

## Wind Power

STUART, Iowa - Rising 200 feet from its base alongside busy Interstate 80, the white tower lords over its surroundings, visible for miles in any direction, its massive blades turning steadily in the wind.

This central Iowa town of 1,700 is so proud of its wind turbine that S-T-U-A-R-T is painted down the tower's side in bold, black letters. Even without highway signs, travelers know where they are when they reach the city, 30 miles west of Des Moines.

The turbine with its 80-foot blades went on line last May, part of a growing movement in Iowa to tap into a plentiful and unlimited resource \_ the wind. It supplies about 11 percent of the city's power, enough electricity for all the street lights and municipal buildings.

"I think it's a very good deal for the town of Stuart," said Doug Christensen, general manager of Stuart Municipal Utilities. "I know people are very interested in putting more in. I've had that question asked many times: When's the next one going in?"

Wind power is generating more and more discussion in Iowa, which is the 10th windiest state in the country and ranks third nationally in wind energy production, behind California and Texas.

The state has 814 utility-scale wind turbines, according to a count by the Iowa Energy Center in Ames, and they're capable of producing enough electricity to power about 270,000 homes.

Most of the turbines stand on large wind farms in northwest and north-central Iowa. But many others operate on a much smaller scale, and now farmers are looking at erecting turbines, either to power their own operations or to sell the electricity as they would a crop.

Curious Iowans are flocking to wind energy meetings to see if it would work for them.

"People are intrigued with wind energy," said Bill Haman, industrial program manager for the Iowa Energy Center. "It's such a hot topic right now, you can't pick up a newspaper hardly, or a magazine for that matter, and not become informed."

Stuart is among 33 municipal utilities that have a wind turbine or get some power from wind energy. Nine school districts have put up their own turbines to try to cut their utility bills and several businesses get power from turbines, ranging from a plastics assembly plant in Adair to a truck stop at Blairsburg to a hospital in Nevada.

The savings can be substantial. The Eldora-New Providence School District put a 750-kilowatt turbine on line in October of 2002 and saves \$90,000 to \$100,000 a year in power costs. And when the turbine produces more power than the school uses, Alliant Energy buys the excess, generating additional revenue for the district.

"The other plus is the community pride is just huge," said J. William Grove, the district's former superintendent. "Of all the things I ever tried as superintendent, I think that's the only project I never had a complaint about."

The Spirit Lake School District in northwest Iowa was a pioneer nationally in tapping wind energy, putting up its first turbine in 1993. A second turbine went on line in 2001 and at the time, the school was producing all its own electricity and selling some back.

The district has added space since then, so the turbines currently account for 75 percent of its power needs, Superintendent Tim Grieves said. Grieves said the district is looking at putting up a third turbine.

In Nevada, a wind turbine donated to the Story County Medical Center began operating in 1995. The turbine powers the city's sewage disposal plant and the city reimburses the hospital, said Jim Miller, the hospital's network technician.

“It helps the hospital's bottom line,” Miller said.

The Iowa Association of Municipal Utilities is developing a project to “store” wind energy. Wind turbines would drive compressed air into underground aquifers and that air would be released to generate electricity when additional power is needed. Power demand peaks in the summer, when winds are at their lightest in Iowa.

“The goal is to make wind available whenever you need it, not just when the wind is blowing,” said Bob Haug, the association's executive director.

Farmers originally benefited from wind energy through lease payments from the big utilities that began putting up turbines in Iowa in 1999. Those payments far exceeded what farmers could make from the crops they would have planted on that parcel of land.

The wind farms also have added to the tax base of their locales. Taxes on the 259-turbine Storm Lake Wind Farm, the state's largest, paid 16 percent of the bond issue for a new middle school building in the Alta School District, Superintendent Fred Maharry said.

“Anything we get is really appreciated because money is really tight in education,” Maharry said.

While some farmers are content to accept lease payments, others are looking at owning the turbines themselves. In Haman's view, that's where economic development from wind energy really occurs. Haman said farmers leasing land to a wind energy developer get only 1 to 3 percent of the revenues that wind is worth.

“If that farmer had oil or gold on his property, would he sell mineral rights for 1 to 3 percent of its value?” Haman said. “And yet he's more than willing to give up the wind that blows over his land.”

The Iowa Energy Center has a wind calculator on its Web site, [www.energy.iowastate.edu](http://www.energy.iowastate.edu), to help consumers determine if a turbine would work for them. The Iowa Farm Bureau's Web site, [www.iowafarmbureau.com](http://www.iowafarmbureau.com), offers a similar tool.

The Farm Bureau also has sponsored wind energy informational meetings around the state. Haman, who speaks at those sessions, estimated that 180 people attended a meeting in Fort Dodge in December. Haman counted 109 people at a meeting Cherokee and when he spoke at a meeting last year in Ainsworth, “they had to turn away people.”

The normal homeowner could get by with a 10-kilowatt turbine, which would cost \$35,000 to \$40,000, Haman said. State and federal grants are available to help pay for such projects and the Energy Center will provide up to half the financing, interest-free, with a cap of \$250,000.

Some farmers are working together on wind projects. Phil Sundblad, who farms near Albert City, has joined nine other farmers in forming a company called Crosswind Energy LLC. They're putting up 10 turbines, each individually owned and with a capacity of 2.1 megawatts, on a four-mile long ridge between Ayrshire and Ruthven.

``There's certainly a push right now for ownership," Sundblad said. ``But you still have people that want nothing to do with owning. They would just like to receive a lease payment."

Sundblad's group hopes to be generating power by fall. They'll sell what they produce.

``We see this wind project as a way of diversifying," Sundblad said. ``We're farming the wind, so to speak."