



Local Response to Climate Change

June 2016



Cazenovia League of Women Voters

Local Response to Climate Change

The town and village of Cazenovia have been proactive in promoting efforts to protect and sustain a beautiful, historic and healthy environment. As an example of these efforts, a Climate Action Plan (CAP) was developed in 2015 as a partnership between the town and village, and with assistance from the CNY Regional Planning Board. It includes a list of recommendations to reduce local impacts of climate change such as flooding, stormwater runoff, and strong storm events. The town and village established a goal for Cazenovia to reduce overall greenhouse gas emissions by 20% by the year 2025. The CAP provides a plan to reach that goal through energy efficiency and through the use of renewable resources such as solar and wind.

In 2016, the Cazenovia League of Women Voters joined several other community members to evaluate how much progress had been made during the past year since the CAP was completed. Our group met with representatives from the town and village, Cazenovia College, CACDA, the School District, the Public Library, and the Madison County Planning Department. We compiled information on what CAP recommendations had been implemented and what plans were in place for the coming year. This report contains a summary of our findings. As you will see on the following pages, Cazenovia is at the forefront of energy sustainability in New York State and we have much to be proud of.

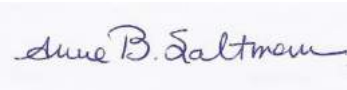
Collection of information for this report has been a group effort. On behalf of the League of Women Voters, I would like to thank the following people that provided information and conducted interviews with local groups:

Anne Redfern
Wendy Taylor
Susan Berger
Tim Hunt

Scott Ingmire
Dave Porter
Lauren Lines
Mat Webber

Chuck Amos
Betsy Kennedy
Matt Erwin
Karen Cowherd

The Cazenovia Climate Action Plan is available on the town and village websites. Please feel free to contact me at anne.b.saltman@gmail.com if you would like additional information.



Anne B. Saltman
League of Women Voters



Town of Cazenovia

Anne Redfern collected this information during an interview with Tim Hunt, Cazenovia Town Highway Superintendent.

Energy Conservation and Emissions Reduction

The old highway garage in New Woodstock was demolished and replaced with a new building that will be used as the State Police substation. The new building has all LED lighting, a high-efficiency propane furnace meeting Energy Star guidelines, and a double amount of insulation.

The Town Highway Garage upgraded all lighting two years ago and is now applying for a grant from National Grid to further upgrade the lighting to all LED. There are lighting occupancy sensors and a power-down at night policy.

Frequent planned replacement of the Highway Department vehicles allows the fleet to remain up-to-date and to meet all current fuel emission standards. The installation of municipal solar PV is awaiting a county-wide solar PV initiative.

Renewable Energy

The town has one micro-hydro turbine in place and has a plan to add an additional turbine and possibly an associated solar installation. This is a demonstration project with SUNY Morrisville. The energy produced would be used for the Town's power needs.

Adaptation to Climate Change

The Town is continuing to focus on storm water management practices. It has completed two major projects - one on Ridge and Wright Roads and the other on Lincklaen Road that are improving water infrastructure and maintenance.

Village of Cazenovia

Dave Porter, Village Trustee, provided the following information.

- The Village has embraced the concept of "The Walkable Village" and has been working to expand connectivity within neighborhoods and to existing trail systems. Recent activity includes development of a linear park along Riverside Drive/Chittenango Creek. Additionally, the Village is looking forward to connecting to the athletic fields on Fenner Road via a new pedestrian access- this project is being pursued in concert with the Town.
- The Village Code requires that new developments be provided with sidewalks to promote walking within the Village. The Village has been very supportive of efforts to extend



walking trails that pass through the Village. A 2015 development of a creek-side walkway along Chittenango Creek extends a walkway from Chenango Street to Route 20.

- As building HVAC systems experience high levels of maintenance, systems are replaced with newer efficient systems. The Village Hall had new gas-fired boilers installed in 2013. Gas furnaces at Carpenter's Barn and the Burton St. building were replaced in 2015 and 2014 respectively.
- Possible resolution to require purchase of Energy Star appliances by Village (it is getting harder to purchase non-energy star appliances)
- Some lighting occupancy sensors have been installed but this is not widespread. The computers and electronics are manually powered down at night.
- Most of the Village lighting in highly occupied buildings was upgraded from T12 fixtures to T8 fixtures in 2012. Some buildings still have T12 fixtures. Currently no buildings have lighting occupancy sensors.
- The Village is participating with the Central New York Regional Planning and Development Board's (CNY RPDB) Community Solar project. It is anticipated that a 205 kW PV installation will take place at the Village Water Treatment Plant site.
- The Village has an active Tree Commission which works to maintain the village tree inventory. This includes pruning, health assessment, removal of hazardous or aging trees, and planting of new trees. The Tree Commission plants approximately 10-20 new trees per year, depending on conditions, sites, and budget. The Village budget provides a dedicated annual Shade Tree allowance, and also has a capital fund specific to trees. The Tree Commission has maintained a 1:1 replacement ratio for all removed trees, and is working toward 2:1. In addition to tree work, the Tree Commission provides educational seminars, volunteer opportunities, and an annual Arbor Day observance for the community. Village-wide tree regulations were drafted and passed in 2010. The Village of Cazenovia has met the standards for and maintained Tree City USA status for five years.

Water conservation

The Village has not historically pursued water conservation measures aggressively. Despite an aging and not completely water-tight water infrastructure, there has been an approximate 20% reduction in annual water usage in the Village since 1995 (1%+- per year). This reduction may be attributed to prompt identification and repair of system leakage, demographic changes, changes in water usage patterns, and government-mandated adoption of low flow plumbing fixtures. Consequently, there is existing capacity within the water distribution system to serve new business and residential customers.

Cazenovia Lake water quality

In conjunction with the Cazenovia Lake Watershed Council, Cazenovia Lake Association and the Town of Cazenovia, the Village works to sustainably maintain the quality of Cazenovia Lake. Through better planning, zoning and road design, stormwater runoff is better controlled during major storms. In advance of New York State regulations, a ban on phosphorus fertilizers was enacted to reduce weed growth and to help curtail Blue-Green Algal Blooms that appear to occur more frequently as water temperatures rise. Research continues on a multitude of approaches to maintain lake quality in the face of environmental changes.

Storm sewer separation

A year prior to the adoption of the Climate Action Plan, the Village pursued a storm sewer separation project in the Village Center. In this project, funded by EFC, and where the Village provided in-kind construction services, roof drain systems on numerous Albany St. businesses were diverted from the sanitary sewer collection system to the storm sewer system. Another storm-to-sanitary sewer separation project on Seminary and Lincklaen Streets is being evaluated wherein additional roof drain

systems would be diverted. Reductions in non-polluted water flow to the Madison County (soon to be Town of Cazenovia) Wastewater Treatment Plant, results in reduced electrical consumption and chemical consumption at the treatment plant. Additionally, sanitary sewer flow reduction measures free capacity within existing sewer infrastructure.

Solar installations

As mentioned above, the Village is planning to install a ground-based 200 kW photovoltaic array at the Village Water Treatment Plant site and hopes to enter into a net metering, Purchased Power Agreement (PPA) contract with a third-party solar provider. This program is funded by the New York State Energy Research and Development Authority (NYSERDA) and is administered by the CNY RPDB.

Street lights

During the past two years, the Village has been interested in pursuing a street lighting retrofit project to replace existing street lamps or fixtures with LED type lamps or fixtures. The Village entered into an agreement with a third-party energy service provider to pursue such a project. Early into the project, resistance from the electric utility was encountered in the form of lethargic response to inquiries and a forecasted high buy-back rate for utility-owned street lights. The financial obstacles encountered resulted in a stalled project. More recently, the Village has developed an interest in a street light replacement project being explored by the CNY RPDB. Reducing street light electric consumption (currently about 60% of total electrical consumption for Village) would likely result in more than a 50% reduction in street lighting electrical power, or, a 30% reduction in overall Village electrical consumption (village-owned facilities only).



Cazenovia Public Library

The following information was submitted by Betsy Kennedy, Director of the Cazenovia Public Library.



The Cazenovia Public Library has implemented several measures to improve energy efficiency. In the original historic building, insulation was added to the attic and basement; new ballasts and bulbs were installed in all the lights; energy efficient windows were installed that are historically correct; a new energy efficient boiler was purchased, and energy efficient storm windows were added to the west wall.

Improvements were also made to the library addition. Insulation was added to portions of the ceiling; new ballasts and bulbs were purchased for all the lights; and two ceiling fans were added for improved circulation. All outdoor lights were replaced with energy efficient bulbs.

Cazenovia College

Anne Saltman collected the following information from Susan A. Berger, EdD, ANP Executive Vice President and Director of Health Services

During the past year, the College has worked on implementing the following recommendations that are included in the Cazenovia Climate Action Plan.

- Provided bicycles for daily trips (bike share) - This did not work out as yet due to low volume.
- Lighting occupancy sensors were installed in various areas and new construction
- Power-down at night policy (powering down computers and other electronics) is done where it is feasible – such as when staff are out of the office for extended periods.
- 192 solar PV panels were installed in 2010.

The College pursued the following additional actions that have reduced energy use or emissions in Cazenovia:

- All new HVAC equipment is energy efficient to the latest standards
- All new building renovation and new construction incorporates energy efficient standards and equipment
- Energy consumption is monitored and reviewed routinely for the best options
- Exterior lighting is monitored and reviewed to meet Village requirements
- New construction and renovations comply with Dark Sky code

The College is continually reviewing the best technology options for all our upcoming projects and day-to-day operations to reduce energy use/emissions. The following "green" initiatives have been implemented by the Cazenovia College Dining Services:



- 100% of distributors are within Central New York
- Many product brands have been and continue to be changed to local products
- Every product container that can be recycled, is
- The tray-less Dining Hall conserves water and reduces food waste
- All used fryer oil is recycled
- Bottle collection units from Coca-Cola have been placed around campus
- All paper products are made from recycled products.
- A program will be in place for the Fall 2016 semester for reusable to-go containers
- Utilizing dispenser water service for refreshment needs instead of bottled water
- Reduced food waste dramatically through better planning and accountability
- Conducting more business matters electronically, recycle all paper media and use double-sided printing when possible



Cazenovia Central School District

Anne Redfern and Chuck Amos collected the following information from Matt Erwin (Director of Facilities) and Karen Cowherd (Transportation Department)

In 2010, daylight harvesting lighting controls were installed in High school and Middle school classrooms. This technology dims electric lights based on the amount of natural light available thus saving on electrical use. Some insulation (roofing) and many new windows were installed.

In 2014, LED security and emergency lights as well as some interior lighting at Burton St and the Bus Garage were installed.

In 2015, insulation improvements were incorporated with new roofing work. Many windows were replaced with more efficient glazing. Four new 95% efficiency natural gas boilers and 240 new heat pumps were installed in the High school and Middle school. New variable speed pumps and controls were installed for circulation of heating and cooling water. Additional lighting upgrades occurred at Burton Street and new dish washing machines were installed at both buildings resulting in water conservation as well as electrical efficiency improvements. In addition several transformers and electrical service panels were replaced resulting in improved efficiency.

The district is currently exploring options for an Energy Performance Contract (EPC). This type of project work is paid for entirely with the energy savings obtained by the work performed. We are considering incorporating a solar PV component to this work along with additional LED lighting, new boilers at Burton St and the Bus Garage, and some improvements to our building envelopes such as insulation and windows. We will be working with our Architects and Engineers to finalize this scope of work over the coming year and hope to create a viable project within the next 2-3 years.

Karen Cowherd (Transportation Director) reported that the district is implementing a well thought out plan to manage the fleet of buses and support vehicles. These will be rotated out of service on an 8 yr cycle and will be covered under extended warranties to better manage maintenance and repair costs while providing safe reliable service to our students and community. By operating a newer fleet we also benefit from increased efficiency and drastically reduced emissions, as well as much better resale value.



Cazenovia Area Community Development Association (CACDA)

Anne Saltman collected the following information from Lauren Lines, Director of CACDA.

CACDA has implemented programs that encourage walking and biking, and that protect farmland and open space. The Lakeland Park Planning Project will improve pedestrian circulation and the trees will help to reduce soil erosion and sedimentation loading to Cazenovia Lake.

2014 Signature Project - Bike Caz

CACDA's Signature Project for 2014 was to support a safe, healthy community and environment through encouraging bicycling as a recreational activity and a means of transportation. Through this initiative, we are elevating our visibility as a cycling destination and encouraging visitors to stay and enjoy our local attractions. To date, we have installed several bike racks, held a bike safety day and a snow bike race, and developed a *Ride with GPS* program.

2013 Signature Project - www.GoCaz.com

CACDA's Signature Project for 2013 was to create visibility and encourage use of our vast trail network and recreational amenities in Cazenovia. Through comprehensive mapping of our trails, parks and cultural amenities, we created an activity-driven interactive website that promotes multi-seasonal sports and recreational opportunities. Additionally, we will use this information to identify future trail connections to and through the village.

Lakeland Park Planning Project

CACDA assisted the Village of Cazenovia in the creation of a vision and master plan for Lakeland Park and the historic Carpenter's Barn. The plan, developed with input from the community, addresses opportunities for greater connectivity between the park and the barn and includes suggestions for rehabilitation to enhance public use of the barn. It includes ways to improve pedestrian circulation and access to recreation areas. In addition, a tree planting plan will be developed.

Micro-hydro Demonstration Project

CACDA assisted the Town of Cazenovia to obtain funding for a micro-hydro demonstration site along Limestone Creek in the hamlet of New Woodstock. We will continue to seek funds for interpretive enhancements at this site.

CACDA is assisting the town and village in exploring the possibility of merging the two municipalities. This may or may not result in sharing buildings which would mean some sort of reduction in energy usage. CACDA is also assisting CPF in the development of a Farmland Protection PDR grant application to protect several hundred acres of farmland.



Madison County

Mat Webber collected the following information during an interview with Scott Ingmire, Director of the Madison County Planning Department.

The Madison County Planning Department serves a diverse array of functions that benefit the towns and villages within the county's borders, and beyond. Currently the County is very involved in a number of climate and sustainability initiatives and there are plans for many more. To coordinate their actions, the Planning Department has put together a Madison County Energy and Sustainability Plan. That plan addresses a number of important topics, each of which can significantly impact the Town of Cazenovia, its residents and businesses – all looking to benefit from the advantages of a sustainable future.



The Energy and Sustainability Plan is organized into the following topics:

Energy Management

The County is working on forming a Madison County Public Utility that would benefit the citizens by giving them more-affordable, sustainable electricity. Already the County is a leader in renewable energy. We have three wind farms. There have been 178 solar systems installed. The County Landfill has a solar cap powering its operations with surplus electricity to sell - and a bigger array of solar panels are to be installed this August. The landfill also captures 73% of its released methane and converts it to electricity.

A large solar array is coming soon to SUNY Morrisville – to help supply their electricity needs.

There are studies going on to determine the viability of using the county's many flowing creeks and streams to generate power – using micro-hydro powered systems. One installation has gone in, but it has not worked as smoothly as hoped.

The City of Oneida has joined Cazenovia in pledging to pursue and implement the agenda laid out in the "Climate Smart Community" effort. Hamilton is soon to follow.

The County has appointed a Public Utility Service which will help businesses, municipalities, schools and individuals implement "energy efficiency" projects.

Transportation

The County added fuel saving technologies to their fleet of vehicles that do the work of maintaining our roads and public properties. There is more to come, with opportunities becoming available when old equipment is replaced with new.

The State's Complete Streets Law has been a priority of the County when new and refurbished roads are considered. This law mandates that roads be designed for all users including bicyclists, public transportation, motorists and pedestrians. The Planning Department brings their knowledge to those towns and villages who need/want help in understanding, and implementing, these mandates.

The Planning Department coordinates several mass transportation services in the county through the Madison County Coordinated Public Transit-Human Services Transportation Plan. This plan makes efficient the efforts of several transportation services, both public and private, that give vital transport for our citizens in need.

While local governments are limited in shaping industry-wide vehicle design, Madison County encourages the use of alternative and renewable fuels. There are 4 electric vehicle charging stations in the county now and, in the not-too-distant future, demand will dictate a big jump in that number.

Land Use

The Madison County Planning Department offers seminars and materials to educate and train our local planning, zoning and town boards in “Smart Growth” concepts. These include:

- mixed land uses
- compact development design principles offering a range of housing opportunities in walkable communities
- instilling (in our citizens) a “sense of place”
- preserving open space, farmland, and critical environmental areas
- directing development toward already existing communities (reinvesting in our community centers)
- providing transportation options
- making development decisions consistent, fair and cost effective
- encouraging stakeholder (community) collaboration.

The County recently got a grant to update its Farmland Protection Plan.

Environment

The State put together a Rising Community Reconstruction Program to deal with the devastating floods of 2013 – and pledged \$3 million dollars to that end. Though it has taken time, Madison County has received \$800,000. That money will, in large part, go to the hard-hit city of Oneida. In addition FEMA will be offering a buyout of 155 homes in the Oneida Flats area so that future flooding will be far less destructive of people’s property. A local team, aided by the Dept. of State, has created a “project specific” plan to address recent storm damage in the county, and future resiliency projects.

Cazenovia will be included in a new Oneida Lake watershed Flood Map Update. This promises to be a valuable tool when considering future development in our town. The last flood map of the region was done in the 1970’s.

Economic Development

Exciting things are going on at the County Landfill Facility. The County has set in place (at the landfill site) the Agriculture and Renewable Energy (ARE) Business Park. Its first project will use the excess gas heat from the Gas-to-Energy facility in drying kilns for Johnson Brothers Lumber – a Cazenovia business that recently opening a facility at the ARE Park. Another idea, being floated out there, is to build a plant to convert the landfill’s “waste to plastic”. This is generating much interest.

The Buy Madison County program is being strongly promoted by the Madison County Planning Department.

The Madison County Cornell Cooperative Extension office is working to promote a Farm to Schools initiative that would bring local farm products to our local schools. Unfortunately, there are many obstacles to overcome in this effort.

Materials Management

The County Landfill continues to find ways add to the items accepted for recycling. SUNY Morrisville has received a grant for a digester for their food waste that will convert that waste to energy.

Agriculture

The effort to make a reality of the Growing Upstate Food Hub has been moving slowly. Madison County's Cornell Cooperative Extension is trying to bring together the many entities that will have to buy in to the effort. There is still the enthusiasm, and work being done, to move forward.

The Madison County Soil and Water Conservation District office conducts information forums to educate farmers on a variety of land practices that will achieve "best management" practices on their farms, helping them to protect the watershed, reduce erosion and improve their soils – all while saving money. No till equipment is available for farmers to use on their operations.

Climate Adaptation

The County is putting together a Stream Maintenance Plan for use in recognizing streams that ought to be protected as they are, and to improving areas of streams that need attention -- all to protect against the potential negative impacts of climate change. The County is updating the Hazard Mitigation Plan.

County Government

The County has signed an energy contract to proceed toward Climate Smart Community certification. They will be renovating all their facilities to meet the Leadership in Energy and Environment Design (LEED) standards. LEED is an internationally recognized building certification system that provides building owners and operators with a framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions. Efficiency and clean energy alternatives are key components of LEED.

Additional Resources

A good source of information about renewable resources, electric vehicles, the CNY Bright Lights Program, the Classroom Energy Challenge, and much more is the CNY Energy Challenge website at <http://www.cnyenergychallenge.org/>

Also, the New York State Energy Research and Development Authority (NYSERDA) recently launched a new web-based information source for climate-related information that was developed by New York State in partnership with federal, university and public-private organizations. The [New York Climate Change Science Clearinghouse](#) has links to climate-related information that can help prioritize community and conservation planning efforts in the State.

A top priority for Governor Cuomo is to prepare New York for climate change and increase the use of renewable energy. The Clearinghouse provides information on how municipal decision-makers can incorporate clean energy and resiliency strategies into their planning. It provides access to maps, data sets and documents that show the impacts of climate change on infrastructure, transportation, energy, water resources, ecosystems, agriculture and public health. Among the clearinghouse features are:

- A mapping tool for data related to climate change impacts
- A graph that displays historical and projected information on temperatures and rainfall by county
- Links to tools showing potential impacts on natural resources and wildlife from climate and land use changes
- Charts that estimate increases in rainfall intensities across the State
- Links to the State Energy Plan, Climate Smart Communities information, financial resources and other planning tools

“Our municipalities have a long history of appreciating our natural environment which is at the very core of our sense of place as a community. Our adoption of the Climate Smart Communities Pledge and participation in this planning process are great examples of “thinking globally and acting locally” to protect our environment. The Town and Village along with local partners such as Cazenovia Central School District and Cazenovia College have already undertaken numerous initiatives to conserve energy and safeguard the environment, as described on the following pages. This plan symbolizes our commitment to continue and enhance those efforts. We are particularly pleased to have been able to produce a combined plan. It symbolizes our belief that sharing resources and working cooperatively is one of the most effective ways to save both money and energy. This plan represents the collective vision of the participants to enhance our community’s level of sustainability.”

Excerpt from a letter from Town Supervisor Bill Zupan and Village Mayor Kurt Wheler which was printed in the Cazenovia Climate Action Plan, April 2015