



A SUN- CENTERED SOLUTION

Could solar power reduce your farm's energy bill?
It's an opportunity worth looking into.

BY KIM SCHOONMAKER

Curtimade Dairy Inc., Tulare, Calif., installed this solar-energy site in October 2011 to hedge against rising energy costs.

ACCORDING TO THE ONLINE ENCYCLOPEDIA, WIKIPEDIA, the sun is the star at the center of the solar system. And even though it's 93 million miles from Earth, on average, the sun is rising in popularity on dairy farms, especially those looking to capture its rays and turn them into energy savings.

Solar energy represents an opportunity for dairy producers and, thanks to financial incentives, both large and small operations are warming up to its benefits. Here's how some farms are using this renewable energy source to power their operations and reduce fuel and electrical costs.

Harness energy savings

The ability to generate hot water more efficiently and cost-effectively is what initially drew Steve Ballard to solar power. Ballard and his wife, Stacie, operate a 100-cow Jersey farm and on-site artisan cheese plant in Idaho's Magic Valley.

In May 2012, the Ballard family completed installation of an evacuated-tube solar array on the roof of the farm's cheese plant in Gooding. Since then, the operation has sharply reduced its dependence on propane, which averaged about \$1,800 per month.

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COURTESY SITE BASED ENERGY, LLC

In May 2012, Ballard Family Dairy & Cheese of Gooding, Idaho, installed 12 evacuated-tube solar collectors on the roof of the farm's cheese plant. The system uses thermal power to generate hot water, largely reducing the farm's reliance on propane.

plant and the dairy, so we were looking for something that would create large volumes of hot water at a good rate," Ballard says. "We were really dependent on propane before because we don't have access to natural gas. This project has helped us eliminate probably 80 percent of our propane use."

The reduction in propane cost alone adds up to an impressive yearly savings of about \$17,300. By saving that much annually, the solar project should pay for itself in only 18 months, Ballard says. (Net cost of the project, minus grant money and other incentives, was \$26,000.)

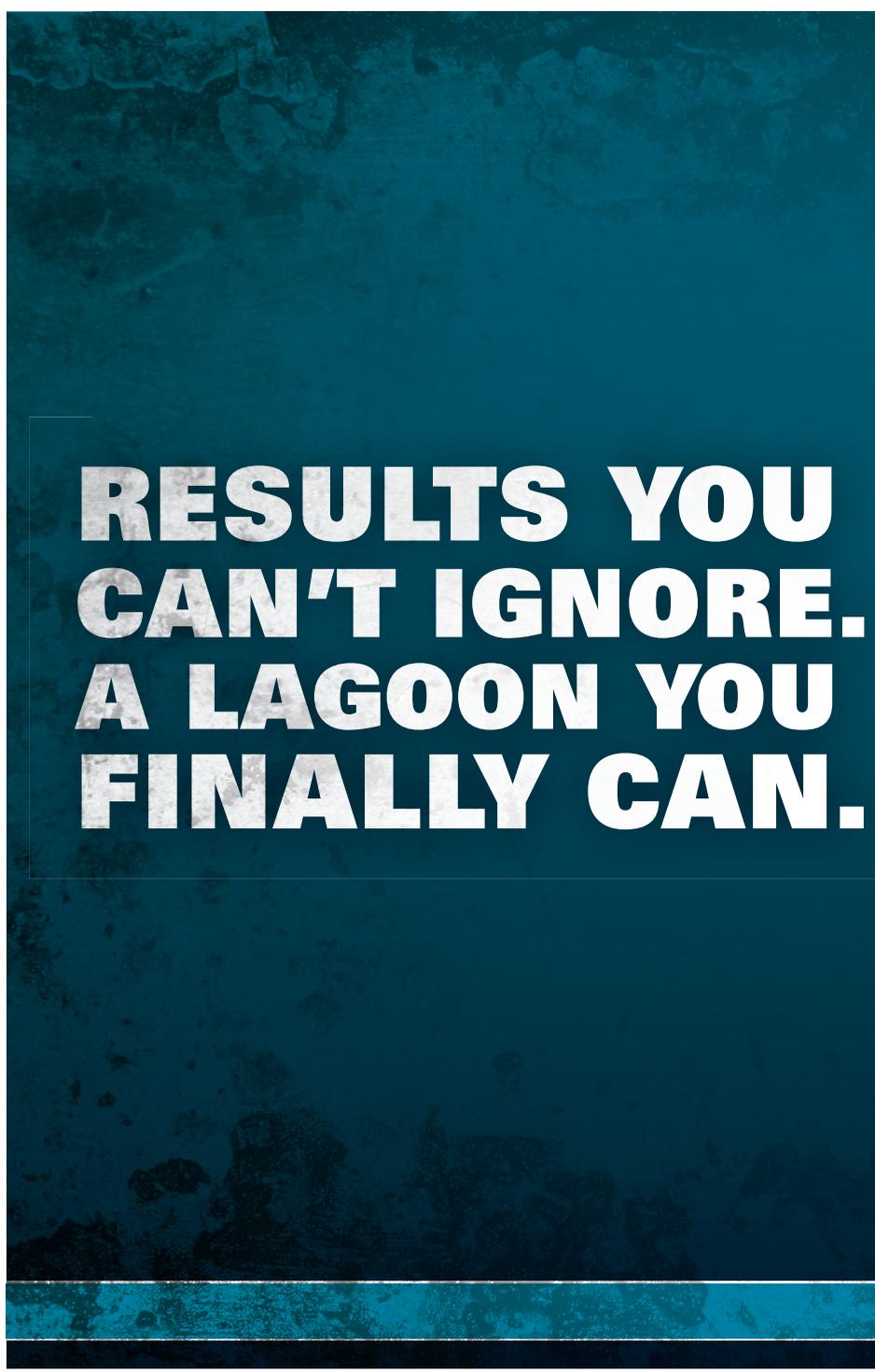
Recently, the Ballard family won a regional clean-energy award for putting several energy-saving practices into place, including the installation of the solar arrays on the cheese plant.

Potential revenue source

Interest in reducing the carbon footprint at Curtimade Dairy Inc., Tulare, Calif., was one of the main drivers behind the October 2011 construction of a solar-energy site on roughly 4 acres of land just south of the milking center.

Like the Ballards in Idaho, Curtimade is using solar power to hedge against ever-increasing energy costs, principally electricity costs, says Katrina Rainey, who spearheaded the project for her father, Ben Curti.

Rainey estimates the 719-kilowatt ground-mounted, single-access system will pay for itself in seven to 10 years. She



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FINALLY CAN.**



also is optimistic that the dairy will be able to use solar power to generate 85 to 90 percent of its energy needs. According to a case study of the project by SPG Solar Inc., the 3,000-cow dairy can expect a savings of \$145,000 annually. It hopes to eventually use the system as a source of revenue to help sustain the family business, which is celebrating 100 years.

CURTIMADE DAIRY, INC. SAVINGS

SOLAR POWER GENERATION	PROJECT COST	\$2.9M
	INCENTIVES/ GRANTS	\$1.36M
	NET COST	\$1.54M

Financial help is attainable

A project of this scope would not have been feasible without economic incentives, Rainey says. The dairy secured a federal grant that covered 30 percent of the project's total cost. It also receives 4.4 cents per kilowatt-hour for the first five years through a state incentive program. Together, the financial help will defray about 47 percent of the \$2.9 million project. Accelerated tax depreciation was another avenue that helped offset the project's cost.

In Idaho, Ballard Family Dairy & Cheese also trimmed its solar project costs through financial aid. With the help of Site Based Energy, LLC, the energy-management company that helped the Ballards design and build the system, they secured \$66,000 in federal grants, as well as tax savings and efficiency incentives from Idaho Power, its local utility provider. 🐄

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BALLARD FAMILY SAVINGS

SOLAR POWER GENERATION	PROJECT COST	\$92,000
	INCENTIVES/ GRANTS	\$66,000
	NET COST	\$26,000

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