7. Madison County Solid Waste Facility:
BuyeaRd, Lincoln, NY

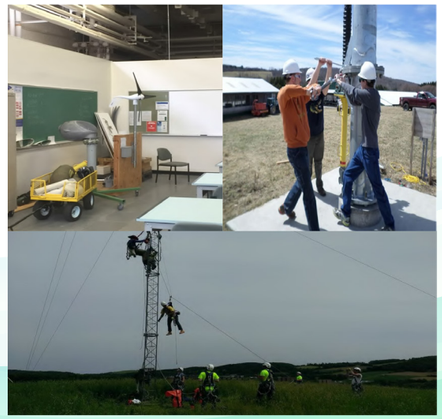
The Solid Waste Facility in Madison County has been the poster child of green thinking in this area for many years. It started in 2011 by implementing the first 40 kW photovoltaic film panel array on a landfill. Then in 2013, the Solid Waste facility went further and gained a second solar array for the landfill that produces 50 kW of electricity. The landfill is also equipped to capture methane, a byproduct of decomposition, which is piped to the gas-to-energy facility where it is burned in an internal combustion engine to create energy. The methane gas collection system is made possible through a public/private partnership with Waste Management Inc. Even more impressive, the gas-to-energy facility is unique in that the excess heat generated by the engine is used to heat three different buildings on site and to dry lumber for Johnson Brothers Lumber Company.
www.madisoncounty.ny.gov/solid-waste/home

8. FREE Center:
5520 Bellinger Rd., Fenner, NY

The Fenner Renewable Energy Education Center (FREE Center) is located in the scenic hills of Madison County, within the Fenner Wind Farm, a 30 MW commercial wind power facility utilizing power of 20 wind turbines. Visitors will learn about and see renewable energy resources in action, including solar panels that supply power to our center and feed electricity back to the local electric provider, fast-growing shrub willow which can be converted into a variety of sustainable environmentally friendly energy resources, and a composting toilet that disposes of human waste through decomposition and evaporation, no flushing needed. Visitors can also stand in the end of a 113-foot long wind turbine blade on the ground – the best photo op in Madison County. To learn more or to schedule a guided group tour, visit www.thefreecenter.org

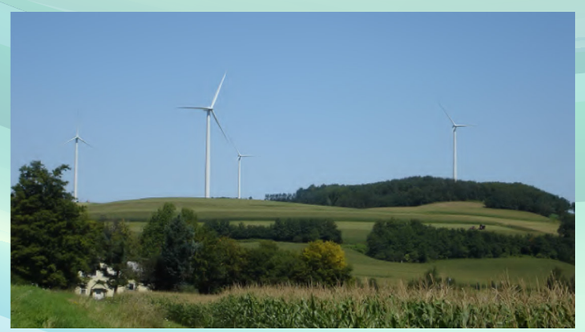
9. MSC Renewable Energy Training Center:
Morrisville, NY

This facility is located on SUNY Morrisville's campus and is used to hold classes for renewable energy majors and professionals alike. The classes here focus on major renewable energy concepts such as solar, wind, hydro, geothermal, and biomass energy as well as the job opportunities and technology that implement them. Classes taught at the training center are directed towards the hands-on perspective of the industry and utilize the latest techniques and developments. Students learn to install and operate different technologies through projects that provide hands-on experience. Some past class room projects include a micro-hydro site located in New Woodstock NY, a solar powered vending machine (Morrisville campus), a solar array installed at the FREE Center site and micro wind turbines (Morrisville campus).
http://RETC.morrisville.edu



10. Munnsville Wind Farm:

The Munnsville Wind Farm is located in the Madison County towns of Stockbridge, Eaton and Madison, as well as the Oneida County town of Augusta, New York and is owned and operated by EON Climate and Renewables. This wind farm is a 34.5 MW project and is sited on 17 different land owners' property. Electricity is produced in both Madison and Oneida Counies that in turn provides power for the grid.
Munnsville Site Manager: Frederick Gamlen
Fred.Gamlen@eon.com Office # 315-893-7736 ext. 6002



Solarize Madison

The small sun icons on the map are the locations of the homes, farms, businesses and municipalities that took advantage of Solarize Madison, a volume purchasing solar PV program. Solarize Madison was the first program of its kind in New York State and was organized by Madison County and the Central New York Regional Planning & Development Board in partnership with Morrisville State College. Two NY-based Solar PV companies were selected to install the systems: Arista Power and ETM Solar Works. In total 28 systems, totaling 177 kW, were installed under the program in 2012.

Want to learn more? See solar PV systems up close during the National ASES Solar Tour which takes place annually on the first Saturday of October. Also visit, www.solarizemadison.com for testimonials and information on the second round of the Solarize program launched in 2013.

Contact:
Madison County Planning Department
(315) 366-2376
www.madisoncount.ny.gov/planning/home

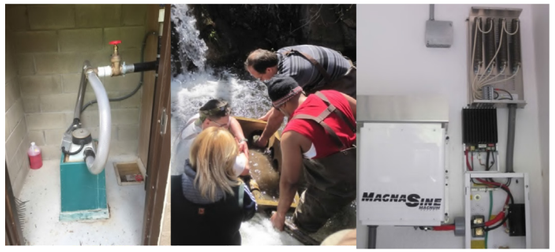
FREE CENTER™
FENNER RENEWABLE ENERGY EDUCATION

2016 Madison County Renewable Energy Trail Map

madisoncounty.ny.gov/planning/home

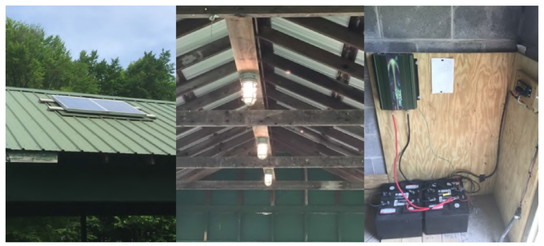
1. Oxbow Falls Park:
6919 Oxbow Road, Lincoln, NY

This site contains a minimally invasive micro hydroelectric power generator located near the park's disc golf area. The micro hydro unit produces 3,100 kWh annually providing power for the restroom and lights located near the unit itself. Water used to generate electricity comes from the top of Oxbow Falls through the use of an intake and is then directed back into the creek below without harm to the eco- system.
Contact: Madison County Planning Department
www.madisoncounty.ny.gov/planning/home



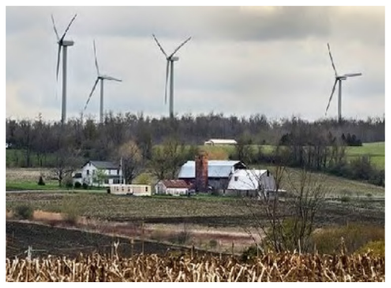
2. Nichols Pond Park (solar panel):
5797 Nichols Pond Rd, Fenner, NY

Nichols Pond Park is a historic site that was once home to the Oneida Native Americans hundreds of years ago. This site is currently used for hiking, nature observation, and picnicking by families and nature enthusiasts alike. In 2009, Madison County installed a solar panel unit at Nichols Pond as a way to provide power for the site while still remaining eco-friendly. The solar unit consists of two 110 W solar panels that are providing enough energy to operate a water pump to provide drinking water, outside lights, and electricity for power tools during maintenance repairs.
Contact: Madison County Planning Department
www.madisoncounty.ny.gov/planning/home

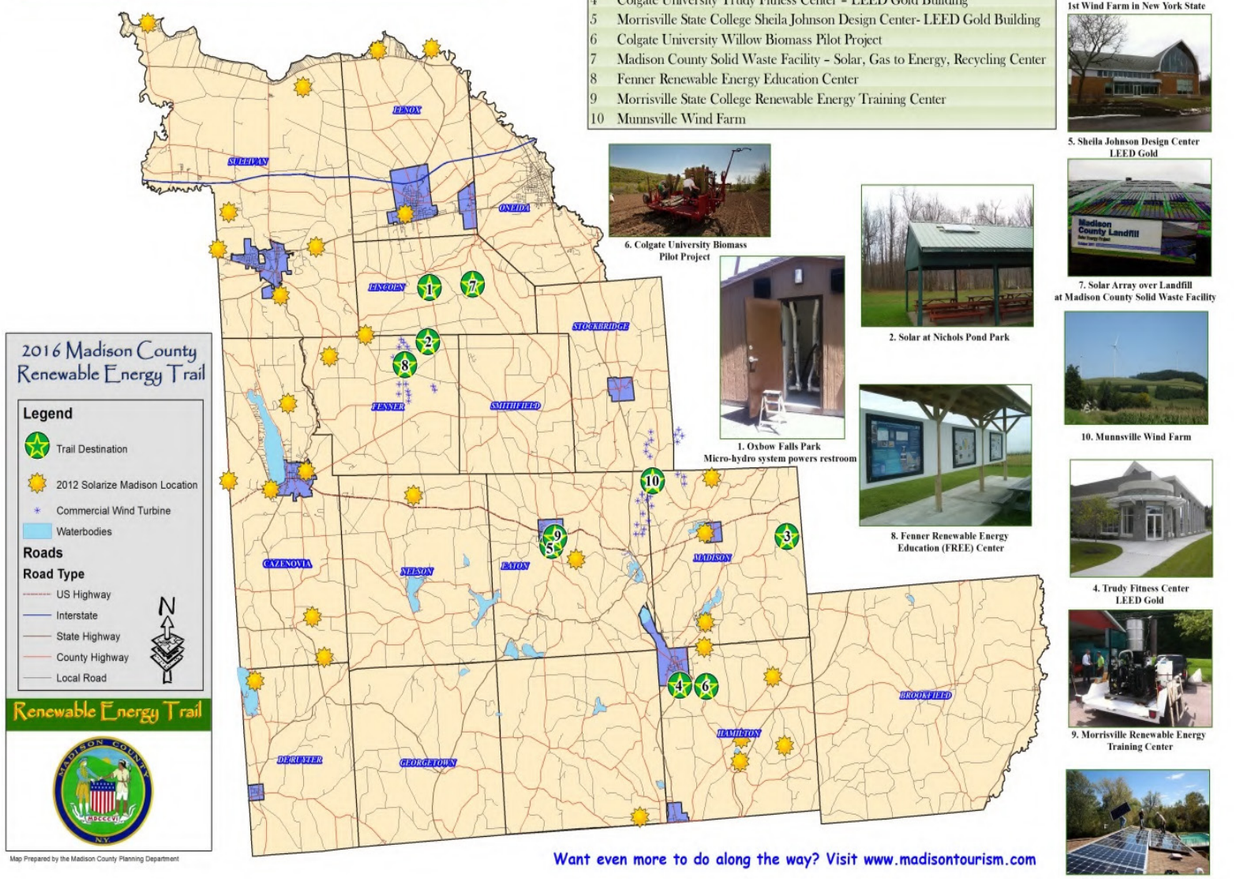


3. Madison Wind Farm:
Stone Road, Madison, NY

The Madison Wind Farm is located in the town of Madison, New York and consists of seven wind turbines. Constructed in 2000, it carries the distinction of being the first wind farm in New York State. The 11.55 MW project generates enough electricity to power approximately 3,000 homes annually.
EDP Renewables North America Company
http://www.edprenovaveis.com



Madison County is known as a leader when it comes to renewable energy and sustainability initiatives. This Renewable Energy Trail map is a guide to connect the many forward-thinking buildings and projects located throughout our community. We encourage you to use this guide to visit and learn more about how green technologies are working at these destinations.



6. Colgate University Biomass Pilot Project

1. Oxbow Falls Park Micro-hydro system powers restroom

2. Solar at Nichols Pond Park

8. Fenner Renewable Energy Education (FREE) Center


3. Madison Wind Farm
1st Wind Farm in New York State

5. Sheila Johnson Design Center
LEED Gold

7. Solar Array over Landfill
at Madison County Solid Waste Facility

10. Munnsville Wind Farm

4. Trudy Fitness Center
LEED Gold

9. Morrisville Renewable Energy Training Center

Solarize Madison Installation

Welcome to the updated Madison County Renewable Energy Trail map. This map highlights the current innovative sustainability projects located in Madison County and is meant to be used as a guide to learn more about each of these initiatives.

Sustainability is a concept that values all the assets of a community; environmentally, socially, and economically. This helps us recognize that communities gain more when those assets are leveraged together. Natural resources are one of Madison County's strongest assets. Many of these projects showcase ways these natural resources are converted to natural assets: wind, solar, biomass, hydro and landfill gas are being used to create clean energy alternatives that promote the local economy.

Madison County is home to several LEED certified buildings, the highest achievable standard for environmentally friendly design, as well as several cutting edge technologies including the only municipality with a flexible photovoltaic film cap over its landfill. The county also contains the FREE Center, an educational building with many different renewable technologies on display and tours for the public. These places and projects serve as important educational resources, many of which are open to the public and/or available for tours. Use this guide to learn more about how to visit these destinations first hand!

Advancing these technologies and initiatives is a priority in Madison County. Madison County is fortunate to have so many forward thinking institutions, businesses, and individuals that are dedicated to looking beyond the status quo. These types of projects are creating a momentum that establishes Madison County as a leader in sustainable energy projects and brings new vitality to our communities.

Also included on the map are the Solarize Madison locations found throughout Madison County. The map is a project of the Madison County Planning Department in partnership with the Fenner Renewable Energy Education Center.

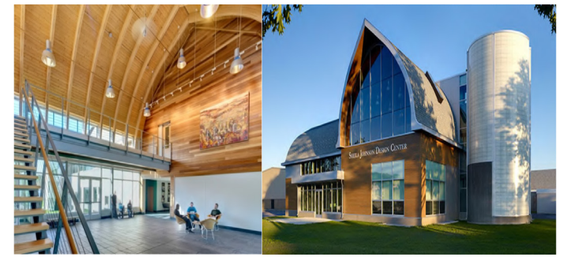
Rev. 2016

4. Trudy Fitness Center:
Colgate University, Broad St, Hamilton, NY

In May 2012, Colgate University's Trudy Fitness Center received the first LEED Gold certification in Madison County from the US Green Building Council. The LEED (Leadership in Energy and Environmental Design) certification is based on Trudy's green construction, design and technology including 80% of construction waste being diverted from the landfill, 30% more efficient in water use, 20% more efficient in energy use, and utilizing local building materials.
www.colgate.edu/distinctly-colgate/sustainability

5. Sheila Johnson Design Center:
MSC, Madison Rd, Morrisville, NY

The Sheila Johnson Design Center is located at the Morrisville State College campus. The building is LEED (Leadership in Energy and Environmental Design) Silver certified and reflects the historic tie-stall dairy barn look that traditionally was used in the area. The building uses a geothermal system for heating and cooling through ground source heat pumps that cycle water and glycol. This saves money by using natural light to illuminate the building. The Design Center is utilized by the Morrisville campus for its architectural studies and design program.
http://www.morrisville.edu/tour/videos.aspx?subcat=62



6. Willow Biomass Pilot Project:
Colgate University, Hamilton St, Hamilton, NY

Fallow and marginal croplands are excellent places to grow short rotation crops, such as willow, that can be used for biomass energy. Through the use of biomass (wood chips), Colgate University is offsetting 75% of the campus' heat and hot water needs, saving millions of dollars. Furthermore, unlike natural gas or fuel oil, willow is carbon neutral; the carbon released as carbon dioxide during willow combustion came from carbon within our environment, not from carbon sequestered in fossil fuels. In May 2009, Colgate University planted its own 7.5-acre plot with 60,000 8-inch willow shoots which is expected to yield 900 dry tons of biomass over a 20 year period.
http://www.youtube.com/watch?v=BHRNod9bglw