

Solar power fuels home, store on Valencia farm

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By Bob Podurgiel

T. Lyle Ferderber of Frankferd Farms in Valencia has been harvesting grains such as corn, oats, and barley for more than 30 years.

Recently he has taken to harvesting another crop -- sunshine.

On the roof of his 100-year-old barn in Butler County, Mr. Ferderber has installed a 10-kilowatt solar array of 44 panels that can generate 230 watts of electricity each.

He has installed a 16-kilowatt capacity solar array on the roof of his food warehouse store on Saxonburg Boulevard where he sells a variety of organic, bulk and specialty foods.

The two systems may be good for the environment, generating pollution-free power to help run his business, but Mr. Ferderber looks at solar energy in a more practical way.

"It has to make economic sense, first," Mr. Ferderber said during an Oct. 23 tour of the farm organized by the Pennsylvania Association of Sustainable Agriculture. This year, he received the 2012 Sustainable Agriculture Business Leader Award from the association, an organization that works with farms across the state to improve their businesses while encouraging sustainable agriculture practices. Mr. Ferderber said his turn to solar is directly helping his bottom line. The system at the family farm generates enough power to supply 40 percent of the electrical needs for his house and for the grist mill, where he grinds grains into organic flours.

"If it wasn't for the grist mill, the system would provide enough power to supply all the needs of the farmhouse," said Hal Saville, energy project consultant for Energy Independent Solutions, the company that installed both systems. The firm specializes in renewable energy systems, including solar, wind, geothermal and solar hot-water for farms, businesses, municipalities, and homes. The arrays are pitched at an angle on the barn roof facing south to catch the most sunlight.

They generate electricity in direct current and it is turned into alternating current with an inverter under the barn.

The power is relayed to the grist mill and the house.

When the system is generating more electricity than is needed, it feeds the power back into the grid.

When that happens, Mr. Ferderber's electric meter runs backwards and he receives a credit from the power company.

Mr. Saville said the system will generate about 1,000 kilowatt hours a month. A kilowatt hour is 1,000 watts of electricity used in an hour.

He said the new, more efficient arrays will generate power on cloudy days and even a small amount when they are covered by snow.

PASA touts the Frankferd Farms mill, as one of the first solar-powered flour mill in the world, but Mr. Ferderber isn't so much concerned about being the first at something.

"First, you have to understand the value of the system. It was an economic decision," he said, and he added he's not against the way most people buy electricity today, but wanted to augment the current sources. He even helps heat his farmhouse with one of the oldest forms of energy by burning wood. Making good economic decisions has helped Mr. Ferderber, and his wife, Betty, build Frankferd Farms and Frankferd Farms Foods into a bustling operation, employing 27 people.

They purchased the farm from his parents in 1980.

He tends to think long term, so the initial cost of the farm solar system, almost \$40,000 before tax and other credits were applied to reduce the cost by almost half, wasn't his major consideration. Energy Independent Solutions says a solar-system will pay for itself in 4 to 8 years with the savings on electricity.

"I try to think long-term," Mr. Ferderber said. I will be on the farm until the day I die."

He is in his mid-50s now, so he has enough patience to wait for the system to pay for itself.

In the meantime, as he demonstrated one of the milling machines in the flour mill, he said if the grind stones are set too close together, they will rub, creating a burning smell, warning the operator they are too close.

"That's where the phrase putting your nose to the grindstone came from. You have to take care of business by keeping close to what you are doing," he said.