



CASE STUDY: Solar on Rice Lake Area School District

PROJECT SUMMARY

Distributed generation has been on the Rice Lake Area School District radar for sometime.

By powering the schools with solar pv, it's expected to reduce water consumption and pollutants from the production of over 750,000 kWhs of conventionally-produced electricity.

RLASD has been working with the Legacy Solar Wisconsin Cooperative to analyze consumption patterns and develop a plan for bringing solar power to the district. A hardware grant donation of consumption monitoring equipment (E-Gauge) made RLASD a part of a national competitive, energy-efficiency program.

All 3 of the schools currently plan to host panels on the roof. The rooftops are conventional, EPDM membrane and will easily accommodate 100-150 kW (300-400 panels) on the Tainter Elementary and Middle Schools, with a system approximately 2 to 2.5 times as large on the high school. Each of the 3 systems will include a modest battery storage component and is expected to displace between 750,000 and 800,000 kWh of grid consumption between the 3 schools.

ABOUT RICE LAKE AREA SCHOOL DISTRICT

The Rice Lake Area School District is an exciting place to work and learn. The District serves 2,255 students from four-year-old kindergarten through grade twelve classrooms and includes three elementary schools (Haugen Elementary, Hilltop Elementary, and Tainter Elementary); Rice Lake Middle School; and Rice Lake High School. With an annual budget of \$33 million, the District employs over 200 professional staff and 115 support personnel.



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.

midwestrenew.org/solar-on-schools

SYSTEMS AT A GLANCE

Commissioned: Fall 2021

Electric Utility: Rice Lake Utilities

System Sizes: 200, 250, 300 kW DC

Expected Annual Performance: 1 MW energy per year/all systems combined

Solar Installer: Carlson Electric, gosolarwi.com

Total Billed System Cost: \$1,150,000

Cash Grants, Rebates, Incentives: \$77,000

Cost/Watt: \$1.55 per Watt before incentives

Y1 Electric Savings: \$760,000 kWhs

25 Year Cash Flow: \$1.6M

25 Year IRR: 9.79%%

Array Tilt and Azimuth: Tilt: 20°; **Azimuth:** 180°

Racking: Solar Racking, LLC

Modules: ZNShine 445

Inverters: SMA Powercore Tripowers



ENVIRONMENTAL BENEFITS

In the first year the combined 750 kW DC systems will offset CO2 emissions equivalent to:



Electrical usage of 66.9 homes



1,361,061 miles driven by an average passenger vehicle



594,721 pounds of coal burned

PROJECT PARTNERS



Legacy Solar Co-op

