



# Community Wind Financing



A Handbook by the

**Environmental Law & Policy Center**



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Front cover: (Top) GobNob Community Wind Project in Farmersville, Illinois; (L-R) Worker at Clipper Windpower's wind turbine manufacturing facility in Cedar Rapids, Iowa; A turbine at the University of Minnesota Morris; Workers erecting a wind turbine.

Back cover (L-R): John Deere Renewables' Harvest Wind Farm in Huron County, Michigan; Clipper Windpower's wind turbine manufacturing facility in Cedar Rapids, Iowa; A single wind turbine in a cornfield at Tjaden Farms in Colwell, Iowa powers 100 nearby homes.

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# Introduction

In 2004, the Environmental Law & Policy Center released its first edition of the “Community Wind Finance Handbook” to help farmers and other people in rural communities understand how to finance locally-owned wind power projects. At that time, although a number of “how to” guides and conferences offered guidance on community wind power development in general, this was the only guide focused squarely on explaining the complex business and financing structures possible to support these wind power projects.

Since then, wind power has become the United States’ fastest-growing source of electricity. As of October 2009, over 31,000 megawatts (MW) of wind energy were installed in the U.S., including 5,800 MW installed in the first nine months of 2009. A number of policies are driving long-term growth, including state renewable energy portfolio standards, the federal production tax credit (PTC), the Rural Energy for America Program (REAP), and other federal and state incentives. Most recently, the American Recovery and Reinvestment Act of 2009 includes game-changing investment tax credit and grant opportunities for community wind investors. In addition to these policy developments, other factors such as the rising cost of fossil fuel-fired electric generation and increasing public support for renewable energy are also contributing to the demand for more wind power.

Community wind power projects represent a relatively small, but growing, share of the wind energy market. As of July 2008, community wind projects accounted for at least 736 MW of the total installed wind energy projects in the United States, primarily in the Midwest, and more have been developed in the last year. These projects are largely owned by farmers and other local investors, schools, tribes and municipal utilities and rural electric cooperatives. Such local ownership generates powerful economic and social benefits for rural areas.

“As of October 2009, over 31,000 megawatts of wind energy were installed in the U.S., including 5,800 MW installed in the first nine months of 2009.”

While these projects continue to face a number of challenges common to all wind power development—for example, shortages of labor for construction and equipment servicing, more costly equipment, transmission access and power purchase agreements—financing these projects continues to be one of the greatest, and least understood, hurdles for prospective local wind developers. Especially in the current tight credit markets, and with the new federal tax provisions, understanding how to successfully finance these projects is critical to their success.

This updated Handbook provides the latest information on financing community wind projects, including ownership structures, roles of financial intermediaries, and sources of federal and state financial support. Although building these projects has become easier over time as landowners have benefited from the experiences of the community wind pioneers, understanding and accessing financing opportunities remains perhaps the most important requirement for a successful project.

Please note that this Handbook is not an overall guide to community wind development, but instead focuses primarily on ownership and financing issues. Appendix B provides more comprehensive sources of overall information on developing community wind power projects.

# The Benefits of Community Wind Power

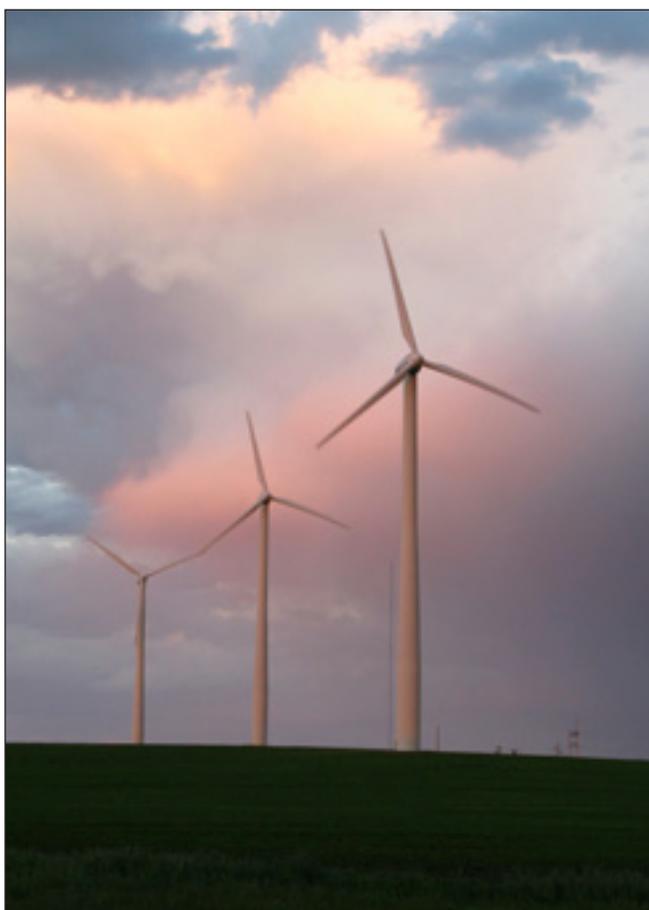
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In previous editions of this Handbook, we defined community wind as any project up to 20 MW which was “initiated and (at least partially) owned locally.” Reflecting the growth in the size and variety of ownership structures of wind energy projects, we no longer define these projects by size. Community wind power does not necessarily mean “small wind.” Instead, community wind power projects are those that include a meaningful local/community ownership stake in the project.

In addition to the environmental and economic development benefits of wind power, local ownership of a wind project adds additional value for investors and the community, including:

- » Retaining more investment, and economic benefits, in the area—up to several times as much as purely out-of-state ownership.
- » Creating new jobs and markets for industries in the area, which helps boost the local economy.
- » Creating a shared sense of purpose that is often missing when the wind developer and owner are from outside the community.

Despite these benefits, community wind power projects can be more difficult to initiate, finance and construct. Organizing community investors requires much effort, and financing is a challenge because many community-led groups have less capital or credit than large utilities and wind developers. Moreover, the federal production tax credit (PTC) and some other incentives are not directly available to or useable by many local investors. Due to these challenges, community investors often team up with corporate or institutional investors to help manage and finance the project. Even with the



The Woodstock Wind Farm in Woodstock, Minnesota was developed by Juhl Wind.

new tax law improvements in the American Recovery and Reinvestment Act of 2009, local investors are still likely to partner with companies and “tax advantaged” investors in many cases.

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# The Costs of Community Wind Power

A wind power project may take three to four years or more to move from initial feasibility through construction and operation. Financing is necessary at each stage.

## Initial Feasibility Assessment

A project developer generally uses its own resources (or those of multiple investors in a project-specific partnership or other limited liability company) for initial site assessment, including wind monitoring and evaluation, legal fees and preliminary interconnection and other engineering studies. The USDA Rural Energy for America Program (REAP) offers funding to help pay for this feasibility analysis.

## Turbine Deposits

With high demand for wind turbines, manufacturers usually want deposits to hold a place in their production queue. (Turbine backorders have dropped, however, with the slowing economy.) A 10% deposit for a single large turbine may exceed \$150,000. A community wind developer might work with a specialized wind power finance firm or a larger developer that has existing turbine supply agreements and the necessary capital to advance the funds for a turbine deposit.

## Permitting Fees and Interconnection Studies

The costs of permitting and legal fees, as well as engineering and interconnection studies, can be considerable. Delays can also occur with permitting and interconnection studies and approvals. These costs arise after the initial feasibility study has been performed and the project development is further along. However, since the project at this point still has a relatively high degree of uncertainty, borrowing funds may be difficult; therefore, the

developer will most likely need to generate the capital for these expenses.

## Construction

Since most outside equity investors usually do not fund a project until it's operational, community wind projects often need debt financing for construction. The construction financing, which is for a limited term, can be provided either by a lender selected by the developer or arranged by a financing intermediary. Securing a construction loan could require proof that permanent financing (equity and debt) has been secured, that the project has all required permits and power purchase and interconnection agreements, and that the construction process itself is well-managed.

Construction also involves connecting a wind project to the electric transmission grid and any necessary electrical substations. Transmission upgrade costs vary widely, with a general rule of thumb that the lines cost from \$50,000 to \$150,000 per mile.

## Permanent Financing

Permanent financing is primarily in the form of equity from a tax-oriented investor, although a portion (20%-40%) may be long-term debt of 10 years or more. This financing does not take effect until the project becomes operational. Funds will be used to pay off the construction debt and provide a working capital reserve for the project. This is the point at which a local developer could receive and contribute a REAP grant towards the project equity or use a loan guarantee to help cover the debt portion of a project.

# The Community Wind Power Financing Industry

The first generation of community wind power projects were developed in Minnesota starting in the late 1990s. These projects were helped by a variety of Minnesota state grants and production incentives. A set of projects, developed by Dan Juhl in conjunction with southwest Minnesota area farmers, partnered with Edison Mission Energy as the equity partner. The frequently-referenced MinWind projects near Luverne, Minnesota were established as a series of limited liability corporations. These projects used local capital and debt in addition to the state production incentive. Other projects have used local lenders and tapped different sources of equity financing.

Over the past five years, a specialized financing and project development industry has grown in response to the interest in community wind projects. These firms play a number of important roles to help bring projects to completion, including: assistance with project structuring; technical assistance with project design and layout, permitting, and zoning; early-stage development capital; construction management expertise; and access to wind turbines and outside equity investors. Sometimes transaction costs can be lowered and larger investors can be attracted to participate in a pool of community-based projects by bundling smaller projects together.

Among the firms active in this industry are some established companies such as Juhl Wind and John Deere, and several newer ones—Midwest Wind Finance, National Wind and OwnEnergy. Contact information for most of them can be found in Appendix B.

## John Deere

John Deere Renewables, LLC, is a business unit of Deere & Company. It provides long-term debt and equity investment, comprehensive project development services, wind turbine supply and operations management for wind energy projects. John Deere has more than 28 wind farms in operation or under construction in seven states. These projects range from 2 MW to 80 MW, and approximately half were developed in conjunction with local development partners or landowners. John Deere Renewables also works with municipal and rural electric cooperatives to help develop renewable energy. ([johndeere.com/windenergy](http://johndeere.com/windenergy)).

## Juhl Wind

Founder Dan Juhl developed the first farmer-owned, community-based wind farm

in the United States. Juhl Wind promotes farmer and other local investment in all of its wind projects. In addition to local ownership, Juhl Wind hires local contractors to work on its projects. Juhl Wind has developed 14 wind farms throughout the upper Midwest and has more than a dozen wind farms in development, for a total of over 500 megawatts. ([juhlwind.com](http://juhlwind.com)).

## Midwest Wind Finance

Midwest Wind Finance (MWF), a specialized financing firm, grew out of a Minneapolis-based industrial equipment leasing company. MWF focuses on projects in the 10 MW to 30 MW range, although some of its projects are larger, with substantial local involvement and ultimate local ownership. MWF offers development capital for early-stage projects through its Gridpath Fund,



Harvest Wind Farm, a John Deere project in Huron County, Michigan.

negotiates supply agreements with turbine manufacturers, and raises capital from tax credit investors. By aggregating projects, MWF makes small projects more attractive to large institutional investors. ([mwwind.com](http://mwwind.com)).

## National Wind

National Wind is a Minneapolis-based developer of community wind projects of 50 MW or larger. National Wind develops projects from inception rather than acquiring construction-ready projects. Under its typical project model, local landowners will provide the initial development capital (typically \$2 million or more for a 100 MW project).

When the project is fully permitted and ready to be built, National Wind will then sell the packaged project to an equity partner with greater financial resources. Local investors will earn a return on their development

investment, and depending on the partnership arrangements, a long-term ownership stake in the project. ([nationalwind.us](http://nationalwind.us)).

## OwnEnergy

OwnEnergy was founded in 2007 by Jacob Susman, who formerly worked in wind energy financing at Goldman Sachs. OwnEnergy's model is similar to Midwest Wind Finance in focusing on 10 MW to 80 MW projects in which there is significant local participation in both the development process and ownership. OwnEnergy will help a landowner/local developer move a project forward and has raised pools of investment capital to provide equity financing for these projects. Under a typical OwnEnergy deal, the landowner contributes the long-term use of his land as an equity contribution to the project. ([ownenergy.net](http://ownenergy.net)).

# Key Financial Incentives

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Two major incentives for wind development include the Production Tax Credit (PTC) and accelerated depreciation. In practice, they are typically useable only by corporate and institutional investors which can apply the credit or depreciation against related business income. Therefore, many financing models for community wind development attempt to indirectly obtain the benefits of these two incentives through partnerships with corporate investors. More recently, the 2009 Recovery Act offers a major new grant opportunity for more wind project owners.

## Tax Policy Improvements in the Recovery Act

The American Recovery and Reinvestment Act of 2009 includes several significant improvements over existing tax policy for renewable energy development, including:

- » Extension of the PTC through December 31, 2012.
- » Availability of a 30% investment tax credit (ITC) in lieu of the PTC.
- » Opportunity to convert the ITC into a 30% grant from the Treasury Department.

## The Production Tax Credit

The PTC is a credit against federal income tax liability and is currently valued at 2.1 cents per kilowatt-hour (adjusted for inflation) for the first ten years of production from a wind project. Congress recently extended the PTC through December 31, 2012.

Although the PTC is available to all taxpayers, individuals encounter difficulty in effectively using the PTC for several reasons:

- » The PTC requires substantial tax liability to offset the credits. A single megawatt of wind energy might generate \$65,000 of tax credits per year, which is the equivalent of \$185,000 or more in net income after deductions.
- » Except for an “active” owner of a project (that is, an owner-manager), individual investors can only use these credits against passive income from other wind power facilities. (Passive income is reported on a K-1 statement).
- » The credits themselves are not transferable independent of project ownership.

For these reasons and the current depressed economic conditions, most community wind investors cannot directly take advantage of the PTC.

Community wind advocates have sought changes in the tax code that would allow the tax credits to be used by individuals. One solution would be to allow the credits to be used against ordinary income, such as farm-based income. By extending the PTC, Congress has explicitly valued wind energy as worthy of a 2.1 cent per kilowatt-hour federal subsidy and theoretically should be indifferent as to whether the credit goes to large or small investors. Members of Congress continue to explore opportunities to improve the availability of the PTC for locally-owned projects.

## Accelerated Depreciation

Accelerated depreciation is another important component of wind power economics. Normally, a power generation asset is depreciated for tax purposes over 20 years. However, Section 168 of the Internal Revenue Code Act, in effect, allows for wind generation assets to



This 230-foot turbine provides the University of Minnesota, Morris with more than 5.6 million kilowatt hours of power annually.

be depreciated over six years using the double declining balance method. This accelerated time period creates a significant net present value benefit versus the standard 20-year depreciation. Again, it is difficult for most individuals to use these depreciation benefits because of the amount of depreciation that the projects produce. A single 1.5 MW turbine might generate as much as \$900,000 in depreciation in its second year of operation, which requires offsetting liabilities.

## Investment Tax Credit and Grant

The Investment Tax Credit (ITC) in Section 48 of the Tax Code is available for qualified taxpayers to receive a tax credit for 30% of the total installed cost of the system. Reflecting today's challenging economic conditions, the Recovery Act expands the ITC in several key ways that can benefit community wind power.

First, it allows the project developer or other

taxpayer to claim the ITC in lieu of the PTC for projects placed in service between 2009 and 2012.

Second, the taxpayer can elect to convert the ITC into a cash grant from the Department of the Treasury.

Third, it removes the general prohibition in the ITC against multiple sources of subsidized financing for a project (so-called "double dipping").

While the ITC is realized in the year in which the project enters service, it vests linearly over a 5-year period. In some cases, if the project owner sells the project before the end of the fifth year, the unvested portion of the credit will be recaptured by the IRS.

The Treasury grant option, in particular, provides a significant new financing opportunity for community wind developers because they often do not have the substantial income tax

liability needed to take full advantage of the ITC. The Treasury grant is also transferable under certain circumstances, which makes financing options such as sale-leaseback arrangements (see below) more attractive. The Treasury Department is required to either pay the grant amount within 60 days of either receiving the grant application or after the project is placed into service.

The grant option does have several limitations:

- » It is available only to projects placed in service in 2009 and 2010, or projects that begin construction in 2009 or 2010 and are completed by 2012.
- » Projects that receive the grant cannot be owned in any part by non-profits such as electric cooperatives, municipal utilities or other tax-exempt entities.
- » As with the ITC, the grant option is subject to “recapture” rules in the event that the project is sold to an ineligible entity or ceases to be a “qualifying property” during the five-year period after the project becomes operational.
- » For depreciation purposes, only 85% of the project’s cost can be depreciated.

The Treasury Department issued guidance and application forms for this new grant program in July 2009. As part of the application process



The Illinois Rural Electric Cooperative wind project in Winchester, Illinois.

for grant payments of \$1 million or more, Treasury requires an accountant’s certification as to the accuracy or project costs. Be sure to visit [FarmEnergy.org](http://FarmEnergy.org) for updates.

### Which is best – PTC, ITC or Treasury cash grant – for community wind developers?

The ITC and the cash grant option are generally more popular. The Lawrence Berkeley Lab (LBL) and National Renewable Energy Laboratory (NREL) recently examined the different options in detail. They concluded that while quantitative differences between the PTC and the ITC are likely to be modest, qualitative financial considerations would be more likely to tip the scale in favor of the ITC and cash grant. Those considerations include the option to elect an equivalent cash grant, no performance risk, more immediate use of tax basis (if the equivalent cash grant is not elected), no penalty for subsidized energy financing, no power sale requirement, and the availability of leasing structures.

The March 2009 LBL/NREL report is posted at the Community Wind section of ELPC’s [FarmEnergy.org](http://FarmEnergy.org) website, together with other related information.

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# Financing Models

Given the limited usefulness of the PTC and accelerated depreciation for many community wind power developers, local investors often look to partner with institutional and corporate investors in several different ways to take fuller advantage of the tax benefits. These partnerships have evolved over the years to include more options and varying levels of ownership interest, and the Recovery Act creates more possibilities.

In general, any corporation or other similar entity that generates steady income is a potential equity partner in a community wind project. However, the complexity of the deal structures and high transaction costs deter most businesses from making a “one off” (or one-time) investment. Projects that are well-designed, have permits and agreements in place and are construction-ready, particularly if seen as the first in a series of similar projects, are most attractive to new tax equity investors.

The community ownership models are different than the so-called “corporate” model in which both the developer and ultimate owner of the project are larger corporations that operate and finance the project (either internally or by issuing external debt) while efficiently utilizing all of the associated tax benefits (production tax credit and accelerated depreciation) against overall corporate income.

## The Sale-Leaseback

Until passage of the Recovery Act in early 2009, the “partnership-flip” structures discussed below were the most popular form of partnership. These flips require the tax-advantaged owner/investor to produce and sell the power during what is usually the 10-year life of the PTC. In contrast, the ITC and cash grant are more flexible, especially in that the project developers can use traditional secured financing techniques, including sale-leaseback.

In a sale-leaseback arrangement, the project developer (local investors) will sell the project to



Workers at DMI Industries' wind tower manufacturing facility in West Fargo, North Dakota.

a tax-advantaged investor (the corporate lessor), which will then lease the project back to the developer (the lessee) under a long-term lease. The local investors, as lessees, can share in the value of the ITC and depreciation tax benefits through lower-cost rents and other contractual provisions. To secure the rent payment obligation (i.e., the “security” in a secured financing arrangement), the lessee grants the lessor a security interest in the power purchase agreement and any other revenues, such as sales from renewable energy and carbon certificates.



Clipper Windpower's wind turbine manufacturing facility in Cedar Rapids, Iowa.

## Investor “Flips”

In the common “flip” model of financing wind power projects, corporate investors own the project for the first 10-12 years of the project's life, when they can benefit from federal production tax credits. At some point after the tax credits run out, the project's ownership “flips” back to the local owners, who profit from the ongoing sale of electricity while also becoming responsible for ongoing operation and maintenance costs.

The ownership transfer occurs when a tax-equity investor recovers its targeted internal rate of return for the project (which the PTC helps to accelerate). Since this transfer was part of the original transaction structure, the local developer/investor needs only to purchase what is now the tax-equity investor's minority share (e.g., 5%) at a “fair market value” purchase price.

The fair market value usually is determined by an outside appraiser. Since it is the minority share of the project, the fair market value usually is a relatively small amount.

Under early community wind models, the assumption was that projects would return to

local ownership shortly after the PTC benefits were exhausted—ten years after the project became operational.

At least two factors are now driving that flip date further out. First, as the capital costs of wind equipment and installation increase, it can take a tax-equity investor several years longer to achieve its targeted returns. Second, the tax-equity investor may seek to hold onto a larger (rather than a nominal) share of the project going forward to improve its overall return on the project.

### What is “Internal Rate of Return”?

A project's IRR is the annual yield on a project's invested capital expressed in percentage terms. A project is generally a good investment if its IRR—the annual profit margin—is greater than the project's cost of capital (financing costs) and operation and maintenance costs.

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## *Institutional Investor Flip*

Under this structure, the local/community developer advances the project through construction (including arranging construction financing) and then brings in an institutional equity partner at the time of project completion. The developer's equity share typically reflects all of the development expenses incurred and may be as high as 20%. Utilizing a rule in the federal tax code that allows partnerships to allocate income and tax benefits disproportionate to ownership interests, the institutional equity partner will still take substantially all of the tax benefits.

Income from the project will flow to the developer until the developer's initial investment is recovered and profit obtained. The developer may also receive an ongoing project management fee.

After this point, all income will flow to the PTC-eligible investor until its targeted internal rate of return is reached. At this point, the project can flip back to the local/community investors, although the institutional investor may retain a minority ownership share going forward.

## *Strategic Investor Flip*

Under this structure, the local landowners or other community investors have no equity to bring to the table so they partner with an outside corporate investor such as a wind development company, utility, or other business. The investor



GobNob Wind Project in Farmersville, Illinois.

provides virtually all (99%) of the equity and retains the same proportion of benefits (both tax benefits and cash flow from the project) until the investor's negotiated IRR is reached. At this point (10 years or longer), the project can then "flip" back to the community partner for a negotiated amount and that partner claims most of the income from the project for the remainder of its useful life.

### **Which is better – a flip or a sale-leaseback?**

The question is closely related to whether the ITC or PTC is a better option for the project. For example, the sale-leaseback provides 100% upfront financing, and the value of the ITC can be passed back to the lessee local investors. On the other hand, with the flip model, the local investors can retain the upside potential of the project after the flip (along with the downside risk). The project's wind energy capacity also will influence the decision, with higher capacity factors tending to favor the PTC. Potential investors and developers need to carefully consider different financing and ownership options with qualified legal and tax counsel before commencing project development.

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# Other Sources of Capital

Other sources of capital include federal and state grant programs. In some cases, these programs can be used even when an outside equity investor is involved in the project, depending on the program's rules and tax consequences.

## Federal Rural Energy for America Program (REAP)

The Federal Farm Bill includes several important renewable energy programs. The Rural Energy for America Program (REAP) can help leverage private capital for both the planning and construction phases of community wind projects. REAP was created in the 2002 Farm Bill as a grant and loan guarantee program for renewable energy and energy efficiency projects. REAP provides grants to small- and medium-sized farmers and ranchers, and rural small businesses, for up to 25% of project construction costs, not to exceed \$500,000. REAP also offers loan guarantees for up to \$25 million per project. In the 2008 Farm Bill, Congress nearly tripled REAP's funding from \$23 million annually to \$63 million annually, and in

2009, Congress further increased total REAP funding to nearly \$100 million per year. To date, REAP has provided \$53 million in grants and \$18 million in loan guarantees for 360 locally-owned wind projects.

While grant awards are not paid out until a project is completed, the award can be an important leverage point in attracting and negotiating with outside equity partners. The \$500,000 grant limit has also encouraged local developers to split up multi-turbine projects into individual limited liability corporations (LLCs), each of which covers a single wind turbine. This creates legal expense in operating multiple entities, but it also increases grant support.

As of 2009, REAP also funds feasibility studies and pre-development work. Since the earliest dollars in a project are the hardest to raise, this new funding will



Presidents of the ten member companies of the Crosswind Energy 21 MW community wind project in Palo Alto County, Iowa, partially funded with REAP and using the investor flip ownership model.



Butter Creek Power in Echo, Oregon is a 64 MW John Deere Wind Energy project developed partly on a wheat farm.

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help local developers assess whether a community wind project is technically and economically viable before moving forward. A completed feasibility study is a valuable asset.

USDA is now writing the rules to implement the REAP program over the next several years. Visit ELPC's [FarmEnergy.org](http://FarmEnergy.org) website for updates on REAP rules and application deadlines, tips and REAP success stories.

## Warning: Federal Rules Can Undermine REAP's Value

Two federal rules can undercut the value of REAP grants for community wind projects. One is a tax rule and one is a USDA rule.

### Tax Conflict:

The IRS rules for the PTC reduce the value of the REAP grant by as much as 50 percent. This impact, commonly called a tax "haircut," has several negative consequences: it reduces the capital investment that local investors can bring to the project, lowers the value of the PTC credit to the corporate investor (and therefore reduces the project's financial returns),

and delays the time at which project ownership "flips" from the corporate developer back to the local owners.

Although there were proposals to fix this problem in the 2008 Farm Bill, they were not included in the final legislation. In April 2009, Representative Stephanie Herseth Sandlin (D-SD) introduced legislation to remove this "haircut" from REAP projects.

### USDA Conflict:

At first blush, the Recovery Act's repeal of the "double dipping" subsidized energy financing limitation in the Investment Tax Credit would seem to be good news for REAP applicants. Unfortunately, USDA rules could prohibit REAP applicants from using any other "federal grant funds" as part of the matching funds requirement.

Since the ITC grant program is new, we do not know if USDA will amend its rules to allow REAP applicants to also use the ITC grant option. Allowing use of both programs could significantly improve the viability of the REAP program for community wind projects. Please visit [FarmEnergy.org](http://FarmEnergy.org) for the latest information on this important issue.

# State Incentives and Policies

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There are a wide variety of state-based incentives for wind power development ranging from sales tax exemptions to direct cash subsidies. Many of these are available for both community and corporate wind power projects. However, some state programs are specifically targeted for community wind power projects. Three of these are highlighted below, and Appendix A to this Handbook includes a longer list of such state programs.

## Minnesota and Nebraska Community-Based Energy Development (C-BED) Programs

C-BED legislation was first passed in Minnesota in 2005, followed by Nebraska in 2007. C-BED creates a supportive regulatory/pricing environment for qualifying community-owned wind projects. In particular, it gives utilities the right—although not the obligation—to provide a “front-loaded” power purchase agreement (PPA) for locally-owned community-scale renewable energy projects. The payments are then higher in the early years of a PPA and lower in the “out years” (e.g., years 10 to 20). This enables a community wind power project developer to more easily cover its debt requirements in the early years of a project or, where there is no debt, more quickly earn a return on the investment. As of June 2009, nine C-BED projects totaling 121 MW were on-line in Minnesota, with another 310 MW under contract or in negotiations.

In Nebraska, the C-BED legislation encourages the Nebraska Public Power District, the state’s utility, to sign power purchase agreements with local wind projects, and it requires that 30% of the project’s lifetime cash flow go to in-state residents. To date, two mid-sized C-BED projects have been developed: the 80-MW Elkhorn Ridge project (finished) and the 42-MW Crofton Hills project (scheduled for completion in 2009).

## Oregon Business Energy Tax Credits and Energy Loan Program

Since 2007, Oregon has provided a 50% state tax credit to offset the capital costs of any renewable



The first phase of National Wind’s Jeffers Wind Energy Center in Cottonwood County, Minnesota was completed in 2008.

energy or energy efficiency project. There is a maximum tax credit of \$20 million per project. A project developer who cannot use the tax credit can sell it to an unrelated third party, but the value of the credit would be reduced to 33.5% of the project cost and be treated as taxable income to the project. While the Business Energy Tax Credits are not particularly targeted at community-scale projects, in practice, they provide greater relative value to a smaller wind project (which might have a total capital cost of \$5-\$40 million) than to a large

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commercial wind project (with total capital costs of \$100-\$400 million).

Oregon’s Energy Loan Program also offers low-cost financing for renewable energy projects.

## Local Equity Financing Drives

A community power wind developer needs to follow strict guidelines in raising funds from local investors to avoid running afoul of state and federal securities laws while also minimizing the complexity and legal expenses of this fundraising. There are several options that are generally consistent across states, although parameters such as maximum numbers of investors and disclosure requirements may vary.

**Private Placements:** An unlimited amount of money can be raised through a private placement, which does not have to be registered with state or federal securities offices. An Offering Memorandum or Prospectus is needed. A private placement cannot attract more than

35 “non-accredited” investors in any 12-month period; however, there is no limit to the number of accredited, financially sophisticated investors. Individuals with significant land holdings might also qualify as accredited. There cannot be advertising or a general solicitation for investors.

**SCOR Offerings:** Small Corporate Offerings Registrations are in-state offerings that are limited to \$1 million, but with no limit on the number of investors. The offering cannot be advertised. Registration costs are low because they only have to be registered with the state.

**ULOE Offerings:** The Uniform Limited Offering Exemption allows offerings of up to \$5 million provided that all investors are in-state and that there are no more than 35 non-accredited investors.

**Regulation A Offerings:** Regulation A offerings have a \$5 million annual limit, but have more extensive and expensive registration requirements.



Suzlon Wind Energy’s rotor blade manufacturing facility in Pipestone, Minnesota.

# Other Development Approaches

The complexity, high development costs and other challenges of developing a community wind power project may discourage some landowners and other local investors from moving forward. However, if sufficient financing, or local interest, is not available for a stand-alone project, other solutions exist.

## Landowner Wind Associations

Community-based wind energy associations are becoming more popular as landowners seek to level the playing field between themselves and large wind developers. This “strength in numbers” approach helps to deter some developers from “cherry-picking” individual landowners and driving down lease payments for access to windy sites, and it improves land owners’ negotiating leverage. These associations also help disseminate information and involve the community in turbine siting and other challenging issues. In some cases, landowners may be able to negotiate an equity share in the project or royalties with the project developer without assuming any ongoing project development responsibilities. The association members may also share in revenues, even if turbines are not placed on their land. One such wind association is the Slater Wind Energy Association, which represents approximately 45 landowners and 28,000 acres in Wyoming.

## Land for Equity

Similar to local associations but more geared towards smaller projects, “land for equity” means that landowners contribute the right to place wind turbines on their land in exchange for long-term equity in the project. This is the model used by OwnEnergy and Western Community Energy.

## Piggybacking

The concept of “piggybacking” involves linking a community wind project to a larger commercial project. In this way, the community

investors can avoid both the time and expense involved in developing and constructing a project from scratch. They would only be responsible for the legal formation of the entity, raising capital and finding outside equity (which could be from the owner of the larger project). The piggybacked portion would be additive to the primary project rather than a carve-out. It also may be an effective leverage point in the county permitting process for the project. Piggybacking was used in Lamar, Colorado where a small four-turbine public power project used the construction infrastructure of a 160-MW private project.



Diane Duffley owns Hyannis Country Garden in Massachusetts, which produces 91% of its own electricity with wind energy.

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# Financing Municipal and Rural Electric Co-op Wind Power Projects

This Handbook primarily focuses on privately-owned projects, although we recognize that many community wind projects are being developed by municipal and other public power entities (munis), rural electric cooperatives (RECs), tribes and schools. These entities' tax-exempt status creates both challenges and opportunities for the development and financing of wind power projects.

These non-profit, tax-exempt entities cannot effectively use the two main tax incentives for wind energy available to private projects: the PTC and accelerated depreciation.

The federal Clean Renewable Energy Bonds (CREB) program is designed to solve that problem by creating a tax-credit-equivalent allocation for renewable energy projects of munis, RECs, tribes and units of local government. The CREB bonding authority is made available on a competitive basis. Awardees can issue interest-free bonds through which a bondholder receives a tax credit (based on the implied interest on a rate set by the Treasury),

instead of receiving interest from the issuing entity. Congress first passed the CREB program in 2006, and the Recovery Act increased total bonding authority to \$2.4 billion.

Moreover, municipal and public power agencies can utilize lower-cost, long-term tax-exempt financing. Munis and RECs can also borrow long-term funds from USDA's Rural Utilities Service at Treasury rates. RECs can also borrow from special purpose lending institutions which serve cooperatives such as CoBank. RECs (but not munis) are also eligible for both planning and capital grants through USDA's REAP program.

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## Conclusion

Local ownership of wind power projects has become much more desirable and popular in the last several years. When the Environmental Law & Policy Center first released this Handbook in 2004, community wind was a concept promoted primarily in Minnesota and Iowa and a few other states. Now, community wind power projects are operating in at least 26 states across the country. State and local groups and associations are pressing for an even greater share of project investments and benefits.

At the same time, financing community wind power projects continues to be challenging, because of the complexity of business transactions, the cost of capital, hardware costs, and competition for equipment and talented people. However, new resources and capital are

growing out of creative business structures, financial and development communities that are focused on these types of projects, and supportive public policies. The Treasury benefits of the new Investment Tax Credit and grant option are potentially enormous.

Community wind power projects should continue to grow in number and size with additional policy improvements, better equity markets and continuing strong local support. Community wind will ultimately return a larger share of a project's economic benefits to local investors and their communities, which provides important added value.

*Visit ELPC's [FarmEnergy.org](http://FarmEnergy.org) site for news and updates on community wind power development.*

## Appendix A

### State-Based Financing Incentives

Many states also offer financing and tax credit benefits, including programs funded by utility ratepayers that support energy efficiency and renewable energy investments in their state by individuals and businesses. Most of these programs are not specific to community/local ownership wind projects, although eligibility criteria for some of these programs change from time-to-time. **Programs that are most appropriate for community wind projects are highlighted in boldface type.**

#### CALIFORNIA

**Self-Generation Incentive Program:** State Rebate Program for systems between 30 kW and 5 MW; incentive amount is \$1.50/W (for the first MW, then decreases).

#### IDAHO

**Bonneville Environmental Foundation:** Grants, loans and equity investments in renewable energy projects. BEF has funded many solar projects, but to date, no wind projects.

**Sales Tax Exemption:** Taxpayer may receive a rebate for 100% of sales-and-use taxes for equipment and machinery on projects that generate at least 25 kW of electricity.

**Renewable Energy Project Bond Program:** Allows independent renewable energy developers to request financing from the Idaho Energy Resources Authority, a state bonding authority.

#### ILLINOIS

**Illinois Clean Energy Community Foundation:** Provides grants for renewable energy systems developed by units of government and non-profits.

#### IOWA

**Energy Replacement Generation Tax Exemption:** All energy generated by wind turbines is exempt from the replacement generation tax (\$0.60/MWh) on electric generators.

**Wind Energy Equipment Exemption:** Sales tax exemption of 100% of project value.

**Iowa Energy Center-Alternate Energy Revolving Loan Program:** Offers 0% interest on half of financed project cost, up to \$1 million; maximum loan term of 20 years.

**Renewable Energy Production Tax Credits:** Production tax credit programs for energy generated by eligible renewable energy facilities. Facilities with majority local ownership and capacity of less than 2.5MW per qualifying owner receive a state tax credit of \$0.015/kwh; program

capped at 180 MW. Larger facilities can receive a \$0.01/kwh tax credit but cannot “double dip” with the property tax or sales tax exemptions. Program capped at 450 MW.

#### KANSAS

**Renewable Energy Property Tax Exemption:** 100% exemption.

#### MAINE

**Community Energy Production Incentives:** Production incentives include long-term power purchase contract option for owners of community-based energy facilities, and an alternative option to earn Renewable Energy Certificates that are 150% the value of a normal REC. The Maine PUC must iron out the details of this program by February 15, 2010.

#### MINNESOTA

**Sales Tax Exemption:** 100% exemption for all materials and conversion systems.

**Rural Wind Energy Revolving Loan:** Loans assist the funding of wind energy feasibility and transmission interconnection studies for community-based energy developments. Program is administered by Department of Commerce. Loans of up to \$100,000 per project with an annual interest rate of no more than 1.5%.

#### MONTANA

**Property Tax Reduction for New/Expanded Generating Facilities:** 50% of taxable value for five years; increases in equal percentage each year to no reduction in 10th.

**Generation Facility Corporate Tax Exemption:** < 1 MW nameplate capacity, 100% exemption for 5 years.

**Alternative Energy Investment Tax Credit:** income tax credit for 35% of project cost; can be carried forward for 7 years.

**Bonneville Environmental Foundation:** Grants, loans and equity investments in renewable energy projects.

**Universal System Benefits Program:** Public benefits fund can support renewable energy projects.

#### NEW MEXICO

**Renewable Energy Production Tax Credit:** Corporate tax credit of \$0.01/kWh for First 400,000 MWh annually for 10 years; Systems have to be a minimum of 1 MW capacity; excess credit is refunded to the taxpayer.

#### NEW YORK

**Wind Energy Systems Exemption:** Property tax exemption for renewable energy systems constructed prior to January 1, 2011; 15-year exemption.

## NORTH DAKOTA

**Tax Credit:** Corporate or personal income tax credit of 3% per year for five years for the cost of equipment and installation. Credit can be sold or transferred to power off-taker.

**Large Wind Property Tax Reduction:** 70% or 85% reduction (depending on project circumstances); System must have a capacity of 100 kW or more; construction must begin by 1/2011.

## OHIO

**Energy Conversion Facilities Tax Exemption:** Renewable energy projects are exempt from real and personal property taxation, state sales and use taxes, and the state's corporate franchise tax.

**Wind Production & Manufacturing Incentive Program:** Production incentive of \$0.01 per kilowatt-hour (kWh) for up to five years. Program expired in 2007 but may be renewed.

**Advanced Energy Program Grants – Renewable Energy:** Grants available up to \$200,000; must have a power output of 50 kW-AC at the average wind speed for the site.

## OREGON

**Business Energy Tax Credit:** 50% of project costs; Maximum limit: \$10 million in eligible project costs; distributed over 5 years; 8-year carry forward. Credit can be transferred to an external party at discounted rate of 32% of project costs.

**Bonneville Environmental Foundation:** Grants, loans and equity investments in renewable energy projects.

**Renewable Energy Systems Exemption:** Property tax exemption.

**Energy Loan Program (SELP):** Market-rate loans of up to \$20 million. Administered by Oregon Dept. of Energy. State sells bonds to support the loan program. SELP can provide funding for pre-development work as well as capital costs.

**Energy Trust Grant Programs:** Public benefits funds offering grants for renewable energy projects including community wind projects.

## PENNSYLVANIA

**Sustainable Energy Funds:** Public benefits funds offering grants (to non-profits) and loans for renewable energy and energy efficiency projects.

**State of Pennsylvania Energy Harvest Grant Program:** Supports all types of renewable energy projects; annual funding is \$5 million; maximum grant amount is \$500,000.

**Wind-Energy System Exemption:** 100% property tax exemption on wind turbines and related equipment.

## SOUTH DAKOTA

**Property Tax Treatment:** Projects < 5MW are taxed only on the value of the foundation, tower and sub-station.

**Alternative Taxes:** Projects >5MW are taxed on the basis of revenue generated rather than equipment value.

## TEXAS

**Renewable Energy Systems Property Tax Exemption:** 100% exemption for wind projects. However, developers make payments in lieu of taxes.

## VERMONT

**Sales Tax Exemption:** 100% of sales tax exempted for purchase of renewable energy systems.

**Local Option for Property Tax Exemption:** municipalities are allowed to offer exemption from real and personal property taxes.

**Clean Energy Development Fund Grant and Loan Program:** grants offered up to \$250,000; loans from \$50,000 to \$250,000 with 4% interest.

## WASHINGTON

**Bonneville Environmental Foundation:** Grants, loans and equity investments in renewable energy projects.

**Sales Tax Exemption:** 100% of sales tax exempted for purchase of renewable energy systems > 200 watts.

## WEST VIRGINIA

**Tax Exemption for Wind Energy Generation:** Reduction of business tax from 40% to 12% of generating capacity.

**Property Tax Assessment:** Wind energy systems taxed at ~25% of assessed value.

## WISCONSIN

**Solar and Wind Energy Equipment Exemption:** Value added by a wind-energy system is exempt from general property taxes.

## WYOMING

**Renewable Energy Sales Tax Exemption:** Commercial, industrial, utility, projects tied to an existing transmission grid.

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*Source: Database of State Incentives for Renewables & Efficiency (www.dsireusa.org)  
All programs current as of June 2009.*

## Appendix B

### Consultant/Information Resource Guide

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#### General Information

##### Environmental Law & Policy Center

Environmental Law & Policy Center's website [FarmEnergy.org](http://FarmEnergy.org) provides comprehensive information on the USDA's Rural Energy for America Program (REAP) and community wind power financing information.

Environmental Law & Policy Center  
35 East Wacker Drive, Suite 1300  
Chicago, IL 60601  
312-673-6500

##### Windustry

Community wind advocacy and education. Windustry has a Community Wind Toolbox available on its website and sponsors community wind conferences.

[Windustry.org](http://Windustry.org).

Windustry  
2105 1st Avenue South  
Minneapolis, MN 55404  
612-870-3461/800-946-3640

##### Farmers' Legal Action Group

Minnesota-based organization providing legal advocacy and research for family farmers. Has published a "Farmers' Guide to Wind Energy" (2007) and "Community Wind: A Review of Select State and Federal Policy Incentives" (2006). [FLAGinc.org](http://FLAGinc.org).

Farmers' Legal Action Group  
360 Robert Street North, Suite 500  
St. Paul, MN 55101-1109  
651-223-5400

##### Colorado Harvesting Energy Network

Non-profit advocacy group focused on maximizing local economic benefits of wind energy development. Recently released a comprehensive guide on community wind energy development and financing options available at [HarvestCleanEnergy.org](http://HarvestCleanEnergy.org).

Colorado Harvesting Energy Network  
5655 South Yosemite Street, Suite 400  
Greenwood Village, CO 80111-3218  
303-283-3524

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The following is a select list of project consultants that can assist in wind power project development, finance and structure. Their inclusion in this list does not represent an endorsement.

#### Project Consultants

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##### Ed Woolsey

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3879 Kirkwood Street  
Prole, Iowa 50229  
515-669-7335  
[woolsey@netins.net](mailto:woolsey@netins.net)

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## Community Wind Development and Financing Companies

### Greenman Financial Advisors

Brian Greenman, Principal  
5350 Denver Tech Center Parkway  
Greenwood Village, CO 80111  
303-204-6850  
Brian@GreenmanFinancial.com  
Greenmanfinancial.com

### Juhl Wind

Dan Juhl, Chairman and CEO  
996 190th Ave  
Woodstock, MN 56186  
877-584-5946 (or 877-JUHLWIN)  
info@juhlwind.com  
Juhlwind.com

### Midwest Wind Finance

Ken Valley, President  
12 South Sixth Street, #211  
Minneapolis, MN 55402  
612-332-0607  
ken@mwwind.com  
Mwwind.com

### National Wind

Leon Steinberg, Chief Executive Officer  
3033 Excelsior Blvd., Suite 525  
Minneapolis, MN 55416  
612-746-6622  
Lsteinberg@nationalwind.com  
Nationalwind.com

### OwnEnergy

Jacob Susman, Founder and CEO  
45 Main Street, Suite 538  
Brooklyn, NY 11201  
646-898-3690  
info@ownenergy.net  
Ownenergy.net

### Project Resources Corporation

Paul White, President  
618 2nd Avenue, SE  
Minneapolis, MN 55414  
612-331-1486  
Paul@ProjectResources.net  
Projectresources.net

### Rebirth Capital

Clifford Kenwood, President  
4118 Magazine Street  
New Orleans, LA 70115  
504-899-8780  
cliff@rebirthcapital.com  
Rebirthcapital.com

### Sustainable Energy Developments

Kevin Schulte, CEO  
317 Route 104  
Ontario, NY 14519  
877-946-3674  
info@sed-net.com  
sed.com

### Western Community Energy

Mike Costanti, Principal  
805 Southwest Industrial Way, Suite 10  
Bend, OR 97702  
541-306-3336  
mcostanti@westerncommunityenergy.com  
Westerncommunityenergy.com



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## Environmental Law & Policy Center

The Environmental Law & Policy Center is the Midwest's leading public interest environmental legal advocacy and eco-business innovation organization. We develop and lead successful strategic advocacy campaigns to protect our natural resources and improve environmental quality. We are public interest environmental entrepreneurs who engage in creative business dealmaking with diverse interests to put into practice our belief that environmental progress and economic development can be achieved together. ELPC's multidisciplinary staff of talented and experienced public interest attorneys, environmental business specialists, public policy advocates and communications specialists brings a strong and effective combination of skills to solve environmental problems.

ELPC's vision embraces both smart, persuasive advocacy and sustainable development principles to win the most important environmental cases and create positive solutions to protect the environment. ELPC's teamwork approach uses legal, economic and public policy analysis, and communications advocacy tools to produce successes. ELPC's strategic advocacy and business dealmaking involves proposing solutions when we oppose threats to the Midwest environment. We say "yes" to better solutions; we don't just say "no."

ELPC was founded in 1993 and has achieved a strong track record of successes on national and regional clean energy development and pollution reduction, transportation and land use reform, and natural resources protection issues. ELPC's creative public advocacy effectively links environmental progress and economic development and improves the quality of life in our Midwestern communities.

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