



**SOLAR
ON
SCHOOLS**

CASE STUDY: Madison Area Technical College: Watertown

Project Summary

The Watertown campus of the Madison Area Technical College is now home to a 135 kW DC solar array that will provide enough electricity to completely offset the campus's electrical needs, making it a net-zero electric campus. The system also serves as a field test site for a new nanotech coating developed by the University of Wisconsin. The technology is a coating for solar panels that is both anti-soiling and self-cleaning.

The 135 kW ground mount system will do more than simply provide electricity to the Watertown campus. The solar system will be used as an educational tool in order to train students for renewable energy sector careers.

Ground mounted panels were utilized, due to their ability to be mounted at greater tilt angles than rooftop systems, which allows for better snow shedding and increased energy production in the winter months.

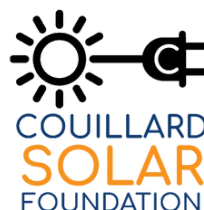
The project was made possible in part through grants, including \$16,500 from Focus on Energy, and \$39,450 from CSF Panels. Annual energy savings are projected to be about \$15,000 a year. The overall cost of the system, before grants, was \$266,000.

Arch Electric, based out of Plymouth, Wisconsin, was the solar installer selected for the project.



“ *This photovoltaic installation provides infrastructure for teaching students and preparing them for skilled technical careers in the solar workforce* **”**

Ken Walz - Renewable Energy Program Director





Madison Area Technical College also commissioned a 72.5 kW system to power the College's Truax Fitness Center. Sunvest and Piper electric partnered on the installation. The system is expected to produce 82,620 kWh of electricity in its first year of operation.

SYSTEM AT A GLANCE

- Commissioned: January 2022
- System Size: 135 kW DC
- Expected Year 1 Performance: 162,000 kWh*
- Array Tilt and Azimuth: Adjustable
- Racking: Adjustable tilt racking from Sinclair
- Modules: 330X370 Philadelphia Bifacial Modules
- Inverters: 3 CPS 50k Inverters
- Monitoring: Also Energy Data Monitoring
- Solar Installer: Arch Electric
- Total Billed System Cost: \$266,000
- Cash Grants, Rebates, Incentives: \$39,450 (CSF panels) + \$16,500 (Focus on Energy)
- Cost/Watt (Excluding Cash Grants): \$1.97
- 30-Year IRR: 8.2%
- Average Annual Savings: \$15,000*

**Indicates annual projections*

Environmental Benefits

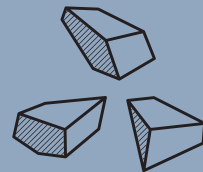
In the first year the 135 kW DC system will offset CO2 emissions equivalent to:



22.3 homes' electricity use for one year



284,973 miles driven by an average passenger vehicle



127,023 pounds of coal burned

Source: EPA Greenhouse Gas Equivalencies Calculator

About Madison Technical College

The mission of the Madison Area Technical College is to "provide open access to quality higher education that fosters lifelong learning and success within our communities". The vision statement declares that Madison Area Technical College aims "To be the leader in accessible affordable education that meets the evolving needs of our diverse communities". The school enrolls 24,588 students as of 2022.

Learn More and find more resources at:
www.midwestrenew.org/solar-on-schools



The Watertown installation is also serving as a field test site for a new anti-soiling and self-cleaning nanotech coating for solar panels that was developed at the University of Wisconsin.