

# Town of Montezuma Climate Action Plan: Executive Summary



The Town of Montezuma strives to preserve and sustain its beautiful, historic and livable environment for many generations to come. The Climate Action Plan (CAP) serves to inform residents of the numerous potential impacts that climate and the environment will exert on the Montezuma community. It provides information that will allow the town and its residents to be prepared and meet the challenge together. Future concerns are addressed in the Plan from three perspectives: increased energy efficiency, reduction of emissions and the increased use of renewable resources. **To view the final CAP document, visit <http://townofmontezuma.org/>.**

The Plan also includes a technical appendix document, or Appendix C: Action Strategy Summary Document. This document includes detailed information about each emissions reduction strategy, including strategy descriptions, calculations and sourcing information, potential cost savings, potential emissions reductions, payback periods, co-benefits of implementing each strategy, and case-study examples of where each strategy has been implemented successfully elsewhere.

The town's emissions are broken down into two categories: 1) emissions from municipal operations and 2) emissions from the community-at-large. The Plan includes strategies that could help reduce emissions from both municipal operations and the community. The town's goal is to reduce municipal emissions by 50% by the year 2025 and to reduce community emissions by 10% by the year 2025.

The Plan includes charts and graphs to explain what can be accomplished and the benefits of actions once they are implemented. A blueprint for climate adaptability by the Town of Montezuma is also explained in an outline at the end of the CAP document.

The Plan leads the way to a successful coalition of all the community's sectors towards building a better future for the residents of Montezuma. The Montezuma community is encouraged to utilize the recommendations in the CAP to continue to take steps to reduce energy use, encourage sustainable development, and reduce emissions.

# Greenhouse Gas (GHG) Inventory Summary: 2010 Baseline Year

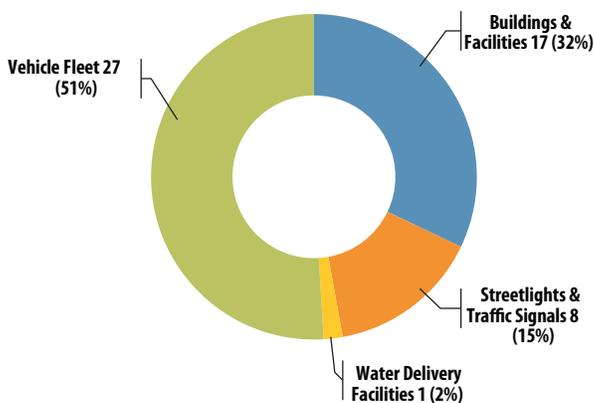
## What is a GHG Inventory?

The first step in climate action planning is to compile a GHG inventory. A GHG emissions inventory is an audit of activities that contribute to the release of emissions, such as burning fossil fuels for energy. For Montezuma's GHG inventory, energy use and waste generation information for the 2010 year was gathered and methods of calculation explained in the Local Government Operations Protocol and the U.S. Community Operations Protocol developed by ICLEI-Local Governments for Sustainability were utilized to generate emissions figures.

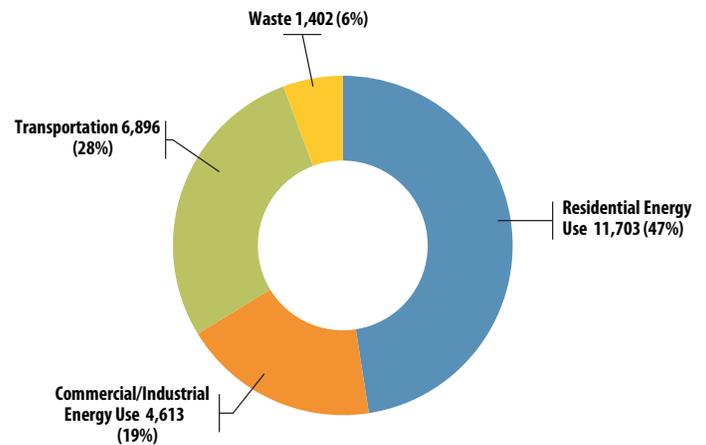
Data regarding municipal and community-wide energy use and waste production were entered into ICLEI's ClearPath software, which then produced emissions figures. Data from the inventory can be used to guide policy decisions and energy improvements, inform sustainability projects, and build public support for broader sustainability initiatives in the Town of Montezuma.

Montezuma's GHG inventory reported emissions of 53 MTCO<sub>2</sub>e from municipal operations and 24,976 MTCO<sub>2</sub>e from the community at large in the 2010 baseline year, with 6,898 MTCO<sub>2</sub>e total after removing thruway through-traffic. The GHG inventory serves as the baseline for the Climate Action Plan.

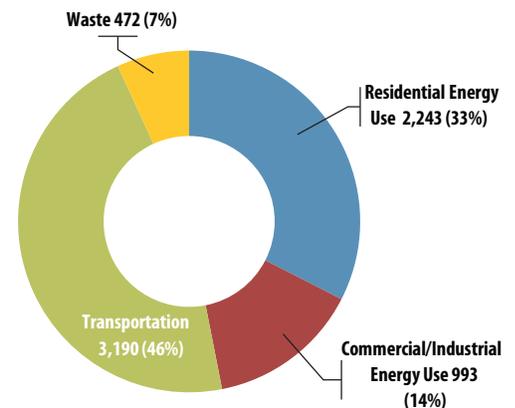
## 2010 Municipal Operations Emissions (53 MTCO<sub>2</sub>e)



## 2010 Community Emissions (24,976 MTCO<sub>2</sub>e)



## 2010 Community Emissions, Thruway Removed (6,898 MTCO<sub>2</sub>e)



1 MTCO<sub>2</sub>e =

-  CO<sub>2</sub> emissions from 112 gallons of gasoline consumed
-  CO<sub>2</sub> emissions from 2.3 barrels of oil consumed
-  CO<sub>2</sub> emissions from 41.7 propane cylinders used for home barbecues
-  Carbon sequestered by almost 1 acre of U.S. forests in one year

## Did You Know...?

MTCO<sub>2</sub>e stands for metric tons of carbon dioxide equivalent. MTCO<sub>2</sub>e is the metric used to describe emissions from greenhouse gases such as carbon dioxide, methane, and nitrous oxide. Because these gases have different global warming potentials, they are converted and aggregated into a single metric, MTCO<sub>2</sub>e, in order to explain GHG emissions information.

# Climate Action Plan Summary

## How was the Plan developed?

Montezuma's Climate Action Plan was developed by an advisory committee made up of Barbara Culotti, Donald Ellinwood, Marian Ellinwood, John Fordyce, Carol Fordyce, Cheryl Longyear, John Malenick, and Joe Verdi. The committee was provided technical assistance by the Central New York Regional Planning and Development Board (CNY RPDB). CNY RPDB provided information and suggestions to the advisory committee as to which energy efficiency strategies would be most successful in the town based on calculations regarding potential emissions reductions, cost savings, energy savings, and payback period. For more information on how the strategies were developed, including calculations of monetary savings, payback periods, assumptions and references, refer to **Appendix C: Action Strategy Summary Document**, found at <http://townofmontezuma.org/>. To view the final Climate Action Plan document, please also visit <http://townofmontezuma.org/>.

## How will the Plan be implemented?

In order to implement the strategies in the Climate Action Plan and achieve Montezuma's sustainability goals, the Plan should be implemented by the town with the help of relevant groups and stakeholders, such as the advisory committee, CNY RPDB, and others.

### Municipal Operations Analysis

2010 Emissions: **53** MTCO<sub>2</sub>e

Estimated emissions reductions by 2025 from strategy implementation: **35** MTCO<sub>2</sub>e

Total estimated cost of implementation: **\$99,206**

Total estimated annual cost savings: **\$21,550**

Estimated payback period: **4.60** years

### Municipal Operations Strategies Included in Climate Action Plan

- Municipal solar PV
- Efficient vehicles
- Lighting occupancy sensors
- Energy efficiency retrofits at DPW Garage
- LED streetlights
- Reduce fleet mileage
- Energy efficiency behavior changes

### Community Analysis

2010 Emissions: **24,976** MTCO<sub>2</sub>e, **6,898** MTCO<sub>2</sub>e without thruway emissions

Estimated emissions reductions by 2025 from strategy implementation: **876** MTCO<sub>2</sub>e

Total estimated cost of implementation: **\$1,768,527**

Total estimated annual cost savings: **\$342,119**

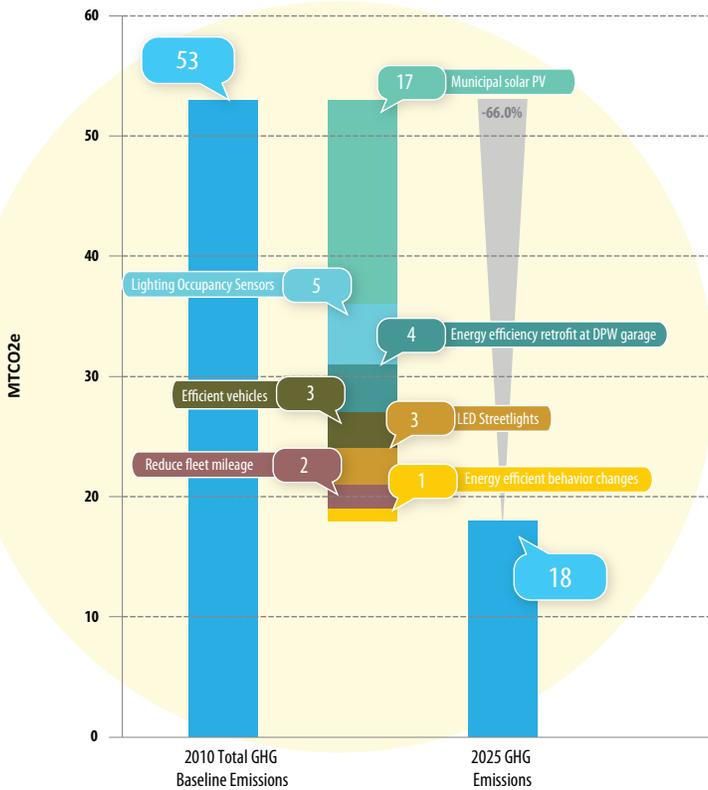
Estimated payback period: **5.17** years

### Community Strategies Included in Climate Action Plan

- Weatherization of homes
- Energy efficiency education: Residents
- Encourage telecommuting
- Expand bicycling infrastructure
- Wind energy generation
- Loans for energy efficiency retrofits
- Conversion to hybrid vehicles
- Increase walking-friendly environments
- Residential solar PV
- Energy efficiency education: Businesses
- Tree planting
- Lighting occupancy sensors
- Organics composting
- Geothermal heating/cooling
- Create single waste district for town

# Estimated Emissions Reductions by Strategy

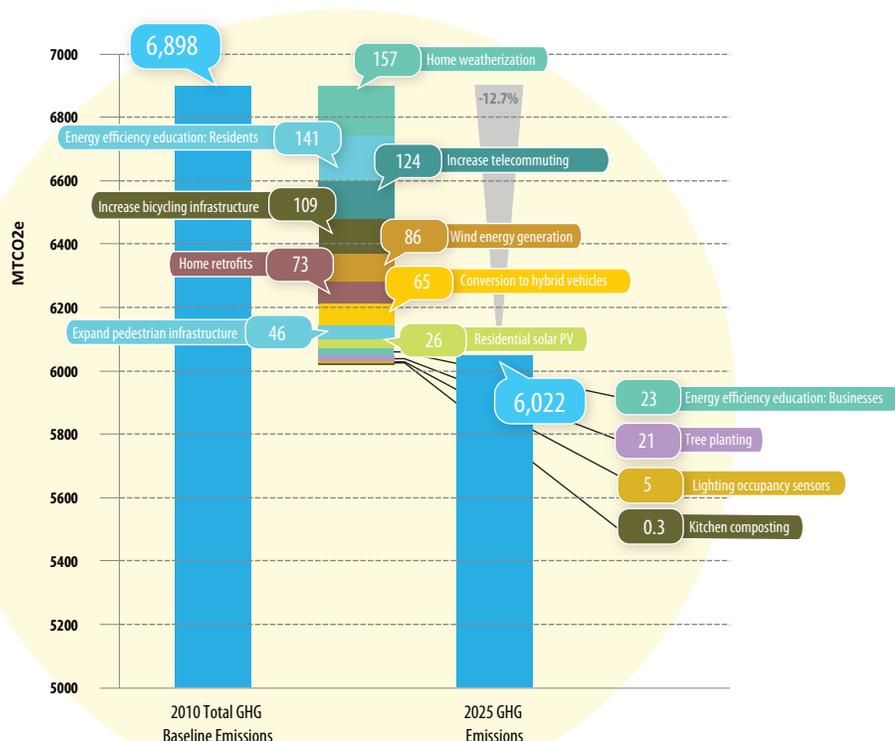
## Municipal Operations Strategies



The graph to the left shows Montezuma's 2010 baseline municipal emissions as recorded by the GHG inventory report, potential reductions due to suggested strategies, and potential emissions in 2025 should each of the suggested strategies be implemented. It is estimated that there will be a 66.0% reduction in municipal emissions if all suggested strategies are implemented. For more detailed information about these strategies, please refer to the Climate Action Plan and Appendix C: Action Strategy Summary Document.

## Community Strategies, Thruway Emissions Removed

The graph to the right shows Montezuma's 2010 baseline community emissions as recorded by the GHG inventory report, potential reductions due to suggested strategies, and potential emissions in 2025 should each of the suggested community reduction strategies are implemented, or a 12.7% reduction with thruway emissions removed. For more detailed information about these strategies, please refer to the Climate Action Plan and Appendix A: Action Strategy Summary Document.



Key:

17 Municipal solar PV

— Emissions reduction strategy name

— Illustrates emissions reductions in MTCO2e