



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 campuses 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.

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.



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.



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.

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 its first year of operation.

SYSTEM AT A GLANCE

Commissioned: January 2022

System Size: 135 kW DC

Expected Annual Performance: 162,000 kWh

Monitoring: Also Energy Data Monitoring

Solar Installer: Arch Electric

Total Billed System Cost: \$266,000

Cash Grants, Rebates, Incentives: \$39,450

Cost/Watt (Excluding Cash Grants): \$1.97

30-Year IRR: 8.2%

Average Annual Savings: \$15,000*

Array Tilt and Azimuth Tilt: Adjustable

Racking: Adjustable tilt racking from Sinclair

Modules: 330X370 Philadelphia Bifacial Modules

Inverters: 3 CPS 50k Inverters

ENVIRONMENTAL BENEFITS

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



Electrical usage of 22.3 homes



284,973 miles driven by an average passenger vehicle



127,023 pounds of coal burned

PROJECT PARTNERS



HELPING WISCONSIN SCHOOLS GO SOLAR

The Couillard Solar Foundation Solar on Schools program is managed by Midwest Renewable Energy Association (MREA). The initiative educates schools on the benefits of solar energy, provides resources to simplify the project development process, and offers grants to lower the upfront cost of solar.

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