, efficiency and fiscal responsibility.

Energy and Natural Resource Conservation

The City of Missoula should operate as a steward to sustain natural resources and our environment for future generations through energy and resource conservation. The City of Missoula recognizes that fossil fuels and other natural resources are finite and that we need to take action to reduce their consumption. This plan identifies strategies and practices that enable City operations to optimize efficiency, work wisely and responsibly, and utilize technology and innovation to consume less, reduce costs, and build resiliency for the future.

Maintaining a Healthy Environment and Community

Climate change is a present and growing risk to Missoula's environment, economy, quality of life and community. Therefore, the City of Missoula is committed to taking action to mitigate greenhouse gas emissions. Decreasing greenhouse gas emissions, especially by reducing dependence on fossil fuels, will help mitigate the associated negative impacts to human health, including asthma and respiratory diseases, heart disease, and mercury-related neurological damage. At the same time, reducing fossil fuel use decreases harm to the environment by reducing air pollution, acid rain, and drought.^{2,3} Actions outlined in this plan will reduce the City's operational emissions and will contribute to local clean air, clean water, community health and long-term prosperity.

Government Leading by Example

The City of Missoula believes that it is uniquely positioned to act as a leader and catalyst for positive action in the community through Conservation & Climate Action Planning. The plan creation process has been an exercise in broad collaboration with diverse organizations and individuals and represents the Task Force's collective experience and expertise. Plan implementation, tracking and reporting will be an opportunity for local government to provide best practices, lessons learned, case studies, helpful resources and replicable strategies that will hopefully empower other organizations, businesses, agencies and individuals to engage in energy conservation and climate action activities.

City of Missoula Conservation & Climate Change Milestones

The City of Missoula has been engaged and involved in conservation and climate action related commitments, projects, work and planning for many years. Each step has been an important block to a solid foundation of reducing energy consumption, saving money and contributing to a healthy, clean environment. This Municipal Conservation & Climate Action Plan (MCCAP) is the synergy of these activities and will serve as the formal roadmap and latest iteration of City actions to achieve and maintain commitments, resolutions and goals. Milestones include:

- 1996 – U.S. Conference of Mayors' Climate Protection Agreement Signed
- 1996 – Cities for Climate Protection Campaign
- 2004 – Missoula Greenhouse Gas – Energy Efficiency Plan
- 2004 – Greenhouse Gas and Energy Conservation Team Established
- 2007 – City Council Resolution #7241 – Energy Efficiency and Greenhouse Gas reduction policy for municipal building
- 2007 – Mayor's Advisory Group on Climate Change and Sustainability Established

² Union of Concerned Scientists. "The Hidden Cost of Fossil Fuels." 2002. http://www.ucsusa.org/clean_energy/our-energy-choices/coal-and-other-fossil-fuels/the-hidden-cost-of-fossil.html

³ Physicians for Social Responsibility. "Coal Fired Power Plants: Understanding the Health Costs of a Dirty Energy Source". <http://www.psr.org/assets/pdfs/coal-fired-power-plants.pdf>

- 2008 – City Council Resolution #7375 – Fuel and energy reduction policy
- 2008 – First City “Green Team” forms with staff from 18 Departments
- 2009 – Mayor’s Memorandum on new employee Green Policy based upon City Green Team recommendations for ways to reduce energy, fuel and product use.
- 2009 – Missoula Greenhouse Gas Emissions Inventory & Analysis
- 2009 – Energy Efficiency & Conservation Block Grant (EECBG) successful application

City of Missoula Greenhouse Gas Inventory

In 2008, Missoula Mayor John Engen requested the assistance of University of Montana (UM) Environmental Studies professor Robin Saha and UM students in conducting a detailed municipal greenhouse gas emissions inventory for Missoula. In addition to identifying and quantifying various direct and indirect emissions from municipal operations, this inventory examines changes in emissions from fiscal years 2003 to 2008 to determine sectors and sources within sectors for which emissions are increasing, decreasing and remaining stable over time. The year 2003 was chosen as the baseline for the inventory because it was the earliest year for which hard-copy records of purchased energy existed for most sectors. 2008 was chosen as the “target year” because it was the most

recent year for which an entire year’s data could be obtained when the inventory began. Included in the inventory was a list of recommended actions that the City should take. One of them, and a logical next step, was to set a reduction target and develop a climate action plan. This document represents that effort.

Municipal emissions for 2008 totaled 11,540 metric tons of Carbon Dioxide equivalents (mtCO₂e). This value served as a basis for the emissions targets and interim goals described in this document. As seen in Figure 1-1 below, the largest contributing sectors to the City’s carbon footprint were wastewater treatment, municipal buildings, and municipal vehicles. This information helped the Task Force identify key areas in which to focus conservation efforts.

The 2008 inventory needs to be updated. City operations are dynamic and constantly changing, and concerted efforts have been made to reduce the City’s emissions since the inventory was published. Continually updating the inventory as new data and methods become available will help track and show progress and allow for analysis of the effectiveness of each strategy. It will help identify areas for improvement and continue to guide the timing and implementation of new and documented strategies.

The Task Force recommends that the greenhouse gas emissions inventory for municipal operations be regularly updated every two years, starting in 2013.

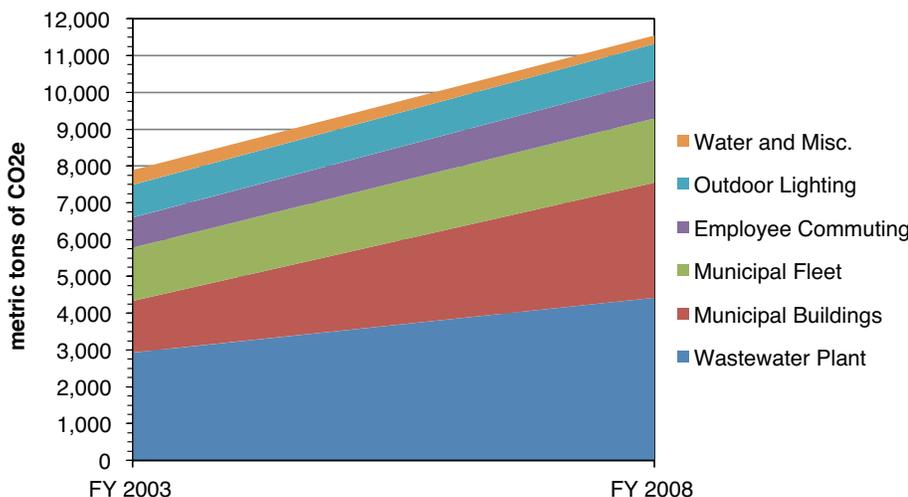


Figure 1-1: Growth in City of Missoula Greenhouse Gas Emission in Metric Tons of CO₂e by Sector in FY2003 and FY2008 (Saha et al, 2010)

Conservation & Climate Action Plan

Scope

This Conservation & Climate Action Plan focuses wholly on municipal operations. This was identified by the Task Force as the logical first step and foundation to community-wide or larger efforts. There was much Task Force enthusiasm and interest in larger-scale planning, but it was decided that the current City staff and budget capacity was in line with a Municipal scope. In addition, the Task Force agreed that the “City’s house must be in order first” to successfully lead or collaborate on broader conservation and climate action planning activities.

Many activities that reduce fuel and energy consumption, reduce operations costs, and address climate change have occurred continually and for years in City operations. However, they have occurred departmentally and have not necessarily been comprehensively documented or planned. This plan is an effort to document past and current activities and provide an overall road map for future City conservation and climate action activities.

Mitigation

According to the Intergovernmental Panel on Climate Change’s Fourth Assessment Report, “mitigation means implementing policies to reduce GHG emission and enhance sinks.” Adaptation is defined as “initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects.”⁴ In essence, mitigation focuses on reducing the amount of emissions produced to lessen the severity of the effects of climate change, while adaptation focuses on adjusting habits, processes, and ways of life in response to the changes produced. Both are important and necessary as communities discuss the implications and effects of climate change on their ways of life.

This plan emphasizes mitigation as a natural first step. The document presents a mix of climate action strategies and conservation activities. Both are vital to mitigating the effects of climate change. Adaptation and other methods will

likely be included in future updates to the plan. The Clark Fork Coalition has recently published a report discussing adaptation strategies for the Missoula community.⁵ The report is a synthesis of a two-day Climatewise Community Workshop hosted by the Clark Fork Coalition in 2011. The workshop focused on educating attendees about the impacts of climate change on the local economy and community and developing and discussing strategies designed to address risks and impacts. The City should continue to collaborate with the Clark Fork Coalition as its Climatewise work continues and develops.

Foundation for a Community Wide Conservation & Climate Action Plan

The Municipal Conservation & Climate Action Plan (MCCAP) is to serve as a learning process and foundation for the final goal of developing and implementing a community-wide effort. The City hopes to lead by example and use this plan as a catalyst for positive action in the community. A well developed and supported community-wide Action Plan is necessary to maximize the positive effects on Missoula’s environment, economy, and community. The successful completion and implementation of a Municipal Conservation & Climate Action Plan will allow the City to provide case studies, best practices, and methodology to the community-wide planning process.

Municipal Conservation & Climate Action Plan Objectives

To define what the MCCAP intends to attain or accomplish, Task Force members identified the following plan and process objectives:

- Document Past and Current Conservation & Climate Action Activities
- Set Emissions Reduction Target
- Identify Potential Conservation & Climate Action Strategies
- Evaluate Potential Actions’ Feasibility
- Recommend Implementation Strategy
- Establish Plan for Monitoring and Reporting

⁴ IPCC Fourth Assessment Report: Climate Change 2007: Working Group III: Mitigation of Climate Change - Glossary

⁵ Clark Fork Coalition. “Missoula County Climate Change Primer: Strategies To Care For Our Community, Land & Water.” 2011.

Working Groups

To achieve plan objectives and outline emissions reduction goals, the Task Force identified three areas of focus to craft the Action Plan: Fleet and Facilities, Internal Policies and Practices, and Renewable Energy and Offsets. Each area of focus became a formal subcommittee or Working Group, with Task Force members self-assigning themselves based on expertise and interest. Next, Task Force members suggested additional Working Group members from the community for recruitment. From there, strategy creation was executed at the Working Group level while the Task Force served as the overall vetting and advisory body, as well as Plan and Process architect.

In deciding on Working Group areas of focus, the Task Force recognized the incredible opportunity as well as the complexity of City Operations. To achieve desired results, Working Groups had to be chosen with a holistic approach that encompassed the built environment, human interaction, and emerging technology and innovation.

The focus areas for each working group were created as complementary parts of a whole that will meet the challenge of emissions reductions. Strategies developed by the Fleet and Facilities working group include infrastructure, building energy use, vehicles and equipment, fuel use, and staff commuting. Strategies developed by the Internal Policies and Practices working group include operations policies, workplace culture, purchasing, and employee health and wellbeing. Strategies developed by the Renewable Energy and Offsets working group include renewable energy generation, carbon sequestration projects, and carbon offsets. Overlap and collaboration among strategies was intended and will increase the positive effects of each.

We are lucky in Missoula to have community members who volunteered many hours on the Task Force and Working Groups and who possessed the professional, diverse knowledge and professional skill set to provide the needed ideas, input and technical knowledge to develop robust strategies in each focus area.

Greenhouse Gas Emissions Targets

The greenhouse gas emissions target for the City of Missoula is to be carbon neutral by 2025. Carbon neutrality means that through conservation and reduction measures, along with the purchase of Carbon Offsets, the City's net greenhouse gas emissions will be zero. Achieving carbon neutrality requires the purchase of some form of Carbon Offsets⁶ to account for emissions that remain after conservation and other forms of reduction have been fully explored.

Missoula's baseline amount of annual greenhouse gas emissions is 11,540 mtCO₂e.⁷ Short-term, interim goals were established to encourage beginning reduction activities as soon as possible, and to help measure and track progress towards the overall carbon neutrality target. These goals are:

Target:

Carbon Neutral by 2025

Interim Goal #1:

10% reduction from 2008 baseline by 2015

Interim Goal #2:

30% reduction from 2008 baseline by 2017

Interim Goal #3:

50% reduction from 2008 baseline by 2020

Discussion on how these were established is included in the Methodology section below.

⁶ A Carbon Offset is one metric ton of carbon dioxide equivalent (CO₂e) that is taken out of the atmosphere, or one metric ton of CO₂e that is not emitted to the atmosphere. Carbon Offsets are generated by carbon sequestration or emissions reduction activities that are quantified, reported, verified, validated, and certified via the regulatory or voluntary market.

ClearSky Climate Solutions: www.clearskyclimatesolutions.com

⁷ Missoula Greenhouse Gas Emissions Inventory and Analysis, 2003-2008: Toward a Blueprint for Municipal Sustainability, September 2010.