CASE STUDY: *Sustainable Marshfield*

PROJECT SUMMARY:

Each year, members of Leadership Marshfield are tasked with creating a project that will benefit the community of Marshfield. Our 2020 group project was "Sustainable Marshfield" and had a goal to install a solar panel array at the Marshfield School District School Forest, along with an interactive educational display. This forest includes a multi-use facility and allows the community as well as the school district to interact with the environment. The school district has already worked hard to make many improvements including roads, ponds, fire protection, benches, facility upgrades, ski and walking trains, and more. We knew that bringing a working solar array to the area would allow both students and the community an opportunity to interact with the project display, learning about renewable energy through hands-on exercises, while also allowing the school forest building utility costs to be supplemented by the solar array.

Our group reached out to Photovoltaic Systems, LLC in January 2020 inquiring about the project. Photovoltaic Systems, LLC subsequently conducted a site assessment, provided cost estimates, designed the system, and was eventually selected to install the final 7.4 kW system in the 320-acre Marshfield School Forest. We also actively worked with the Marshfield High School and Mid-State Technical College students to develop an interactive and educational component to this display. This installation is on display in an area used multiple times by students pK- 12 while in school.

To fund this project, the school received grants from MREA's Solar on Schools Program, Focus on Energy and many individual community donations. It was also partially funded by in-kind donations of labor to install the solar panels. Community support was key in helping make this project come to life, and we are excited to share this project with the community.

"The PV system is a great addition to the school forest. It reduces operational costs for the school forest, but also provides an educational opportunity for the students to see solar electricity in action."

-Alex Lendved
Leadership Marshfield,
Sustainable Marshfield Group

Learn more and access resources at:
midwestrenew.org/solar-on-schools

SYSTEM AT A GLANCE:

- **Commissioned:** December, 2020
- **System Size:** 7.4 kW DC
- **Expected Year 1 Performance:** 9,043 kWh
- **Racking:** Ironridge Ground Mount
- **Modules:** 20 PS M72 Bi-facial 370W
- **Inverters:** SMA-America Sunnyboy 6.0 and SMA-America Sunnyboy 3.8
- **Monitoring:** Sunny Explorer
- **Total Billed System Cost:** $16,672*
- **Solar Installer:** Photovoltaic Systems, LLC
- **Cash Grants, Rebates, Incentives:** $1,360
- **Cost/Watt (Excluding Cash Grants):** $2.25
- **Average Annual Savings:** $800-$1300
- **30 Year Cashflow:** $27,000

*Total Billed Cost excludes Solar on Schools 7.4 kW in-kind grant valued at $2,960

ABOUT MARSHFIELD HIGH SCHOOL:

Marshfield High School is a public high school located in Marshfield, Wisconsin and part of the School District of Marshfield. This school serves 1,200 students in grades 9-12. Almost 75% of all students participate in Career and Technical education coursework.

ENVIRONMENTAL BENEFITS:

In the first year the 7.4 kW DC system will offset CO_2 emissions equivalent to:

Electrical Usage of 1.1 homes

15,865 Miles Driven by an Average Passenger Vehicle

4,045 Pounds of Coal Burned

KEY PROJECT PARTNERS:

COUILLARD SOLAR FOUNDATION

focus on energy® Partnering with Wisconsin utilities

PV SYSTEMS, LLC PhotoVoltaic Systems, LLC

mrea midwest renewable energy association

Sustainable Marshfield

SOLAR ON SCHOOLS

CHAMBER OF COMMERCE MARSHFIELD MADE NEW

MID-STATE TECHNICAL COLLEGE