



Photos courtesy of Findorff Builders

## CASE STUDY: Solar on Forest Edge Elementary School

### PROJECT SUMMARY:

The Oregon School District built a 126,000 square foot new construction elementary school, Forest Edge Elementary School in 2020. The key sustainability requirement of the new elementary school was to be a zero-energy building. This is defined as “an energy-efficient building where, on a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy” as defined by the U.S. Department of Energy. It will be the first net zero energy school in the state of Wisconsin, offsetting 100% of all on-site energy needs.

The 646kW DC/500kW AC rooftop solar PV system and geothermal heating and cooling system will be leveraged as educational tools for the school and the larger community. The school includes a viewing area to see the roof mounted system and will also include an energy dashboard that can be viewed through an internet connection by anyone interested in learning about the school’s sustainability features and ongoing energy performance compared to the net zero energy target.



*“ This solar PV system enables our school district to reduce operational expenses on energy and divert more of the available budget to resources that directly impact student success! ”*  
— Statement from Oregon School District

### PROJECT PARTNERS:





### SYSTEM AT A GLANCE:

- Commissioned: August 2020
- System Size: 646 kW DC
- Expected Year 1 Performance (AC): 805,000 kWh
- Array Tilt and Azimuth: 10°, 145° and 183°
- Racking: PLP Power Max
- Modules: 1570 Heliene 72M 380W and 135 PS M72 BI-facial 370W
- Inverters: 5 Solar Edge SE100K
- Monitoring: Solar Edge Web-Based Monitoring
- Solar Installer: Full Spectrum Solar
- Total System Cost:\* \$957,040
- Value of Grants, Rebates, Incentives: \$80,000
- Cost/Watt: \$1.48
- 30-Year IRR: 24%
- Average Annual Savings: \$82,000

\* Total system cost excludes the Solar on Schools in-kind module donation value estimated at \$20,000.

### ABOUT THE OREGON SCHOOL DISTRICT:

The mission of the Oregon School District is to “educate by helping students acquire the skills, knowledge and attitudes needed to achieve their individual potential, to contribute to a changing society and to be receptive to learning as a lifelong process”. The design of the new elementary school building closely reflects each of these core elements.



Learn more and access resources at: [midwestrenew.org/solar-on-schools](http://midwestrenew.org/solar-on-schools)

### ENVIRONMENTAL BENEFITS:

In the first year the 646 kW DC system will offset CO2 emissions equivalent to:



**Electrical Usage of  
96.4 homes**



**1,403,553 Miles Driven by an  
Average Passenger Vehicle**



**623,249 Pounds of  
Coal Burned**