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Outlook sunny for Canyon-Owyhee vocational-technical school

Five rural Idaho school districts tap the sun and wind to cut power bills, boost learning

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Canyon-Owyhee School Service Agency instructor Bert Kirby uses the solar array at the Regional Technology Center as a teaching tool in pre-engineering classes. On sunny weekend days with no one at the school, the array sends power back into the power grid.

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ADDITIONAL INFORMATION

COSSA, ITS PARTNERS AND ITS TECH CENTER

The Canyon-Owyhee School Service Agency provides an alternative high school, professional technical programs and more to five Canyon and Owyhee county school districts — Homedale, Marsing, Notus, Parma and Wilder — that could not afford those programs on their own.

The districts contribute to COSSA's budget and helped fund construction of its nearly 56,000-square-foot Regional Technology Center, which opened in October 2010 on 17 acres donated by the Wilder School District. About \$2.5 million in federal stimulus funds went to the \$5 million project.

On a bright Monday morning north of Wilder, engineer-turned-teacher Bert Kirby squinted happily at the energy collectors, grinning as he described the varied ways his students will benefit.

Idaho's second-largest solar array powers the lights, welders, computers and other equipment in the sprawling year-old Regional Technology Center. It's expected to cut the school's power costs by about half.

But it also will spark learning, shape marketable skills and enhance career opportunities for students at the technology center, which provides professional-technical and alternative high school courses for the five small districts that have banded together in the Canyon-Owyhee School Service Agency.

"This opens a lot of possibilities," said Kirby, who co-wrote the grant application that brought nearly \$440,000 in federal stimulus funds for green energy to COSSA for the solar project.

Kirby's pre-engineering students will learn to maintain and install solar panels, then collaborate with COSSA's building trades students on a "smart house" they plan to construct, with plexiglass panels to show the wiring and other details in a green-technology home. They'll build it on a trailer so they can transport the cutting-edge teaching tool to area schools for show-tell-and-learn.

"The students will do all the plans and blueprints," Kirby said, and later install the panels in the smart house and get them up and running.

"Then we'll take it apart and next year's students will do it all over again," he said.

Science students in the alternative high school COSSA runs at the technology center also will benefit from the project, learning about alternative-energy sources.

About 120 students in grades seven through 12 attend the high school, and about 350 students from participating districts come in for professional-technical classes, said Harold Nevill, CEO and campus director for COSSA.

The solar panels started producing power around Sept. 1, and already they have fired students' creativity in unexpected ways, Kirby said.

Learning they would be responsible for keeping the solar panels clean — accumulated dust and post-rain residue can reduce the system's productivity — some of the students immediately thought of a labor-saving approach, he said.

"They said they're going to build a robot to clean it," Kirby said.

BOISE HAS A SOLAR SCHOOL, TOO

COSSA's ground-mounted solar array, installed by Aurora Power & Design and Andersen Construction, was part of the Idaho Office of Energy Resources' \$2.75 million Solar Panels for Schools program, which used federal stimulus funds to promote green technology.

"I was rooting for COSSA, because they're really using this in their curriculum, allowing the kids out there to get hands-on training," said Isaac Myers, Aurora's director of sales and marketing.

Grants were awarded to schools in each of Idaho's six regions, Myers said, and the two largest were Aurora projects in the Treasure Valley: COSSA and Whitney Elementary School in Boise. Whitney's roof-mounted system is the largest in the state, with a capacity of about 100 kilowatts per hour, he said.

COSSA's solar array generates 79 kilowatts per hour, enough to meet about half of the technology center's energy needs. Any energy not used by the school, such as that generated on a sunny weekend, goes to Idaho Power Co. and is subtracted from the center's electricity bill, Nevill said.

"We will save tens of thousands of dollars, but exactly how much, we don't know yet," Nevill said.

And around the same time it gained solar panels, COSSA brought two additional vo-tech programs, auto mechanics and diesel mechanics, into the technology center north of Wilder. Both of those programs use a lot of electricity, so this year's power needs will be higher than last year's, he said.

THE ALLURE OF JOBS AND MONEY

In addition to the solar array adjacent to the school building, the Regional Technology Center installed a 65-foot wind tower on its grounds this summer. It generates only about 3 kilowatts per hour, and is used primarily for teaching and collecting data. "But," Kirby said, "every bit of energy helps."

A large-scale solar array is proposed for Owyhee County, and proponents already are interested in COSSA as a future source of employees, Nevill said.

Some graduates of the professional-technical program will enter the job market after high school, he said, but many more are expected to go on to two- and four-year engineering programs and lucrative careers in alternative energy.

Students at the Regional Technology Center can receive 30 credit hours from Idaho State University's energy-systems program as they learn basic installation, troubleshooting and other skills, former COSSA Superintendent Mark Cotner said.

Kirby's pre-engineering students already are fired up about the on-site alternative energy sources, he said.

"They think it's great," Kirby said. "They see that it's keeping up with modern times. They're not stuck in the same old electronics class that's been offered year after year.

"And when they find out about the money engineers make, they really think it's great."

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CEO and campus director Harold Nevill, far right, estimates the solar array supplies enough power to the school during the day to cut its power bill in half.