

Cazenovia Climate Action Plan: Executive Summary



Cazenovia is working to protect and sustain a beautiful, historic and healthy environment. A Climate Action Plan (CAP) was developed by town and village representatives and local organizations in order to inform residents of actions that can be taken to reduce potential threats from flooding, stormwater runoff, and additional impacts from anticipated changes in the frequency and intensity of storm events.

Cazenovia's goal is to reduce overall emissions by 20% from the greenhouse gas inventory baseline years for the town (2010) and village (2011) by the year 2025. The CAP focuses on ways to reach that goal through energy efficiency, emissions reduction, and through the increased use of renewable resources. Information about Cazenovia's emissions is presented in two categories: 1) emissions from municipal operations and 2) emissions from the community-at-large. The CAP includes strategies that are designed to reduce emissions from both municipal operations and the community in both the town and the village. The report includes charts and graphs to explain what can be accomplished and the benefits of actions once they are implemented. A summary of climate adaptability by the town and village is also presented in an outline at the end of the CAP document.

In addition to the primary report, the CAP also includes two technical appendices. The Action Strategy Summary Document for the village is located in Appendix C, **available at www.villageofcazenovia.com**, and the Action Strategy Summary document for the town is located in Appendix D, **available at www.townofcazenovia.org**. These documents provide detailed information about each emissions reduction strategy, including strategy descriptions, calculations, source information, potential cost savings and emissions reductions, payback periods, co-benefits, and examples of municipalities in New York State where the strategies have been successfully implemented.

The CAP leads the way for all community sectors to build a better future for Cazenovia. The town and village are encouraged to implement the CAP recommendations in order to reduce energy use, encourage sustainable development, and to provide cost savings for the community.

To view the final CAP document, visit www.villageofcazenovia.com or www.townofcazenovia.org.



Climate Smart
Communities



Greenhouse Gas (GHG) Inventory Summary

What is a GHG Inventory?

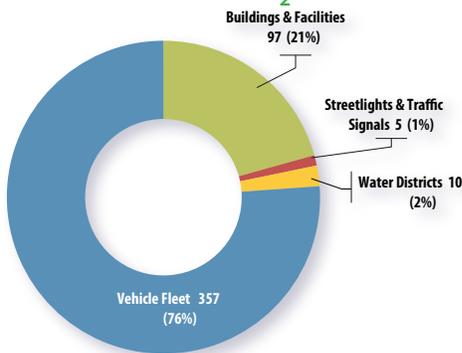
The first step in climate action planning is to compile a GHG inventory. A GHG emissions inventory is an audit of activities that contribute to the release of emissions, such as burning fossil fuels for energy. For the town's GHG inventory, energy use and waste generation information for the 2010 year 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. The village underwent the same process with a 2011 baseline year.

Data regarding municipal and community-wide energy use and waste production were entered into ICLEI's Clean Air

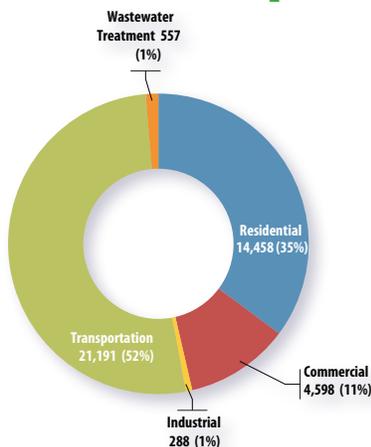
Climate Protection (CACP) software, which then produced emissions figures. Data from the inventory is now being used to guide policy decisions and energy improvements, provide information about sustainability projects, and build public support for broader sustainability initiatives in Cazenovia.

The Town of Cazenovia's GHG inventory reported emissions of 469 MTCO₂e from municipal operations and 41,092 MTCO₂e from the community at large in the 2010 baseline year, while the Village of Cazenovia's GHG inventory reported emissions of 234 MTCO₂e from municipal operations and 16,445 MTCO₂e from the community at large in the 2011 baseline year. The GHG inventories serve as the baseline for the Climate Action Plan.

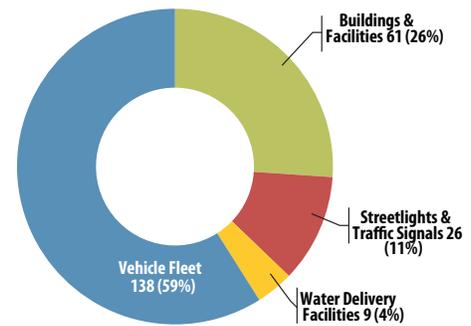
2010 Town Municipal Operations Emissions (469 MTCO₂e)



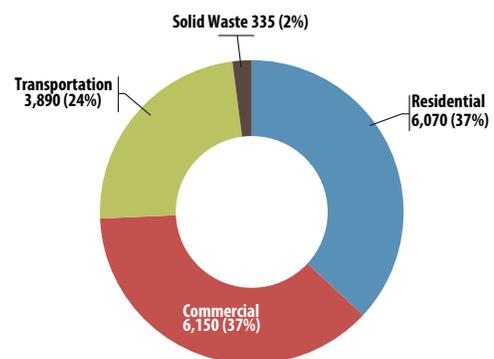
2010 Town Community Emissions (41,092 MTCO₂e)



2011 Village Municipal Operations Emissions (234 MTCO₂e)



2011 Village Community Emissions (16,445 MTCO₂e)



1 MTCO₂e =

-  CO₂ emissions from 112 gallons of gasoline consumed
-  CO₂ emissions from 2.3 barrels of oil consumed
-  CO₂ 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...?

MTCO₂e stands for metric tons of carbon dioxide equivalent. MTCO₂e 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, MTCO₂e, in order to explain GHG emissions information.

Climate Action Plan Summary

How was the Plan developed?

Cazenovia's Climate Action Plan was developed by an advisory committee made up of municipal representatives and community leaders from the League of Woman Voters, Chamber of Commerce, Cazenovia College, Cazenovia Preservation Foundation, and Energy Training Solutions. The Central New York Regional Planning and Development Board (CNY RPDB) provided information and suggestions to the advisory committee as to which energy efficiency strategies would be most successful in Cazenovia 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 Appendices C and D, found on the town and village websites.

How will the Plan be implemented?

Town and village staff are encouraged to work with community members and groups, such as the advisory committee, CNY RPDB, and others, to implement the strategies in the CAP, review the progress made on an annual basis, and re-evaluate emission reduction goals.

Municipal Operations Analysis

2010 Town emissions: **469** MTCO₂e
2011 Village emissions: **234** MTCO₂e

Estimated emissions reductions by 2025 from strategy implementation: **386** MTCO₂e

Total estimated cost of implementation: **\$760,810**

Total estimated annual cost savings: **\$139,018**

Estimated payback period: **5.47** years

Municipal Operations Strategies Included in the Climate Action Plan

- Conversion to hybrid vehicles
- Conversion to biodiesel
- Conversion to electric vehicles
- Energy efficient retrofits to existing facilities
- Lighting occupancy sensors
- Power-down at night policy
- Indoor lighting retrofits
- Equipment retrofit- buy EnergyStar appliances
- Install low-flow faucets and toilets
- Install LED streetlights
- Implement variable flow water pumps
- Install solar PV
- Install geothermal heating at Town Garage
- Micro-hydroelectric power

Community Analysis

2010 Town emissions: **41,092** MTCO₂e
2011 Village emissions: **16,445** MTCO₂e

Estimated emissions reductions by 2025 from strategy implementation: **7,778** MTCO₂e

Total estimated cost of implementation: **\$12,551,320**

Total estimated annual cost savings: **\$11,500,210**

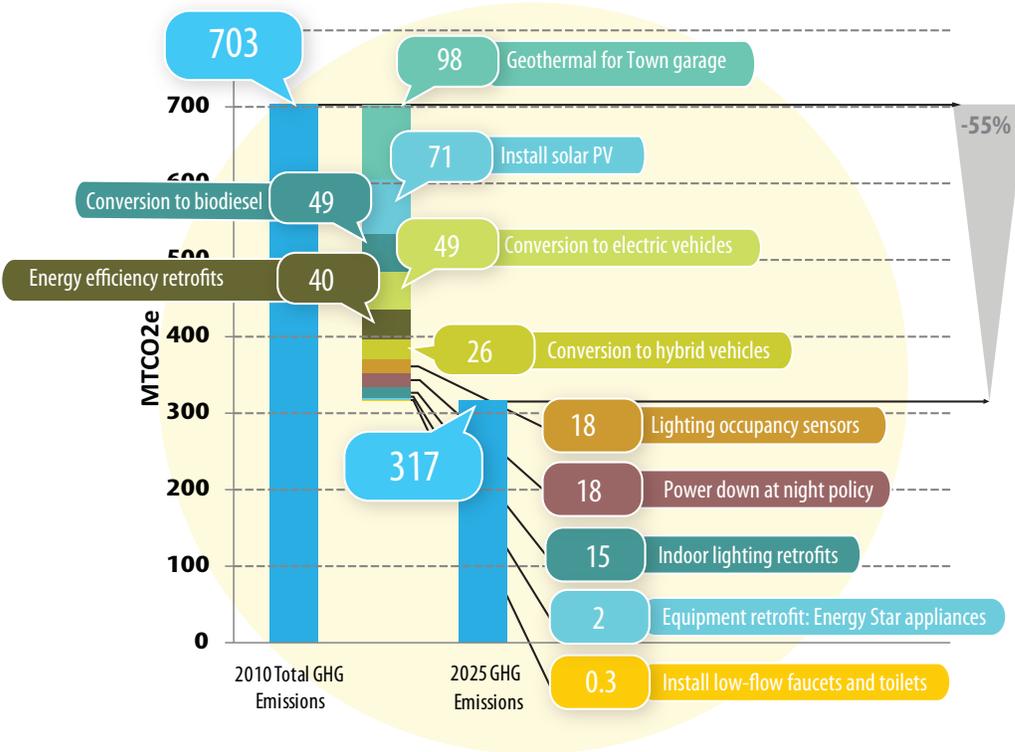
Estimated payback period: **1.09** years

Community Strategies Included in the Climate Action Plan

- Expand bicycling infrastructure
- Convert to higher efficiency vehicles
- Improve/expand pedestrian infrastructure
- Promote carpooling/vanpooling
- Increase telecommuting
- Increase bus ridership to and from school
- Provide bicycles for daily trips (bike share)
- Conversion to electric vehicles
- Electric vehicle recharging facilities
- Energy efficiency behavior changes through educational campaigns: residents and businesses
- Home weatherization
- Energy efficiency improvements: residents
- Lighting occupancy sensors
- Power-down at night policy
- Energy efficiency retrofits to commercial facilities
- Residential and commercial solar PV
- Geothermal heat pump
- Equipment retrofit- buy EnergyStar appliances
- Install low-flow faucets and toilets
- Tree planting
- Yard waste composting
- Enhance curbside recycling

Estimated Emissions Reductions by Strategy

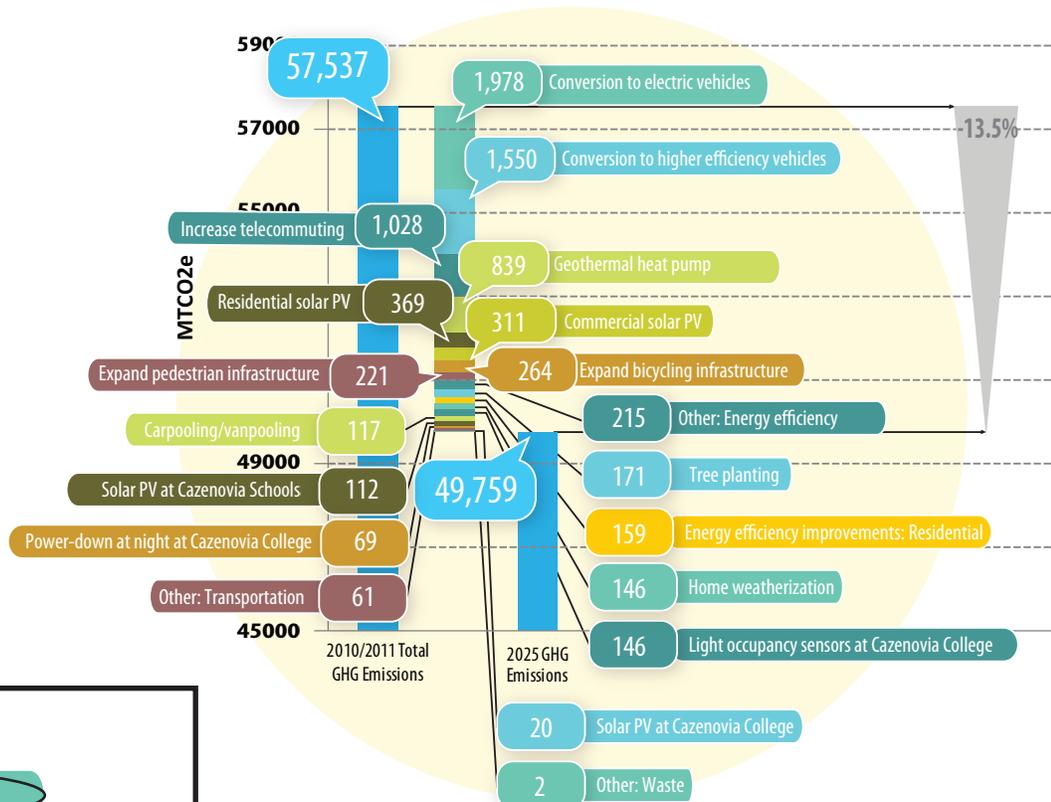
Municipal Operations Reduction Strategies



The graph to the left shows Cazenovia's baseline municipal emissions as recorded by the GHG inventory reports, potential reductions due to suggested mitigation strategies, and potential emissions in 2025 should each of the suggested strategies be implemented. It is estimated that there will be a 55% reduction in municipal emissions if all suggested mitigation strategies are implemented. For more detailed information about these strategies, please refer to the Climate Action Plan and Appendices C and D.

Community Reduction Strategies

The graph to the right shows Cazenovia's baseline community emissions as recorded by the GHG inventory reports, potential reductions due to suggested mitigation strategies, and potential emissions in 2025 should each of the suggested mitigation strategies be implemented. It is estimated that there will be a 13.5% reduction in community emissions if all suggested community reduction strategies are implemented. For more detailed information about these strategies, please refer to the Climate Action Plan and Appendices C and D.



Key:

98 Geothermal for Town garage

— Emissions reduction strategy name

— Illustrates emissions reductions in MTCO2e