

# Wind farm financing:

# don't get blown away

by Troy A. Helming  
CEO of Kansas Wind Power, LLC

Americans invented modern wind power, which in recent years has been the fastest growing energy source in the world. Although wind power is swiftly blowing through America, European wind development has exceeded that of the United States by a 3:1 ratio in the last decade. And there are, for all intents and purposes, only seven banks in the world that loan money on large-scale wind farm projects (100 megawatts or greater), and none of them are U.S. banks! What's wrong with this picture?

Is America's banking community — especially in the Midwest heartland — missing an opportunity for new business and economic development?

## The potential for independence

The wind industry is gigantic. In 2001, Texas alone had nearly \$1 billion of new investment added to the state solely for the construction of more than 900 megawatts of new wind farms. Worldwide — including the United States — the industry is growing at more than 25% per year. It is estimated that with current growth rates, more than \$10 billion will be invested in the U.S. wind energy industry from 2003 to 2010. That figure would be much greater if Congress would authorize the federal production tax credit (PTC) for wind farms further into the future as it has done with similar subsidies for the fossil fuel industries. Because the PTC must be renewed by Congress every couple of years, the

actually improved recently. What a time for the nation to embrace its own energy resources and decrease dependence on foreign sources of oil! Most of our electricity currently comes from burning of coal (roughly 65%), with nuclear, natural gas and hydroelectric rounding out the remainder. Non-hydro renewables comprise only a fraction of 1% of our total supply in the United States, whereas several other countries (including Germany, Denmark and Spain) each get 10% or more of their electricity from wind. Fossil fuels are finite and estimates show most supplies could be exhausted by 2040. Not surprisingly, coal is the dirtiest of energy sources, causing acid rain, contributing significantly to air and water pollution and indirectly increasing the na-

tomers, expanding sources of income and grappling with a shortage of qualified employees." The need for electricity isn't going to disappear anytime soon and wind power is currently generated — at large wind farms — for roughly the same cost as fossil fuel generation. In fact Xcel Energy recently stated that building a new wind farm provides lower-cost electricity than building a new coal-fired or natural gas-fired plant. And the wind isn't going away anytime soon unless Mother Nature decides to radically change her breathing habits. Therefore, diversifying a bank's balance sheet with wind energy, secured by a creditworthy utility and equity partner over the life of the loan, can offer a very solid new business customer, provide additional income



industry suffers from a start-and-stop mentality. Although the PTC has never failed to be renewed by Congress since the 1980s, whenever the renewal has been delayed, both turbine manufacturing and wind development stall. These delays cost billions of dollars in productivity and efficiency losses, and could be avoided with an extension of the PTC for at least five years. In spite of this public policy shortcoming, wind is still (please excuse the pun) blowing away every other source of energy in the world.

The wind industry has enormous potential. The three states of Kansas, Texas and North Dakota have enough wind energy potential to power the entire country, a U.S. Department of Energy study has shown. And the estimates have

tion's health bill. It's estimated that 50,000 people die every year from air pollution-related illnesses such as asthma, and the toll is rising, according to the American Wind Energy Association. The Midwest provides huge amounts of our country's food supply — why not also farm our winds to provide huge amounts of energy?

## Wind farms as rural development

Why should community and regional banks glide into the wind business? Quite frankly, those who do will prosper, and those who don't invest in wind will wish they did. Bold words, so let's back them up: according to the *ABA Banking Journal*, "Community banks are aggressively courting business cus-

that should be favorable to any bank's balance sheet and stimulate economic development in the local community (which in turn keeps more qualified people in the area as prospective employees). Oh, and one more minor detail: the bank is helping to save the planet.

Are wind farms controversial? The negative issues ascertained at most prospective wind farm sites in Kansas, Texas, North Dakota, South Dakota, Nebraska and Colorado center on aesthetic concerns and avian (bird) issues. The avian issue is not about bird strikes (today's turbines are so large the blades spin very slowly), but about habitat fragmentation. Proper siting procedures should eliminate or dramatically mitigate this issue. The aesthetic concern is a tough one: people want renewable energy by an overwhelm-



bines look like graceful, dancing ballerinas. These structures are tall (275 feet or more at hub height), nearly noiseless, non-polluting, and don't burn fossil fuels to create inexpensive electricity. Controversial or not, they are loved by tourism operators. Says Andy Stanton, director of tourism in Dodge City, Kan., "Our wind farm has now become one of the major attractions for tourism in southwest Kansas," and it was the cover story on the Winter 2002 issue of *The Legend* magazine.



ing majority, according to the World Wind Energy Association and Pinnacle Technology in Lawrence, Kan., but may not want the wind farms within sight of their homes. Beauty is in the eye of the beholder, so here's an opinion: wind tur-

How do wind farms help the rural community? This is a fun question, and one for which a wealth of information is available. The simple answer: a 100-megawatt wind farm should generate about \$300 million in direct, indirect and induced economic impact to the community, county, and state fortunate enough

to attract a wind farm, University of Iowa statistics show. Landowners hosting wind turbines will receive a healthy chunk of that figure: the average landowner in a lease with Kansas Wind Power receives roughly \$4,000 annually per turbine in the

## Wind farm financing 101

A 100-megawatt wind farm will power about 50,000 homes; cost about \$100-\$120 million to construct, last 20-30 years, avoid 550 tons of CO<sup>2</sup> emissions per year and 4,000 tons of noxious air pollutants (relative to a 100 megawatt coal plant); and will produce — on average — about 35 megawatts per year.

Before it can be built, a 20-year power contract with a creditworthy utility (which isn't easy to find these days) must be executed. Before the power can be sold, a wind farm site must be located (proximity to high-voltage power lines with extra capacity is almost more important than an adequate wind resource), leases signed with landowners, wind data certified by third-party experts, permits acquired, transmission studies done and much more.

Assuming it will cost \$100 million, typically the project is financed with 40% equity (\$40 million) and 60% debt at very low interest rates. The equity partners must also be creditworthy (another tough chore) and have a huge tax bill, as the PTC and depreciation tax benefits would be millions of dollars per year during the first 10 years in a project of this size.

The senior debt, if not all debt, is often retired within 12-14 years. There are nearly 200 variables that can derail the project at any step of the way, so lenders will need to become educated about wind energy and work in close partnership with the wind developer.

## Kansas gets into the act

The *Kansas City Star* reports that two wind farms have made headway in their efforts to take advantage of the state's optimal wind conditions.

One farm, planned for the Flint Hills area 140 miles southwest of Kansas City, defeated protests by landowners and environmental groups in a 3-2 vote of the County Commission. The farm, which will be built by a California company, will have 67 turbines capable of generating 100 megawatts of electricity, enough to power 40,000 homes.

The other plant, planned for farmland near Marienthal, could eventually have 75 turbines, also providing 100 megawatts. It did not spark protests and county approval was not required, but the plant must still be approved by the Kansas Corporation Commission (KCC).

A renewable-energy expert at the KCC reportedly expects to see approval granted to another one or two plants before the end of the year.



first 10 years, then about \$6,000 annually per turbine after that. This includes royalties on the energy generated from each turbine. For six turbines located on a 640-acre section, that's at least \$24,000 per year in additional revenue, and the landowner can continue to farm or graze cattle right up to the base of each turbine.

In Texas, ranchers may earn \$5-15 per acre grazing cattle. Adding wind turbines to that same ground increases the revenue to \$50-75 per acre, according to a study by Virtus Energy Research Associates. The footprint (amount of land used by turbine pad sites and access roads) is typically less than 2-3% of the total acreage leased for an entire wind farm, so the agricultural integrity of the land is preserved. How many rural landowners, nearing re-

tirement or still farming, could use these extra funds? It might just be the difference that allows a farmer or rancher to keep his or her land. According to Mark Edelman, economics department professor at Iowa State University, "If you're only looking at the farmer lease/ royalty payments, you're only looking at a tiny fraction of the total impact on the county and state."

### A need for U.S. champions

Community bankers should take a hard look at investing in the large-scale wind energy business. This industry needs U.S. champions in the lending community and local communities need the economic development, in some cases desperately. Participation by the regional

and community banks of the Midwest in helping the wind energy industry to grow will inject new life into rural communities — and inject a secure new revenue stream into those banks progressive enough to welcome this huge industry with open arms. American dependence on foreign oil will be reduced by farming the wind. And wind farms will be constructed in the Midwest — with or without the help of U.S. banks.

For more information, visit the Kansas Wind Power web site, [www.KansasWindPower.com](http://www.KansasWindPower.com), or the American Wind Energy Association web site, [www.awea.org](http://www.awea.org).

*Reprinted with permission from BankNews Publications March 2003 BankNews issue.*



**KANSAS  
WIND POWER, LLC**  
[kansaswindpower.com](http://kansaswindpower.com)

## Troy A. Helming, CEO

Kansas Wind Power LLC

913.888.WIND

Enterprise Resource Building

8527 Bluejacket St.

Lenexa, KS 66214

[www.KansasWindPower.com](http://www.KansasWindPower.com)

