SHS students to study wind power with new windmill

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How long does it take to put up a windmill? It depends. The new 2.6-kilowatt windmill at Shelley High School went up in about an hour, but it took nearly a year of fundraising and paperwork to get it to that point.

Science teacher Vincent Wray championed the cause to give his students the opportunity to study alternative energy sources. He said he had the full support of Superintendent Bryan Jolley and the school board.


Wray

The school worked with a program offered by Wind Powering America, which has sponsored educational wind projects in six states.

In order to qualify, Wray had to come up with $1,500 and then raise another $4,500 through community support.

The project had three major grant sponsors: Lowe's, Boise State University and local windmill dealer LC Insulation. The dealer's owner Lorin Croft said it is a great opportunity to help local students learn about wind power first hand. He was able to order the turbine at a discount and donated labor and wiring.

Southwest Windpower manufactured the Skystream wind turbine, according to Wray. Boise State donated the 45-foot pole and Lowe's donated $4,000 to the project.

The total cost of the windmill is valued at about $15,000.

Ken Fukumoto, a mechanical engineering student at Boise State, was on hand to see the third windmill installation at an Idaho high school.

"The first was at Skyline High School in Idaho Falls, the second was in Jerome, and this is the most recent, but another windmill is set for Pocatello in the near future," Fukumoto said.

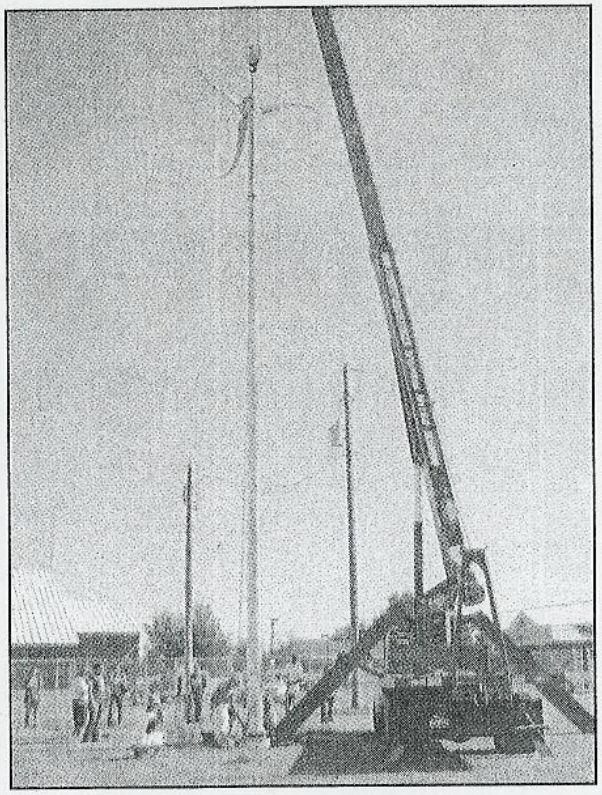
He works with the university's office of energy development with the goal of helping high school students gain a better understanding of alternative energy sources.

"We have to stress that the justification of this project is educational, not necessarily economic. This turbine is fairly small. But it gives students hands-on experience with new technology," Fukumoto said. "I'd like to see these students gain perspective about the future of energy and the potential job creation that could affect their own careers."

He said jobs could range from construction, installation, technology, engineering, marketing, maintenance, and monitoring in energy fields.

"Idaho State University just graduated its first class in its energy technology program and there were 10 jobs for every graduate. Beginning salaries ranged from $42,000 to $75,000 a year, so there is huge job potential in the field." Fukumoto said.

The SHS wind turbine should average about 400 kilowatts of power per month for the school.


WIND POWER: Students will use this 2.6-kilowatt windmill at Shelley High School to gather data while studying about alternative energy sources. For more information on wind energy, visit www.coen.boisestate.edu\wind energy

If it ran at peak efficiency, with constant wind speeds of about 20 miles per hour, it could produce as much as 2,600 kilowatts.

"I try to encourage students to view alternative energy in all forms. Initially I have taught about the importance of hydropower in Idaho, but other forms of energy production need to be explored," Wray said. "I hope they'll study them with an open mind. These students will someday vote on energy issues and we need an informed public. They could help form policies that will affect the future of energy. I'd like their decisions to be based on good knowledge and research."

Wray has conducted internships for high school students for the last 16 years through the INL. About 40 students from all area schools have been involved.

This year he also prepared educational materials about alternative energy for the Idaho Energy Workshop for Teachers, which is sponsored by the State Department of Education and the Idaho National Laboratory.

Over 100 classroom teachers (K-12) from across Idaho will have an opportunity to receive training, information and hands-on activities to teach students about the topic of energy, including the science of energy, wind, solar, nuclear, geothermal, fossil fuels, biomass and energy conservation and consumption. The three-day workshop concludes tomorrow at Skyline High School.

Fukumoto is an intern at Boise State University, which also works closely with wind energy research at the INL. Interns are able to study large amounts of raw data from public anemometers.

"Idaho needs to make better use of its tremendous wind energy potential. The Department of Energy's goal is to have 20 percent of all U.S. energy produced by wind by 2020. Right now only 2 percent is, so we have a long way to go," Fukumoto said.

He sees wind energy as a growth industry. A convention of the American Wind Energy Association has drawn bigger crowds every year. Even with a struggling economy, attendance at its Chicago convention earlier this summer doubled over last year, Fukumoto said.

Shelley students will be able to monitor in real time the data as it comes from the built-in anemometer that will track wind speed as well as other monitoring equipment that shows how energy production is affected by weather, climate, and seasons.

Wray hopes to install some small solar panels in the near future for analysis.

"Being able to participate in this project is a once in a lifetime opportunity. Hopefully today's students will remember this as an important change in technology and that they were part of it," Wray said