

Billion dollar deals may be getting all the attention in the wind business these days but interest and momentum remain strong for small, community based wind projects that tie greater income and ownership to local economies. America is defining this niche on its own terms

AN AMERICAN MODEL FOR COMMUNITY WIND

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Behind its international pedigree, wind energy remains a local phenomenon. Turbines still turn above cornfields, along prominent ridgelines, or desert passes. In America, backers of community wind—people who seek stronger links from wind plants to local income and ownership—are growing in number and steadily defining this market niche. But the movement remains disparate with no strong unifying force. Policies supporting the concept vary from state to state. Help from federal government can be elusive. Turbine vendors are generally not motivated to prioritise small sales. Interconnection is difficult. Risk runs high.

To date, community-owned generation accounts for only 2% of national wind power output in the United States—a meagre 225 MW, according to an upcoming report from the Lawrence Berkeley National Laboratory. Another 309 MW belong to publicly owned utilities.

Only 56 MW was added in both categories last year. But numbers are misleading and experts insist a boom in locally owned wind project may be just around the bend. That matters, they argue, because community wind projects can grease the wheels for development in areas wary of proposals from outside interests.

Pushing things along, a bill in the US Senate is calling for tax-exempt Rural Community Renewable Energy Bonds to help secure front end financing for projects of less than 40 MW with at least 49% in-state ownership. Furthermore, the Energy Policy Act of 2005 set aside \$1.2 billion in Clean Renewable Energy Bonds that provide 0% financing to qualifying small renewable energy projects by rural electric co-operatives and municipal utilities (WINDPOWER MONTHLY, January 2007). Meantime, farmers continue to find innovative ways for their projects to access the federal production tax credit (PTC) available for wind investments.

At the movement's nexus is Minnesota (WINDPOWER MONTHLY, May 2006). The midwestern state is on track to add 300 MW of locally owned wind power this year—more than doubling its 275 MW community total. "The community wind folks have really had to fight to hang onto their toehold of the market share," says Lisa Daniels of Windustry, a non-profit champion of home grown development. "But we're also seeing that community wind isn't going away." Indeed, Minnesota's numbers will continue to rise. An innovative 2005 law, Community-Based Energy Development (C-BED), will shoehorn 800 MW of locally-owned projects onto the transmission grid by 2010 with the state's biggest utility, Xcel Energy, buying the electricity. The utility committed to buying power from 500 MW of citizen's wind power in Minnesota by 2010, says Xcel's Karen Hyde. "We have 150 MW where the contracts have been approved and those 150 MW should be online this year. We've seen a lot of projects around 20 MW—that seems to be a sweet spot for developers."

DEFINING THE CONCEPT

To date, most of community wind's successes have come from two methods. In the aggregate model, landowners raise the money and take the risk. In the so-called Minnesota Flip, a tax-eligible financial partner owns a project for its first ten years and, after extracting the PTC, passes ownership to farmers for the final ten years. Using its close relationship with the American farming community, John Deere Wind Energy has been a champion of the flip model and having discovered wind power at this level is now gearing up to become a fully fledged wind power developer (page 37).

"Both methods are beneficial to the community,"



New way: Still calling it "community wind," 43 farmers initiated the 100 MW Trimont project, which they sold to PPM Energy under advantageous terms

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says Dan Juhl, a godfather of the community wind movement. Juhl's 10.2 MW south-western Minnesota project went online in 1999. "At the end of the day, they both keep money in the community and create jobs. We get calls from around the country with people asking how they can do it."

Still, many debate the definition of community based projects. Some say a development must maintain significant local ownership to qualify for the various incentives to encourage citizen involvement. Others believe any wind project structure providing income locally that is significantly beyond standard yearly lease payments is community wind.

Complicating matters is a massive new model that brought 100.5 MW online in 2005. Minnesota's Trimont Area Wind Farm emerged after 43 landowners pooled money and invested in studies and permits, then secured a power purchase agreement (PPA) from Great River Energy, a co-operative and the state's second largest electricity retailer. In came PPM Energy, a big time wind plant developer, to build and own the project via an innovative deal that, through the sharing of gross profits, has potential to double the \$4000 annual lease payments on 67 GE turbines in Martin and Jackson counties.

Detractors of this particular deal insist the farmers would have done better by owning the machines. Others believe that, regardless of ownership, Trimont is a viable model. "I don't like the purists who say if it's not locally owned it shouldn't be done," says Ken Bradley of Fresh Energy, a Minnesota advocacy group. "Maybe they're making less money but they have fewer headaches. Everyone can find a different model that works for them."

According to PPM's Raimund Grube, the farmers receive about 5% of Trimont's revenues. "It can be higher or lower than that," says Grube. "The key is that it's gross revenues. We're investing around two hundred million in a 100 MW project and have a very strong economic interest in the project performing the way we've said it will. The misconception is that ownership equals benefit. There needs to be flexibility in the definition of community-based wind."

WIN, WIN, WIN

Martin County Commissioner Jack Potter believes everyone comes out ahead. "The farmer wins, PPM wins and the local economy wins," says Potter, who is not among the 43 landowners. "The county and the state win because of tax revenue. And Great River Energy wins because they've got to reach their goals." Minnesota is aiming for 25% renewable energy by 2020.

Richard Peterson, a landowner on the five-member board of Trimont's limited liability company, has farmed corn and soybeans in the area since 1963. "The problem with the flip model is that I would guess our average landowner is between 60 and 65 years old," Peterson says. "We didn't want to wait another ten years to get our money. We looked at five different models and PPM's looked best for us."

Two more 100.5 MW phases of Trimont are on the drawing board in the same counties—which could eventually bring another 134 turbines online. "I think we made the right choice," says Peterson. "Everyone from

PPM was a pretty straight shooter. I see this as just as much of a community project as anything."

Lawrence Berkeley, however, when tallying America's community wind projects, does not count Trimont among them and Windustry's Daniels sees a problem with PPM lobbying Minnesota legislators to make such projects eligible for C-BED. "Yes, we want more models to emerge," Daniels says. "But no, we don't want it to be so that anybody can come into the state and call their project a C-BED project and get the benefits." The law compels utilities to provide purchase agreements for 800



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MW of community wind by 2010. C-BED creates a market structure for utilities to buy wind power at a higher rate during the first ten years, essentially helping pay down the loan. "We look at C-BED as a tool for developing wind energy in the state on a local basis. The large developers already have the PTC and other advantages."

NOT HER QUITE YET

Beyond Minnesota, if community wind's time is coming, it is not yet here. Iowa, which ranks behind only Texas and California for installed wind generation, is often considered part of the movement's core. In reality, the state lags far behind with only 16 MW of community owned projects. "We have a lot to be proud of here, but when you look at Minnesota, we've barely tapped our potential," says Michelle Kenyon Brown of the Iowa Renewable Energy Association. "We've tried to pass a mirror of Minnesota's laws but didn't have legislative support."

Brown says that an Iowa state tax credit for developments under 3 MW seemed promising but most of the approved projects never got built—in large part because of tight turbine supplies and difficulty reaching the grid. "The state has done a lot to support the large corporate wind farms," Brown says. "Our farmers want to develop



Michael Skelly: *Landowners are more and more sophisticated. With the Internet they'll find out what other landowners are doing*

wind but there are too many hurdles for them at this time.”

Iowa’s answer might be found in Colorado, where Lamar Power and Light brought five GE 1.5 MW turbines online in 2004. The legendary Lamar project resulted from the innovative thinking of Leon Sparks, the co-op utility’s former director. Sparks convinced GE to add five turbines onto a deal with a nearby 160 MW project. Now retired, Sparks gives PowerPoint presentations and continues to spread the word.

THE PIGGYBACK MODEL

“When we started we didn’t know all the hoops we had to jump through—the permits and the surveys,” Sparks says. “But we never hit a snag. We hired Seawest to do our technical work. And we were able to route back to our own substation. We built all the trenching and roads ourselves to save money. It wasn’t easy, but we had a lot of help just a few miles away.” Seawest is a veteran wind project developer based in California.

Sparks is not alone in wondering why others have not replicated the piggyback model of developing a small locally owned project on the back of a commercial one. “It was a real case study on community wind, where a rural co-op can work with a nearby utility-scale project in developing a project,” says Craig Cox of Interwest Energy Alliance, a Colorado trade association. “The cranes were nearby and they were able to get a unit price from GE—a quantity discount on turbines—with warranty and maintenance agreements.”

Colorado has had little to show since, but that may be changing. “The governor pledged to create a new energy economy,” says Cox. “I think you’re going to see new initiatives to develop projects of all sizes. I wouldn’t be surprised to see a greater push for community projects in Colorado.”

WEST AND EAST TOO

To the west in Oregon, the first four community owned projects, totalling 26 MW, are expected online this year or next. “There are more than 200 MW in various stages of development,” says Alan Cowan of Energy Trust of Oregon, a non-profit advocate. “I think the PPA is the easy part now. The hard part is getting the turbines and then the interconnection.” Energy Trust put out a request for proposals last year and 17 responses totalled 133 MW. The trust is now working on three of four upcoming projects. “Many people in eastern Oregon, where the wind blows, want to be involved and they don’t just want to turn their land over,” says Cowan. “So we help them go after money, provide education and offer expertise. Our goal is to get projects built, so we take whatever role is necessary.”

On the opposite coast, a feasibility study for New York’s first community project is on the drawing board in Albany County. The work is funded in part by the New

York State Energy Research and Development Authority (NYSERDA), which collects a fraction of a cent from utility bills. “We’re trying to show groups how they can own these projects,” says Loren Pruskowski of Sustainable Energy Developments, a consultancy firm working for NYSERDA. We’re basically examining these different options and we’re going to give a package of data to the town of Knox.” Pruskowski says that if Knox decides to go forward, they could likely get something online by 2009. “We thought it would be wise to go smaller—ten megawatt or less,” Pruskowski says. “I wish it could happen faster but they need to understand all their options. All we need is a little success to push the market forward.”

New York’s neighbour, Massachusetts, has next to no wind power of any kind. Some believe the key to winning acceptance in a part of the country where vistas are sacred and naysayers can be rich and powerful may be to get communities involved. “We’ve got a lot of towns in the pipeline but they’re all moving slowly,” says Sally Wright of the Renewable Energy Research Lab at the University of Massachusetts.

“In Massachusetts, we’re different in the sense that we have very small parcels relative to the Great Plains and Texas. Most developers aren’t going to be interested in piecing together those parcels and smaller projects have advantages that way. I’m crossing my fingers that people will turn it into action.”

BUBBLING BELOW

Meanwhile, word of community-owned activity bubbles to the surface in Vermont, Montana, Nebraska and the Dakotas. Momentum is in the air. “There seems to be a lot of underground, grass-roots movement—a lot of groundwork being laid for a fairly big push down the road,” says LBNL’s Mark Bolinger. “If you’re a landowner and a developer wants to pay you \$3000 and you’ve got another way, you’re going to take a look. It could happen anywhere and it could eventually end up meaning a lot of megawatts around the country.”

Regardless of location and no matter the model—the Trimont commercial approach, aggregated farmer projects,

Lamar piggybacking or the Minnesota PTC flip—it is increasingly easy to argue that landowners willing to do the work can look into a variety of options to go beyond simple lease payments. “Landowners are more and more sophisticated,” says Michael Skelly of Horizon Wind Energy, the third largest US wind developer. “Rural people in this country know each other well. Layer the Internet on top of that and they can find out about various companies and what other landowners are doing. I don’t see that as problematic.”

While no one knows where and how it will happen, the consensus suggests that community wind as a fully fledged niche market is around the corner. “If we don’t step up to the plate now when all these new [state mandates] are coming into play it won’t happen,” says Daniels. “This is community wind’s moment.”



Dan Juhl: *We get calls from around the country with people asking us how they can do it*

We don't want large developers who already have the PTC and other advantages accessing community wind incentives

LISA DANIELS, WINDINDUSTRY