

# The Oregonian

## Homeowners get fired up over generating own power

**Electricity - As power costs and energy-saving incentives rise, Americans are making room for wind, solar options**

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**GAIL KINSEY HILL**

For years, Robert Preus' wind turbine company in Newberg pattered along, as much quixotic venture as practical enterprise.

"If you can't dance on the skinny branches, then you don't deserve to be here," said Preus, acknowledging the risk he took on when he decided to start Abundant Renewable Energy in 1999 and sell small-scale wind turbines to homeowners.

Yet, those branches have grown a little thicker in the last couple of years, bolstered by rising energy costs and mounting concerns about fossil-fuel emissions.

Technological advances and government and nonprofit subsidies also have strengthened a trend that finds wind turbines, solar photovoltaic arrays and energy-thrifty appliances popping up in more homes and yards than at any time at least since the oil scare of the early 1970s.

Despite the surge in interest, the step into home-based electricity remains tentative, as the American psyche holds fast to the notion that utilities and corporate energy producers will continue to produce plenty of relatively cheap, care-free power. What's more, devices that transform sun and wind into electricity are expensive, which means a household must have money as well as desire.



The Energy Trust of Oregon, a nonprofit that provides grants for renewable energy projects, has handed out incentives for just one residential wind turbine in recent years. Warren and Elizabeth Griffin bought the 1.5-kilowatt African Wind Power machine from Preus last year for about \$23,000, including installation.

"It fits my mind," said Warren Griffin, a pediatrician, of the decision to integrate wind energy into the couple's hilltop home. "It was a great opportunity to try to make a difference."

This year, Preus has been fielding more customer inquiries than ever, even as business has recently dipped as he has switched from importing turbines to selling models designed and manufactured by his company. Next year, he expects to deliver 100 of his 2.5-kilowatt and 10-kilowatt turbines -- the smaller one goes for about \$20,000 and the larger one for \$60,000 -- to buyers throughout North America.

"Right now, our culture drives people to consume more, and it's hard to imagine shifting to one of conservation and nurturance," Preus said. "But with incentives, good wind and high utility rates, you're going to see it happen."

## **Incentives to change**

Incentives, or subsidies, vary from state to state. Oregon's four-year-old Energy Trust doles out about \$50 million annually to homes and businesses investing in renewable energy, conservation and energy efficiency. The money comes from fees tacked onto the utility bills of investor-owned utilities PacifiCorp, Portland General Electric and Northwest Natural Gas.

Qualifying projects can tap into a recently increased Oregon tax credit, further easing the financial shock. The federal government provides a brand-new tax credit for solar, but not wind.

Besides adequate supplies of cash, a homeowner with wind-turbine intentions typically must have about an acre of land and a spot with consistent, breezy conditions. Zoning ordinances can pose problems, as can neighbors, who might consider the tall, propeller-spinning devices unsightly.

"The real barrier to wind has been an understanding of the wind resource, of identifying locations," said Alan Cowan, the Energy Trust's renewable-energy program manager.

Smaller price tags, bigger subsidies and unobtrusive profiles have made solar panels a more popular purchase than wind turbines.

The Energy Trust has helped homeowners put in 367 solar photovoltaic arrays in Oregon, roughly 90 a year.

"We've seen more in the last four years than in the whole history of the state," said Lee Litchy, the trust's senior marketing manager.

Electricity generated by rooftop solar cells can trim annual heating bills by 20 percent to 30 percent, even in Western Oregon, which receives as much sun each year as the national average, Litchy said.

Grants and tax credits can cut project costs by half, solar experts note. But out-of-pocket expenses can still amount to thousands of dollars, with estimated payback periods of 15 to 20 years, even longer.

## **Energy saving at home**

If homeowners can't afford a solar panel or a wind turbine, they still can lower their energy bills through basic energy-efficiency measures, conservation experts say.

They can buy appliances rated as energy-savers. They can clean furnaces and ductwork. They can seal windows. And, they can buy compact fluorescent light bulbs, which are still funny-looking twisted things, but work much better than in earlier years, conservation enthusiasts say.

CFLs, which use 75 percent less energy and last 10 times as long as incandescent bulbs, "have become incredibly common," Litchy said. A promotional campaign that began this month and lasts through November offers CFLs at hardware, home improvement and many other retail stores for 99 cents each.

CFLs, however, should not be thrown in the trash when it's time to dispose of them. They contain electronic components and an extremely small amount of mercury. They should be disposed of with other household hazardous waste products such as paint, batteries and thermostats, according to Energy Trust of Oregon.

"A tight, efficient building is still one of the more cost-effective ways to save energy," said Duane Woik, a green building consultant with Earth Advantage, a nonprofit organization that promotes energy-saving and environmentally responsible practices.

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