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energy alternatives

New wind farm seen as model for future of wind energy

By *TERENCE CHEA*

Associated Press

BIRDS LANDING, Calif. – One of the nation's largest wind energy projects is being completed in the rolling hills between San Francisco and Sacramento, where dozens of turbines rising more than 300 feet tower over wheat fields and herds of sheep.

The High Winds Energy Center is a model for how wind energy should be developed, environmentalists say. With turbines nearly 20 times more powerful than earlier generation machines, it produces electricity at competitive prices and doesn't disturb the surrounding farms and wildlife.

When all of its 90 turbines are operating by year's end, it will have the capacity to generate 162 megawatts of electricity, enough to power about 75,000 homes, according to Florida-based FPL Energy, which owns and operates High Winds along with 30 other wind facilities in 10 states. Set in the Montezuma Hills in Solano County, the new wind farm rises above six farms and ranches just north of the Sacramento River.

"This is the future of wind power," said Ralph Cavanagh, energy program director for the Natural Resources Defense Council. "It doesn't displace agricultural uses, it complements them."

Environmentalists have championed wind power as an alternative form of energy for decades because wind is a free, renewable resource that generates electricity without polluting the air or water.

But since the first large wind facilities were built in the early 1980s, they have run into technological, economic and political obstacles. Early versions didn't produce electricity efficiently enough to compete with fossil fuel, while communities complained that small forests of turbines marred the landscape and environmentalists fretted that the blades were killing birds.

The new Solano County wind farm, environmentalists say, has overcome such obstacles.

High Winds is a different kind of wind farm from the ones familiar to most Californians. The state's two biggest areas for wind energy – the Altamont Pass east of San Francisco and the Tehachapi Pass north of Los Angeles – are home to dozens of wind farms where thousands of small, low-power turbines dot the hills.

High Winds' turbines are taller, more powerful and more efficient than older generation turbines, which means the project can generate more energy with fewer machines. Each turbine generates 1.8 megawatts, 18 times more than the 100-kilowatt turbines built two decades ago.

Older turbines can't rotate from side to side, so they often remain idle, and only operate at maximum efficiency when the wind blows in the right direction. High Winds' turbines swivel to face oncoming breezes, capturing energy at wind speeds as low as eight mph, said FPL spokesman Steven Stengel.

High Winds hasn't run into the kind of opposition plaguing other wind energy projects, such as the offshore towers near Massachusetts' Cape Cod, where residents worry that 40-story turbines will harm ocean views, seabirds and tourism. Here in the agricultural Montezuma Hills, there have been few complaints.

"It's a win-win situation," said Jackie Crockett, chief of staff for Solano County Supervisor Ruth Forney, who represents the district where the wind farm has been built. "We just assumed when we took office that it was another thing we'd get complaints on, and we haven't had any."

Unlike Altamont Pass, where turbine blades have killed an estimated 22,000 birds, High Winds' turbines rotate more slowly, so few birds get caught in the blades.

And local landowners welcome the extra income – FPL pays between \$2,500 and \$4,000 a year to lease the space for each turbine, while the surrounding land can still be used to raise animals, grow crops and other activities.

"Far from being an intruder on the landscape, this represents economic opportunity for rural America," said the NRDC's Cavanagh. "This is adding value to farms without displacing the farming."

Projects like High Winds also benefit from government incentives. Wind energy projects developed since 1994 get 10 years of federal tax credits of 1.8 cents for every kilowatt-hour of energy produced. The latest credit expires at the end of the year, but wind advocates expect Congress to extend it again next year.

About a dozen states require utilities to increase their use of renewable sources such as wind, solar and geothermal energy. A California law passed last year requires 20 percent of the state's electricity to come from renewable energy by 2017, and state regulators want to push the deadline up to 2010.

For now, wind remains a minor player in the U.S. energy markets, and while California leads the nation in use of wind power, less than 2 percent of the state's electricity came from wind last year, according to the California Energy Commission.

Technological advances, along with government incentives, have now made wind energy cost-competitive with oil, gas, coal and nuclear energy, said Jan Johnson, a spokeswoman for PPM Energy, an energy wholesaler that has already sold most of High Winds' output to cities including Anaheim, Pasadena, Glendale and Sacramento.

"If you have a choice between any form of electrical generation," Johnson said, "are you going to choose one that generates greenhouse gases or wind power?"

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