



CASE STUDY: Solar on Menomonie Middle School

PROJECT SUMMARY

The City of Menomonie passed a resolution to use 100% carbon free electricity by 2050 and the school district desires to help the community reach this goal. Renewable energy will be an integral part of this transition. Part of the district's energy policy is to conserve energy resources as a way for the district to do its part in reducing carbon emissions and resource use while also conserving the district's financial resources. The policy encourages procurement of renewable energy as well as conservation measures.

The district is looking at installing all LED lighting at the district buildings within the next 2 years to become fully LED. They also have e-gauges installed at 4 schools to monitor energy usage and educate students. These will also double the track solar production and be a valuable tool for educational purposes in the classroom where energy concepts are applicable. This will assist in garnering interest in the next generation of potential solar and/or clean energy engineers, installers and researchers. Having a solar PV system at the district will also help to generate further energy awareness in not only the district but the community as a whole.

The installed system will be 114.8 kW DC and 100 kW AC in order to leverage net metering through Xcel energy. The system is expected to produce approximately 20-25% of the electricity used at the property. The solar project is to be a ground mount system so it is visible to the community. The staff at the middle school and other schools will be encouraged to incorporate the solar system into applicable classes through site visits and/or output data from the solar project.



ABOUT MENOMONIE MIDDLE SCHOOL

Menomonie Middle School was constructed in 1997. The building is 157,600 square feet in size and uses chilled water and hydronic heat hot water systems for HVAC purposes. The building is efficient at 43 kbtu/square foot. A solar PV system would help to move the school towards energy neutrality. This is the first school that the district is looking at putting a solar PV system in place on. The district is hoping to install systems at additional schools the following year.

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 at:
midwestrenew.org/solar-on-schools

SYSTEM AT A GLANCE

Commissioned: July 2022

Electric Utility: Xcel Energy

System Size: 114.8 KW DC

Expected Annual Performance: 158,592 kWh

Solar Installer: Olson Solar Energy

Total Billed System Cost: \$181,672.89

Cash Grants, Rebates, Incentives: \$148,450.89

Cost/Watt: \$1.58

Cost/Watt Excluding Cash Grants: \$1.29

Y1 Electric Savings: \$135,915.77

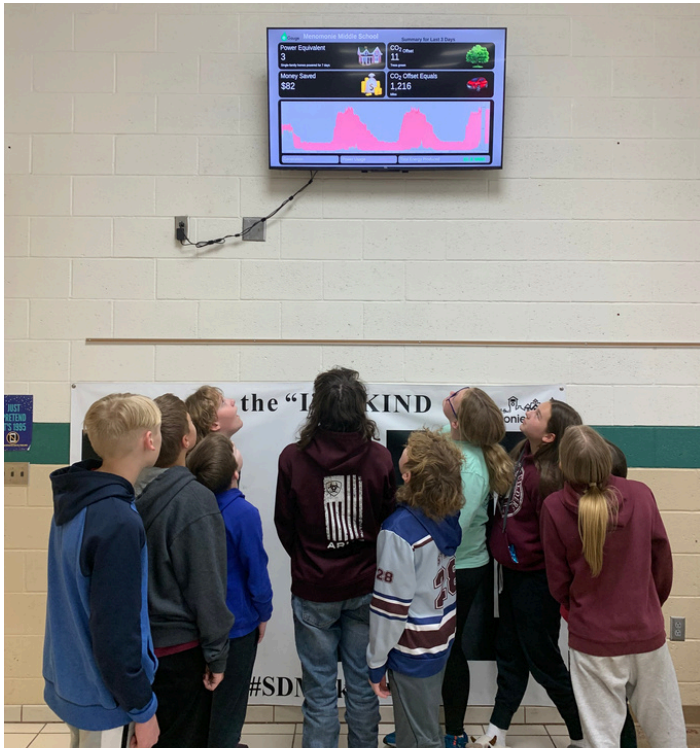
25 Year Electric Savings: \$277,294.54

Array Tilt and Azimuth: Tilt: 33°; Azimuth: 180°

Racking: Unirac

Modules: ZNshine Solar

Inverters: SolarEdge Technologies



ENVIRONMENTAL BENEFITS

Over a 25 year period the 114.8 kW DC system will offset CO2 emissions equivalent to:



56,524 saved trees



4,710,365 miles driven by an average passenger vehicle



4,7210,365 gallons of gas

PROJECT PARTNERS

