

# Sun and wind generate for Highwood couple

By Mack McConnell

On a clear, breezy June morning on a ridge near Highwood, Montana, two small wind turbines whirred and three sets of solar panels soaked up the sunlight while Logan Bryce watched one of the two meters on the Bryce home spin.

"That's what I like to see," Logan said. "We're selling instead of buying electricity. Actually we're not selling it, we're banking it."

Logan and his wife, Jennifer, are members of Sun River Electric Cooperative, headquartered in Fairfield. Jennifer and Bryce run Pine Ridge Products, a renewable energy company, out of their home. They sell residential wind turbine and solar electric generating systems.

"I own the company," Jennifer explained, "and Logan is my technician." The Bryces are the first and so far the only Sun River Electric member who uses renewable energy resources to feed electricity back on to the electric grid through the co-op's distribution line.

"We like our co-op and are active in it," Logan said. "We appreciate that the co-op has come up with a workable net metering policy. The manager, Scott Odegard, and the board have been good to work with. The board even came out here and looked at our installations. It's good that they have decided to work with alternative energy projects even though they're not making any money on it."

Odegard said, "We are grateful for the help the Bryces gave us in developing our policy."

"When we put in these (wind and solar) systems for the house, it was

with the idea of being completely independent from the grid," Logan said. "That really wasn't necessary, especially with the co-op being so agreeable and dependable. When they have an outage or a problem in this area, they get right on it."

The Bryces have sold several Bergey wind turbines around central Montana. Most of those have been for residences but one will be used in a soccer park in Butte. He said the school at Big Sandy also has plans to install one at some time in the future. The Bryces handle two models of turbine. One is a 1 kW class and the other is a 10 kW class.

They have learned through trial and error what turbines work and what won't work in Montana.

"We've killed a few turbines up here," Bryce said with a grin. "They just weren't robust enough to handle our Montana winds. People need to make sure they have the right system for the right location. When we design a system, we figure the maximum it should have to take and then we add a 10 percent buffer. And we won't sell anything we haven't tried."

Logan and Jennifer are working with an engineer in Denmark on what they hope will be an even better Montana-suited turbine.

One popular use for alternative energy, especially from solar cells, is to supply electricity to remote areas for stock watering and for cabins where extending power lines is cost prohibitive.

"And the technology is getting so much better," said Logan. "The pumps used on some of the old solar



*The Bryces (l. to r.) Jennifer, Crichton and Logan pose before one of their solar panels.*

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stock watering systems had problems. The new screw driven pumps are just about bullet proof.”

He said that wind turbine technology is progressing rapidly and dropping in price. “The price of the technology has gone down by about half in the past six years. He thinks that in as short a time as four years, the systems may “pencil out” economically. He said presently cost-benefit ratio wouldn’t pencil out if it weren’t for the state incentives to install alternative energy generation. The state offers income tax credits, property tax exemptions and low-interest loans for such projects, he said.

“For us it’s a lifestyle, kind of like a hobby,” said Jennifer. “And it’s less harmful to the environment compared to other energy sources.”

Logan said he likes wind better than solar. “But dollar for dollar, solar is probably a better deal. It needs less maintenance, you get usage every day and the panels last for 25 years.

The only moving part is the tracker which turns the panels to follow the sun. Logan pointed out two banks of concave tubular surfaces on both sides of a standard solar panel. The curved surfaces concentrate the sun’s light. “That’s an experimental unit we are testing for a company,” he said. “So that electricity is free,” he added with a grin.

The Bryces have a hybrid solar/wind system for their residence. The system is also their demonstration model for potential customers. When the system generates more electricity than the residence needs, it places energy back onto the grid.

Logan stressed, however, that their system will not generate electricity back on the grid when the grid’s power is out. That could create a dangerous problem for line crews trying to fix an outage. “We have a fool-proof inverter that prevents that,” he said. “It’s so sensitive it can sense problems with the line that the co-op can’t and it immediately disconnects from the grid.”

The Bryce system also features a large bank of batteries. “Most systems we sell don’t have batteries,” he said. “We don’t recommend them. In most



Logan Bryce holds up a Sun River Electric Cooperative welcome mat he uses in Iraq.

cases, if you’re tied to the grid, you don’t need them. They’re just an added expense and then there is maintenance.”

He said solar units they sell cost from \$3,000 to \$5,000 and a 1 kW wind turbine systems cost about \$3,000. “And both wind and solar are easy to install,” he said.

To contact the Bryces about Pine Ridge Products, call (406) 738-4284 or 738-4283, e-mail [wlbryce@pineridgeproducts.com](mailto:wlbryce@pineridgeproducts.com) or go to website [www.pineridgeproducts.com](http://www.pineridgeproducts.com).

## Serving their country

The Bryces are a military family, Jennifer is in the Air Force and Logan is in the Air National Guard. When he’s not busy with the Guard, Logan is a U.S. Marshall based in Great Falls. For the past few years, however, he has mostly been on active duty. His unit, the 1022<sup>nd</sup> Medical Company AA, has been activated three times in the past three years. When he was interviewed for this article, he was home on a brief leave before he had to return to Iraq.

“We fly Blackhawk helicopters in the Kuwaiti theatre and southern Iraq,” he said. “We serve several military hospitals in the area. We are one of the most activated, most used units in the U.S. military. There are just not enough

regular active duty units. The armed forces were reduced too much. This next activation will be for 18 months. It will be my last. After this tour, I will have enough time in, 20 years, to retire.”

Logan is proud to serve his country but he said repeated activations make it harder on Guard members and families. “Besides missing the family, it’s difficult for people to keep a job, have a business, things like that.”

He didn’t have much positive to say about his experiences in Iraq. He noted one problem Americans face in setting up a democracy there is that the country is inhabited by three groups who have hated each other for centuries.

“Sometimes people will live right next to a bomber and know it and not do anything about it,” he said. “Then when a family member or friend is hurt or killed by the bomb, they blame it on the Americans. I know its difficult for these people to get a grasp on freedom because they’ve never had it but they need to step up to the plate for their own country.”

He said he expects the U.S. forces to be involved in Iraq “for quite some time.”