

Renewable Energy—Small Wind program: **Bernards Farm**



Energy answers are blowing in the wind at Yamhill County farm

When farmers Chris and Mike Bernards registered to attend the January 2008 Harvesting Clean Energy Conference in Portland, they expected to learn how a solar electric system could cut energy costs. Instead, they discovered that the answer was blowing across their 100-acre McMinnville farm.

Just four months later, a 10-kilowatt wind turbine mounted on a 120-foot tower began generating electricity in the Bernards' oat field. The project came together with help from an Energy Trust incentive, Oregon state energy tax credits and turbine manufacturer Abundant Renewable Energy, who used the installation as a 5-day training workshop for dealers, installers and others. The Bernards expect to generate approximately 15,600 kilowatt hours of electricity a year, enough to meet over 25 percent of the farm's needs.

“A LOT OF FOLKS WILL START THINKING ABOUT USING WIND POWER TO DEFRAY RISING ELECTRICITY COSTS. IF YOU'RE A FARMER, LOOK INTO WIND. FROM EVERYTHING I CAN SEE SO FAR, IT MAKES ALL THE SENSE IN THE WORLD.”

*Mike Bernards, owner
Bernards Farm*

Goals

- Reduce electricity costs
- Hedge against future energy price increases
- Generate and use clean energy from a renewable resource
- Shrink carbon footprint
- Reduce dependence on fossil fuels

Strategy

Manufacturer Abundant Renewable Energy recommended that the Bernards install a 10-kilowatt wind turbine mounted on a 120-foot tower.

Project Benefits

- Estimated annual generation of 15,600 kilowatt hours (assumes 10.13 mph winds)
- \$1,248 annual electricity cost savings
- Carbon footprint reduction of 8 tons/year

Equipment Installed

- Abundant Renewable Energy ARE-442 10-kW wind turbine
- 120-foot guyed monopole tower

Financial Analysis

The following example includes costs, incentives and tax credits that are typical for a 10-kW small wind system operating with 12 mph winds*:

\$80,000	Typical project cost
- 27,000	Energy Trust incentive
- 40,000	Oregon Business Energy Tax Credit
\$13,000	Project cost after incentive & tax credit

- \$1,758 annual estimated energy cost savings (electricity)
- Estimated payback from energy savings: 7.4 years

*Tax credit and energy cost savings would be less with winds less than 12 mph

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Is the wind blowing in your direction?

If you live or farm in a windy, rural area on at least one acre with plenty of open, unobstructed land, a small wind power system could pencil out for you. Oregon customers of Portland General Electric or Pacific Power who qualify can offset up to 50 percent of the cost of installing a wind turbine with an Energy Trust incentive and a state energy tax credit.

Visit Energy Trust's Web site at www.energytrust.org/SmallWind for details on:

- Eligibility and site requirements
- Assessing wind speed on your property
- Energy Trust incentives
- Small Wind trade ally contractors
- Qualified wind turbines

How can we help YOU?

Are you interested in generating clean, renewable energy from your home, business or property? Energy Trust provides cash incentives to help Oregonians invest in renewable power projects from wind, solar, hydro, biopower or geothermal resources.

To find out more, call 1-866-368-7878 or visit www.energytrust.org/SmallWind.

Energy Trust provides technical assistance and financial incentives but does not install energy systems or equipment. This work is done by independent businesses that are solely responsible for the quality and performance of their installations.

Energy Trust of Oregon, Inc., is an independent nonprofit organization dedicated to energy efficiency and renewable energy development. Our mission is to change how Oregonians produce and use energy by investing in efficient technologies and renewable resources that save dollars and protect the environment. We serve Oregon customers of Portland General Electric, Pacific Power, NW Natural and Cascade Natural Gas.

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Energy Trust of Oregon, Inc.
851 SW Sixth Avenue, #1200
Portland, Oregon 97204

Toll Free: 1-866-368-7878
Facsimile: 503-546-6862
energytrust.org

Project Team

Bernards Farm
Energy Trust of Oregon, Inc.
Abundant Renewable Energy
Inland Electric

Utility

Portland General Electric

