



School of Environmental Studies

WERC Brings School of Environmental Studies Closer to Five Year Goal



FARMINGTON, Minn. (June 9, 2007) — Students, teachers, the Apple Valley mayor, Dakota Electric Association personnel and others turned out to turn some dirt Saturday at the School of Environmental Studies groundbreaking for a renewable energy educational project. (Groundbreakers: right to left -Apple Valley Mayor Mary Hamann-Roland, Greg Miller CEO Dakota Electric Association (DEA), Craig Turner DEA, David Winkelman WERC, Jacob Wagner SES, Robert Preston SES, Wayne Hilbert CNH Architects, and Christopher Anderson SES)

The renewable energy education project will cost approximately \$175,000 and consist of a 20-kilowatt wind turbine, standing 160 feet in the air, and two solar panels, each capable of producing 1 kilowatt (kW) each. The wind turbine will generate approximately enough electricity to power one to three average homes. While this system will not generate large amounts of power compared to commercial turbines, the school hopes it will generate a large amount of learning.

“This project will help our students learn firsthand about renewable energy sources,” principal Dan Bodette said. “Students will be able to study the output of the solar panels and wind turbine, and they will be able to do projects to learn about renewable energy for years to come. We are generating learning opportunities with this project.”

Everything about the project is educational. Students were involved with the project from the beginning, learning about project management, presenting the project for approval at the Planning Commission and the City Council, designing the displays that will help others learn about wind and solar energy and assisting in the design of the sustainable building that will house electrical equipment and educational displays.

Even Dakota Electric Association, project leader and major sponsor, is learning about this type of installation.

“We receive questions from time-to-time from our members about these types of installations,” said Dakota Electric’s President and CEO Greg Miller. “Now our employees will have hands-on knowledge of a small solar and wind installation, so they will be better prepared to help those who have questions about these types of projects.”

Other major sponsors included Great River Energy, Dakota Electric’s wholesale power supplier, and CNH Architects, Apple Valley, who volunteered to design the sustainable building that will house the onsite equipment and informational displays. The major sponsors and other donors are making it possible for this educational project to happen without any cost to taxpayers.

Real-time data from the wind turbine, solar panel and weather station will be transmitted to the school building. A classroom computer will access this data and historical data, so students can compare the output of the panels and turbine with weather conditions. The team plans to have an educational display at the building next to the turbine, providing project information to the public. Plans include having a flat-panel display with similar data

to what the school will receive, including wind speed, air temperature and electrical output of the panels and turbine.

To facilitate learning, one solar panel will be mounted on the building's roof and be stationary. The other panel will be mounted on a pedestal that can be manually adjusted to change with the angle of the sun. This will provide an opportunity for students to compare the output between the two panels.

“This was a great project to work on,” student Robert Preston said. “I learned a lot and it will be nice to have this system to provide some renewable energy to the school.”

Besides being an opportunity for Dakota Electric personnel to learn about these types of installations, the cooperative will have antennas on the turbine pole, which will allow Dakota Electric to fill a communications void in its system. This improved communications ability will aid in the cooperative's ability to manage the electrical distribution system and to maintain the reliable operation of the system.

A customer-owned, non-profit utility since 1937, Dakota Electric Association provides electricity to more than 99,000 members throughout Dakota County and portions of Goodhue, Rice and Scott counties.

Dakota Electric is a Touchstone Energy cooperative.

		
		