

**C**apturing the wind and using its power almost sounds like the stuff of which tall tales are made; but for folks living in states like Wyoming, the Dakotas, Texas and Oklahoma it is a real opportunity.

Traveling across the Plains, and even as far west as California, you've likely seen those tall towers with their blades spinning in the wind. In recent years, 200-foot (ft.)-tall wind turbines have been erected in pairs and by the dozens on farm- and ranchland deemed windy enough to produce power for electricity. The popularity of wind energy as a power source in the United States is being bolstered by its environmentally friendly appeal and its potential to reduce American reliance on foreign energy supplies.

And the potential for this renewable resource is enormous. The American Wind Energy Association estimates that wind power could produce nearly 11 trillion kilowatt hours (kWh) annually — three times the amount of power the United States now uses. One large turbine alone can produce about 3 million kWh of electricity each year, which is enough energy to supply 420 average American households.

### Added income

Given that potential, wind now represents the country's fastest-growing power source. And it could offer an economic boost to the ag economy, since farmers and ranchers own many of the large parcels of land suitable for wind turbines.

Wind fits into farming because it offers a diversification of income, according to Larry Mitchell, current chief executive officer (CEO) of the American Corn Growers Association (ACGA). "It's another crop to harvest," he says.

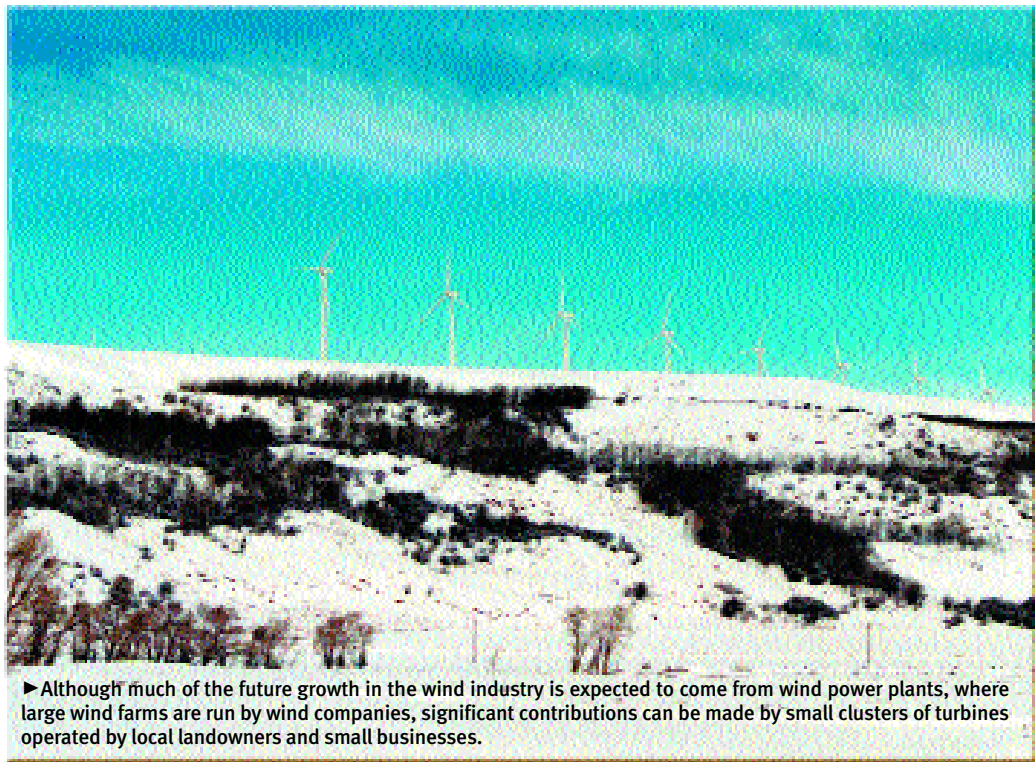
Indeed. Although wind turbines take up a large expanse in the sky, they have a minimal base on the land and can be installed in fields and pastures without interfering with crop production or livestock grazing. The 2002 Farm Bill even allows wind turbines to be erected on idle lands currently enrolled in the Conservation Reserve Program (CRP).

"Wind turbines are compatible with raising crops and livestock. They take less

# Roping the Wind

Wind energy could be agriculture's next big cash crop.

Story & photos by **Kindra Gordon**



► Although much of the future growth in the wind industry is expected to come from wind power plants, where large wind farms are run by wind companies, significant contributions can be made by small clusters of turbines operated by local landowners and small businesses.

than 2% of the land out of production, so it's not replacing what's there. It is an additional source of revenue," says Lisa Daniels, who serves as director of Windustry, a Minnesota-based organization devoted to educating landowners and rural communities about wind energy.

### Options

Although much of the future growth in the wind industry is expected to come from wind power plants, where large wind farms are run by wind companies, significant contributions can be made by small clusters of turbines operated by local landowners and small businesses. In these scenarios, there are two potential revenue streams from wind turbines for landowners, Daniels says.

The most popular is through leasing land to wind developers. These easements or leases can typically generate from \$2,000 to \$5,000 of income for the landowner per machine per year, Daniels says, depending on the size of the machine and contract negotiations.

"The benefit is that there is no real

expense on the landowner's side; however, there is limited reward as far as income potential," she points out.

As a second option, landowners or local entities can garner income from wind energy by producing the wind power themselves and selling it to utility companies.

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**Table 1: Top 10 wind states**

1. North Dakota
2. Texas
3. Kansas
4. South Dakota
5. Montana
6. Nebraska
7. Wyoming
8. Oklahoma
9. Minnesota
10. Iowa

Source: American Wind Energy Association

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Daniels says, "As people become more familiar with how wind energy works, I think we'll see more elements of local ownership of these projects — whether it be a school district, a local utility company or a group of producers. There's greater risk, but also greater reward and potential for long-term economic development for rural communities."

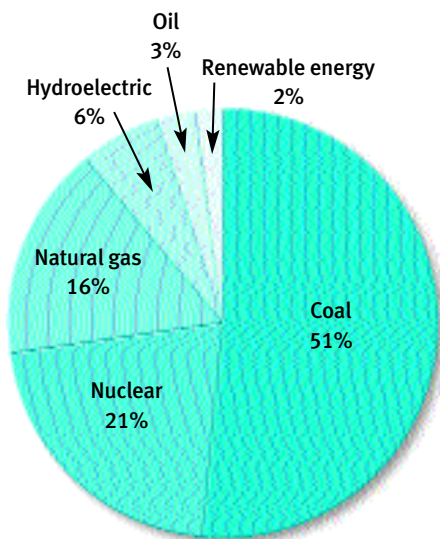
Income potential with these larger-scale projects will be affected by many variables but could produce up to six-digit returns after expenses are paid, according to some estimates.

Daniels adds that wind machinery is also changing at a quick pace. She says that as machines get larger, they'll produce more power and return more revenue.

Most importantly, the demand for wind energy appears to be growing. Already several U.S. utilities are buying wind power or owning wind turbines outright, including PacifiCorp, Xcel Energy, Florida Power & Light and Basin Electric Power Cooperative. That's expected to continue, especially as federal initiatives aim to have more than 10,000 megawatts (MW) of wind

capacity being used in the United States by 2010. In Texas and Minnesota, legislation is already dictating that power companies utilize a certain percentage of renewable

**Fig. 1: U.S. electricity sources**



Source: U.S. Department of Energy

sources within the next decade, most of which is expected to come from wind power.

In addition to wind power's earth-friendly attributes, it is expected to be good for rural communities by creating jobs for people who set up and maintain the turbines, by adding to the local tax base and by providing new types of income. Windustry reports that each 100 MW of wind development in southwest Minnesota has generated about \$1 million per year in property tax revenue and about \$250,000 per year in direct lease payments to landowners.

Daniels says, "Ninety-nine percent of wind turbines in the U.S. are set up on farm- or ranchland. So there is tremendous potential for long-term economic benefit from wind development."

Visit [www.windustry.org](http://www.windustry.org) for more information.

