Energy Incentives from We Energies

November 2008

SUCCESS STORY

Customer: James Fennimore Cooper Elementary School
Milwaukee Public School

Project: Installation of 50 200-watt solar panels on the roof of this K-8 school for a total of 10 kW

Total project cost: $109,500

Incentive: $41,650 from We Energies
$25,705 from Focus on Energy

Estimated savings achieved: $2,130 per year in electricity savings

Energy for Tomorrow participant: 25 percent

Why is this a success story?

Setting an example for students of living responsibly and getting them involved in instituting green practices throughout the Milwaukee Public School system were two of the lofty goals Principal Richard Cohn envisioned when he began investigating the use of solar power at his school.

"We looked at this project as more than a money-saving venture," says Principal Cohn. "Students at all grade levels were involved in learning about solar power. Kindergarteners learned songs about converting the sun's power into energy. Older students helped in researching the project and calculating potential energy savings, costs, and CO_2 emission reductions."

"I've always had a personal interest in solar power," says Cohn. "This project provided an opportunity to truly make a difference, while integrating the lessons learned into existing math and science curriculum."

Energy generated by the school's solar panels is sold to We Energies, eliminating the need for costly storage batteries. During the first year in operation, Cooper Elementary's panels produced an estimated $2,130 reduction (9.5 percent) in its utility bill.

"We hope to incorporate solar electric power in a new athletic center proposed for our school," says Cohn. "We Energies' project complements our overall strategy for making our school more environmentally friendly."

For more information about We Energies non-profit grant program, e-mail connie.lindholm@we-energies.com, visit www.we-energies.com/RE or call 800-714-7777.

What is solar or photovoltaic (PV) electricity?

When certain semi-conducting materials, such as specific kinds of silicon, are exposed to sunlight, they release small amounts of electricity. This process is known as the photoelectric effect. The photoelectric effect refers to the emission or ejection of electrons from the surface of a metal in response to light. It is the basic physical process in which a solar-electric or PV cell converts sunlight to electricity.

What are the components of a PV system?

A PV system is made up of different components. These include PV modules (groups of PV cells), which are commonly called PV panels; an inverter for a utility grid-connected system when alternating current (AC) rather than direct current (DC) is required; wiring; and mounting hardware or a framework.

How long do PV systems last?

A PV system that is designed, installed, and maintained well will operate for more than 20 years. The basic PV module (interconnected, enclosed panel of PV cells) has no moving parts and can last more than 30 years. The best way to ensure and extend the life and effectiveness of a PV system is by having it installed and maintained properly.

How much electricity does a PV system generate?

A typical, well installed PV system in Wisconsin rated at 2 kilowatts will produce around 2,450 kilowatt-hours a year.