



Mill Valley 2005 Greenhouse Gas Emissions Inventory Executive Summary



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Mill Valley Greenhouse Gas Inventory

Executive Summary

Climate change, caused by an increase in the concentration of atmospheric greenhouse gases (GHG), has been called one of the greatest challenges facing society today. Potential climate change impacts in Northern California include declining water supplies, spread of disease, diminished agricultural productivity, sea level rise, and increased incidence of wildfire, flooding, and landslides. In addition, volatile energy markets are forcing communities to think differently about their resources. In California, policies to reduce GHG emissions are being implemented including, among others, the Attorney General's efforts to enforce strict new GHG emission standards on cars sold in California and the Global Warming Solutions Act of 2006, otherwise known as Assembly Bill 32 (AB 32). AB 32 requires that the State's GHG emissions be reduced to 1990 levels by 2020 which is about a 25% reduction under business-as-usual estimates. Local governments will have substantial responsibilities in reaching this goal. Fortunately, local governments are in a unique position to lead an intelligent and timely response to these challenges in a way that will keep them, and their communities, ahead of market and regulatory trends. With decisive action on climate and energy matters, Mill Valley and its community will be strategically positioned to benefit and flourish in this emerging arena.

In joining the Marin Climate and Energy Partnership,

and in signing the US Conference of Mayors Climate Protection Agreement,¹ Mill Valley recognizes that climate change is a reality, and that human activities are responsible for increasing the concentration of atmospheric greenhouse gases—the primary drivers of climate change. Mill Valley understands that climate change has the potential to significantly impact Mill Valley's residents and businesses and other communities around the world. Mill Valley also recognizes that local governments play a strong role in reducing GHG emissions and mitigating the potential impacts of climate change. A range of actions can dramatically reduce these emissions from the local community and government operations including increasing energy efficiency in buildings and vehicle fleets, bolstering the use of clean, renewable energy sources, establishing land use and transportation plans that reduce vehicle use, and encouraging waste reduction. The benefits of these measures include lower energy bills, improved air quality, economic development, reduced emissions, and an enhanced quality of life throughout the community. Mill Valley has begun its efforts to address the causes and effects of climate change with the assistance and partnership of the members of Marin Climate and Energy Partnership (MCEP). These partners include the County of Marin, all 11 municipal governments in the County of Marin, the Marin Municipal Water District (MMWD), the Transportation Authority of Marin (TAM), the Marin Energy Management Team (MENT), and ICLEI-Local Governments for Sustainability.

¹ See Appendix E for more information on the US Mayors Climate Protection Agreement



In March 2009, Mill Valley updated our government operations and community-scale greenhouse gas emissions inventory as an important step in our climate protection efforts. These inventories provide the following:

- Estimates of GHG emissions in 2005 from City operations and community-wide.
- A baseline inventory, against which to measure future progress.
- Documentation of the highest sources of emissions, and therefore where the greatest opportunities for emissions reductions lie.

Government operations emissions have been categorized according to seven primary sectors:

1. Buildings & facilities
2. Streetlights, traffic signals, and other public lighting
3. Water delivery facilities
4. Wastewater facilities
5. Vehicle fleet
6. Government-generated solid waste
7. Employee commute

Community emissions have been categorized according to four primary sectors:

1. Residential
2. Commercial / Industrial ²
3. Transportation
4. Waste
5. Government Operations Inventory Results

² Emissions from government operations are included as a subset of the Commercial / Industrial sector.

Government Operations Inventory Results

In 2005, Mill Valley operations emitted approximately 3,002 metric tons (tons) of CO₂e³, which is about 3% of total community emissions. As shown in Figure A and Table A, Wastewater Treatment was the largest emitter (38.1%) in 2005. Emissions from Buildings produced the second highest quantity of emissions, resulting in 22 % of total CO₂e; and Vehicle Fleet produced 16 % of total emissions. The remainder of emissions came from Employee Commute (15.4 %), Waste (3.9 %), Lighting (3.1 %), and Water Distribution (1.4 %).

³ This number includes all Scope 1 emissions from the on-site combustion of fuels in facilities and vehicles, Scope 2 emissions from the purchase of electricity, and Scope 3 emissions from waste generated by local government operations and emissions associated with employee commute patterns.

Figure A: 2005 Government Operations CO₂e Emissions

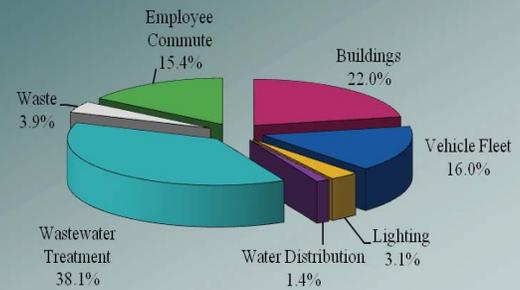


Table A: 2005 Government Operations Emissions by Sector

Sector	Greenhouse Gas Emissions (metric tons CO ₂ e)	Greenhouse Gas Emissions (% CO ₂ e)	Energy Equivalent (million Btu)	Cost (\$)	% of Total Cost
Wastewater Treatment	1,143	38.1%	6,945	\$251,400.00	35.6%
Buildings	660	22.0%	11,283	\$244,621.00	34.7%
Vehicle Fleet	481	16.0%	6,634	\$138,138.00	19.6%
Employee Commute	464	15.4%	6,000	\$0.00	0.0%
Waste	117	3.9%	-	\$0.00	0.0%
Lighting	94	3.1%	1,376	\$45,529.00	6.4%
Water Distribution	43	1.4%	567	\$26,193.00	3.7%

Community Inventory Results

In 2005, the Mill Valley community emitted approximately 94,878 metric tons of CO₂e. As shown in Figure B and Table B below, the Transportation Sector was by far the largest source of emissions, generating approximately 50,397 metric tons of CO₂e, or 53.1 percent of total 2005 emissions. Transportation sector emissions are the result of diesel and gasoline combustion in vehicles traveling on local roads. Electricity and natural gas consumption within the Residential Sector, the second greatest source of 2005 emissions, generated 28,563 metric tons CO₂e, or 30.1 percent of the total. Similarly, electricity and natural gas use in Mill Valley's Commercial/Industrial Sector produced 12,192 metric tons CO₂e, or 12.9 percent of total community emissions. The remaining 3.9 percent (3,727 metric tons) are the estimated future methane emissions that will result from the decomposition of waste that was generated by the Mill Valley community during 2005.

Figure B. 2005 Community CO₂e Emissions

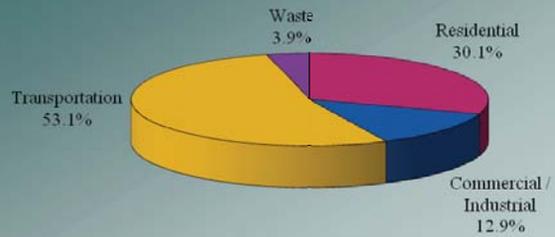


Table B: 2005 Community Emissions Summary by Sector

Sector	Greenhouse Gas Emissions (metric tons CO ₂ e)	Greenhouse Gas Emissions (% CO ₂ e)	Energy Equivalent (million Btu)
Transportation	50,397	53.1%	689,147
Residential	28,563	30.1%	496,243
Commercial / Industrial	12,192	12.9%	192,885
Waste	3,727	3.9%	0
TOTAL	94,878	100.0%	1,378,275

Key Findings

Government Operations

- Mill Valley's government operations produced approximately 3,002 metric tons of CO₂e in year which is about 3.2 percent of total community emissions.
- The Wastewater Treatment Sector was the greatest source of government operations greenhouse gas emissions in 2005, producing 1,143 metric tons of CO₂e, or 38.1 percent of total government emissions.
- The Building Sector was the second greatest source of government operations greenhouse gas emissions, producing 660 metric tons of CO₂e, or 22.0 percent of total government emissions.
- The Vehicle Fleet Sector produced 481 metric tons CO₂e, or 16.0 percent of government emissions.
- Employee Commutes produced 464 metric tons CO₂e, or 15.4 percent of government emissions.
- The Waste Sector produced 117 metric tons of CO₂e, or 3.9 percent of government emissions.
- The Lighting Sector produced 94 metric tons CO₂e, or 3.1 percent of government emissions.
- The Water Distribution Sector produced 43 metric tons CO₂e, or 1.4 percent of government emissions.

Community-wide

- Mill Valley's community produced approximately 94,878 metric tons of CO₂e in 2005.
- The Transportation Sector was the greatest source of community greenhouse gas emissions in 2005, producing 50,397 metric tons of CO₂e, or 53.1 % of total community emissions.
- The Residential Sector was the second greatest source of community emissions, producing 28,563 metric tons of CO₂e, or 30.1% of total community emissions.
- The Commercial/Industrial Sector emitted 12,192 metric tons of CO₂e, or 12.9 percent of community emissions.
- The Waste Sector was the smallest source of community emissions, producing 3,727 metric tons of CO₂e, or 3.9 percent of community emissions.
- The Commercial/Industrial Sector emitted 12,192 metric tons of CO₂e, or 12.9 percent of community emissions.
- The Waste Sector was the smallest source of community emissions, producing 3,727 metric tons of CO₂e, or 3.9 percent of community emissions.

