

Community Developments *Investments*

Fall 2013

Investing in Wind Energy Using the Public Welfare Investment Authority



occ.gov/wind



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A Look Inside...

Barry Wides, Deputy Comptroller, Community Affairs, OCC

National banks and federal savings associations (collectively, banks) can be sources of financing for facilities that generate renewable energy, including wind energy installations. If a bank demonstrates that a wind energy facility provides a public benefit, such as job creation in low- and moderate-income areas, the bank can invest in the facility using the public welfare investment authority (12 USC 24 (Eleventh), 12 CFR 24). For banks with the requisite expertise and risk management capabilities, financing wind-generating installations and equipment manufacturing facilities can benefit a bank's bottom line, be good for the environment, and help move the United States closer to energy independence.

Financing wind-generating installations can pose a variety of credit, operational, legal, and reputation risks that a bank must understand and manage before investing in such projects. These projects often require complex, structured transactions that demand specialized accounting, legal, environmental, and credit expertise. In this newsletter, the [article](#) that describes how Wells Fargo, NA, has financed a community-scale wind energy project highlights the need for careful due diligence and a thorough understanding of compliance, legal, and accounting issues before undertaking such investments. National banks and federal savings associations that are considering such investments are encouraged to consult with their supervisory office to discuss potential legal requirements and safety and soundness issues.

American wind energy generation is growing quickly. According to the [Wind Energy Foundation](#), wind power is the fastest-growing source of electricity production in the world, and there is enough onshore wind in the United States to power the country 10 times over.

Financing for the wind production industry creates benefits, including

- expansion and diversification of renewable energy production.
- new “green” production and manufacturing jobs that help grow the economy.
- conserving water otherwise used in energy production.

Today's wind industry produces more than 60,000 megawatts of cumulative wind capacity generated by more than 45,000 turbines. The manufacturing segment is growing as well, with more than 550 manufacturing facilities in 44 states making wind turbine components for use in the United States and overseas.

Banks can invest in these energy-saving, job-creating projects if the transactions meet the requirements of the public welfare investment authority. Such investments include projects that primarily benefit low- and moderate-income individuals and low- and moderate-income areas, projects that benefit areas targeted by a governmental entity for redevelopment, and projects that would receive consideration as a “qualified investment” under the Community Reinvestment Act.



Courtesy of Siemens Energy Inc. ©2013. All rights reserved.

The Elbow Creek Wind Farm, in Howard County, Tex., uses 53 turbine generators to provide electrical power to nearly 100,000 households.

Banks that invest in wind energy production facilities also can take advantage of [federal production tax-credit](#) (PTC) or investment tax credit (ITC) incentives. Although the PTC is set to expire on December 31, 2013, projects that begin construction by this date will be eligible to receive the credit. The Prioritizing Energy Efficient Renewables Act (PEER), HR 2539, which would permanently extend the PTC for wind and other renewables, has been introduced by Representative Jan Schakowsky (D-Ill.). The Obama administration's FY 2014 budget also proposed making the PTC for wind energy permanent.¹ The ITC is authorized through December 31, 2016.

In this newsletter, an [article](#) by the American Wind Energy Association explains how the PTC and the ITC work and illustrates how these tax credit programs have supported and encouraged wind energy growth. Another [article](#) describes how tax credit financing by Wells Fargo, NA, of wind generation projects is helping the bank meet its environmental and community goals, and provides a detailed description of a community scale project in which the bank invested. The U.S. Department of Energy (DOE) contributed an [article](#) describing the various activities that the agency is engaged in to support and encourage wind energy expansion. With a budget of more than \$88 million in 2013, the DOE's efforts have improved turbine performance, brought costs down, and reduced market barriers.

In addition, this publication discusses two important regulatory issues of concern to banks that are active in the renewable energy sector. One [article](#) explains why and how banks can make real estate investments in wind energy projects by meeting the requirements of the public welfare investment authority. Another [article](#) covers situations in which a bank may receive positive consideration under the Community Reinvestment Act for wind energy projects if the bank can demonstrate that the investment activity's primary purpose is community development, as defined in the CRA regulation.

Similar to our earlier *Community Developments Investments* issue on investments in [solar energy](#) facilities using federal energy investment tax credits, this issue serves as a guide for banks interested in how renewable wind energy transactions can fit into their overall investment strategies.

¹See <http://www.whitehouse.gov/sites/default/files/omb/budget/fy2014/assets/budget.pdf>, p. 19.

Renewable Wind Energy Tax Provisions

Section 45 of the Internal Revenue Code (IRC) of 1986 (26 USC 45) provides a renewable energy production tax credit (PTC) to owners or operators of electric generation facilities that produce electricity from "qualified energy resources," including wind energy generation, at "qualified facilities" that are placed into service by a specified date. The tax credit earned by the owner or operator is based on the amount of energy that is produced. The PTC authority has been renewed periodically, most recently in January 2013. The American Taxpayer Relief Act of 2012 (Pub. L. No. 112-240, 126 Stat. 2313) extended the PTC authority through December 31, 2013, and the eligibility requirement that the facility be "placed in service" was changed to require that a qualified facility must have "begun construction" before January 1, 2014.

Instead of using the PTC, qualified wind energy facilities may use the energy investment tax credit (ITC) authorized by section 48 of the IRC (26 USC 48) if the facilities are placed in service before December 31, 2016, and had begun construction before January 1, 2014, pursuant to Notice 2013-29.¹ The amount of the ITC is 30 percent of the total cost of a wind energy installation, including both equipment and labor



AWEA
The Gratiot County Wind Project, the largest wind farm in Michigan, produces 213 megawatts through 133 turbines.

but not the building or structural components on which the equipment is placed. The full value of the energy ITC is earned when the wind energy facility is ready and available for its intended use (i.e., placed in service). For the first five years, however, the tax credit is subject to recapture if either (1) the property ceases to be a qualified energy facility, or (2) a change in ownership interest occurs. The recapture rate declines by 20 percent annually until the five-year compliance period expires.

The Internal Revenue Service (IRS) has guidance on the meaning of “begun construction.” Notice 2013-29, issued on May 13, 2013, indicates that in order to be eligible to receive the PTC or ITC, a renewable energy facility must have begun construction before January 1, 2014, by showing that either (1) “physical work of a significant nature” has begun, or (2) at least 5 percent of the total cost of the project has been incurred (referred to as “safe harbor”). Additionally, “continuous efforts to advance towards completion of the facility” must be made after construction has begun. Notice 2013-29 is available at http://www.irs.gov/irb/2013-20_IRB/ar09.html. Subsequently, the IRS issued [Notice 2013-60](#), on September 20, 2013, which provides more certainty through a “deemed satisfaction” rule, so that developers could offer more assurance to investors that projects will qualify for the PTC or ITC. This clarification treats a facility as having satisfied the continuous construction test or the continuous efforts test if the taxpayer places the facility in service before January 1, 2016.

Another tax consideration for investments in wind energy equipment is the benefit from the modified accelerated cost recovery system, which provides accelerated depreciation over a five-year period, using the straight-line 20 percent double declining balance depreciation treatment under 26 USC 168.

Banks should consult their tax planners for advice about these tax provisions and the provisions’ applicability to specific transactions, as well as the consequences that may apply to their own transactions.

¹Originally, the energy ITC provided a 10 percent tax credit, but the Energy Policy Act of 2005 increased this credit to 30 percent. To further encourage the growth and stability of the renewable energy industry, the Energy Improvement and Extension Act of 2008 extended the credit through December 31, 2016. The American Recovery and Reinvestment Tax Act further enhanced the benefit of the energy ITC by eliminating the requirement to reduce the amount to which the energy ITC applied by the value of any subsidy that the project receives.

For More Information

OCC Resources

Public Welfare Investments (12 CFR 24) Resource Directory

www.occ.gov/topics/community-affairs/resource-directories/public-welfare-investments/index-public-welfare-investments.html

Renewable Energy Resource Directory

www.occ.gov/topics/community-affairs/resource-directories/tax-credits/tax-credits-renewable-energy.html

Web Resources

American Council on Renewable Energy

www.acore.org/

American Wind Energy Association
www.awea.org/

DSIRE, Database of State Incentives for Renewables & Efficiency, North Carolina Solar Center, North Carolina State University, a comprehensive source of information on federal, state, local, and utility incentives that promote renewable energy and energy efficiency
www.dsireusa.org

Lawrence Berkeley National Laboratory
<http://emp.lbl.gov/research-areas/renewable-energy>

Lawrence Livermore National Laboratory
<https://missions.llnl.gov/?q=energy>

List of Distressed or Underserved Nonmetropolitan Middle-Income Geographies
www.ffiec.gov/cra/distressed.htm

National Renewable Energy Laboratory
www.nrel.gov/wind/

Novogradac Renewable Energy Tax Credit Resource Center
www.novoco.com/energy/index.php

Sandia National Laboratories
www.sandia.gov/wind

U.S. Department of Energy Wind Program, which provides information about federal programs involving wind energy generation
www.wind.energy.gov

U.S. Energy Information Administration, which provides statistical information and analysis regarding renewable energy
www.eia.doe.gov/fuelrenewable.html

Publications

2012 Market Report on Wind Technologies in Distributed Applications
www1.eere.energy.gov/wind/pdfs/2012_distributed_wind_technologies_market_report.pdf

2012 Wind Technologies Market Report
www1.eere.energy.gov/wind/pdfs/2012_wind_technologies_market_report.pdf

State of the Wind Market

Paul Holshouser, Finance Policy Manager, American Wind Energy Association

The U.S. wind energy industry has presented a dynamic growth story over the past decade—a story of technological innovation, a new manufacturing sector, and increased investment. Wind energy offers a clean, affordable source of electricity that provides long-term price stability for American ratepayers.

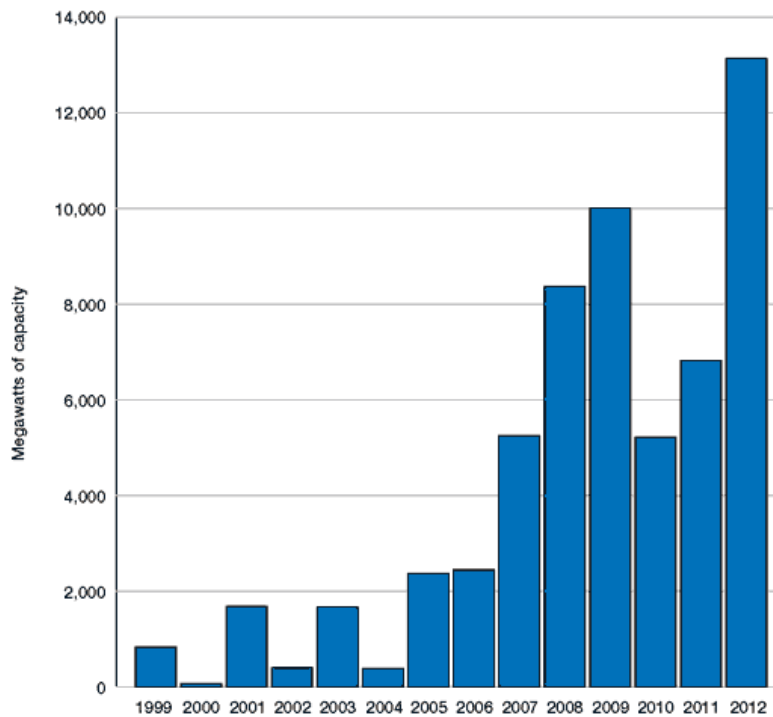


Courtesy of David Schwartz

The Goodnoe Hills Wind Project, in Klickitat County, Wash., contains 47 turbines that each stand 414 feet tall.

The U.S. wind energy industry turned in its strongest year ever in 2012, installing a record 13,131 megawatts of electric generating capacity (see figure 1) and leveraging \$25 billion in private investment.¹ Total U.S. wind capacity (installed) surpassed 60,000 megawatts in December 2012, just four months after reaching 50,000 megawatts (see figure 2). Wind farms generate enough electricity to power over 15 million American homes—equal to all the homes in Colorado, Iowa, Maryland, Michigan, Nevada, and Ohio combined. These wind farms provide enough wind energy to save about 98.9 million tons of CO² and avoid 37.7 billion gallons of water consumption annually. According to a 2008 projection by the U.S. Department of Energy (DOE), wind energy is capable of providing 20 percent of America’s electricity by 2030 based solely on current technology.² As of 2012, installed capacity in the United States was running ahead of the projections in that report.

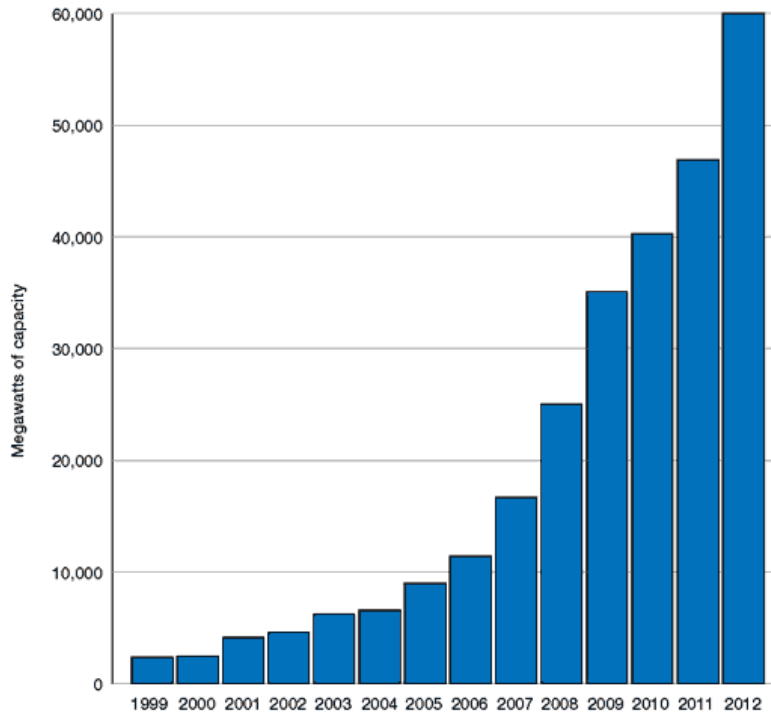
Figure 1: Annual Installation of New Wind Capacity



Source: AWEA

[Text description of figure 1](#)

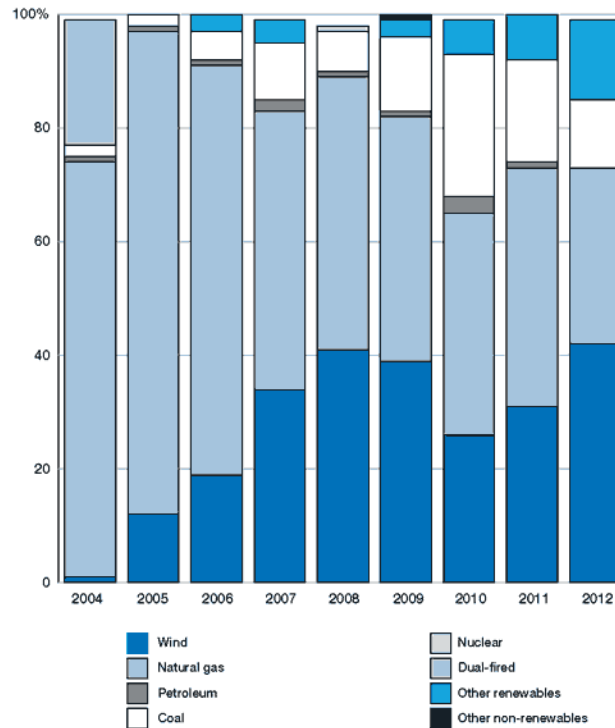
Figure 2: Cumulative Capacity of Wind Energy Installations



Source: AWEA
[Text description of figure 2](#)

Last year for the first time, wind energy became the number one source of new electric generating capacity, providing 42 percent of all new capacity brought online in the United States (see figure 3). This bested the recent trend of wind being the second largest source of new generation capacity, behind natural gas for the prior five years.

Figure 3: U.S. Annual Power Capacity Additions Over Time, by Percentage



Note: Percentages do not total 100 due to rounding.
Source: AWEA

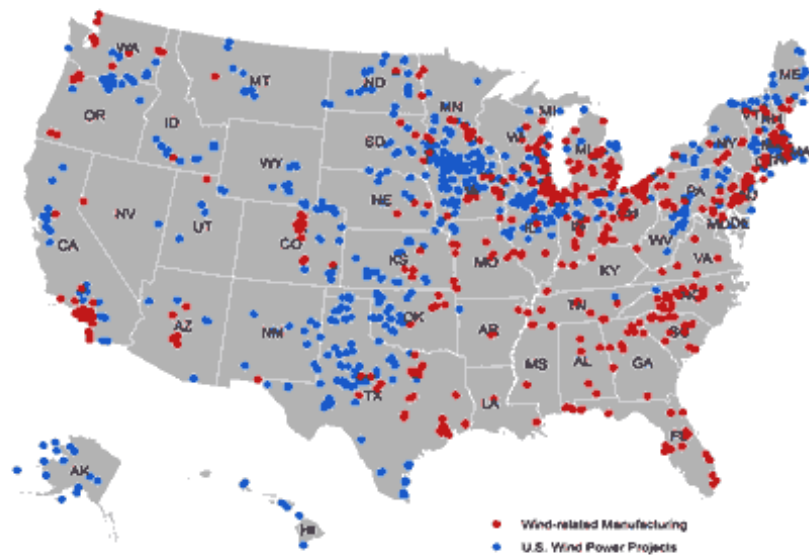
[Text description of figure 3](#)

Economic Benefits

In the early stages of the wind industry, turbine imports were common, but two factors have led to increased domestic manufacturing. First, it is more economical to locate the supply chain closer to projects due to high transportation costs associated with such heavy equipment. Second, unique meteorological and topographic characteristics motivated domestic turbine manufacturers to make changes to the equipment, dramatically improving performance at U.S. wind projects. The domestic supply chain now includes more than 500 wind-related manufacturing facilities, the cost of wind energy is lower, and the American Wind Energy Association estimates that the U.S. wind work force stood at 80,700 direct and indirect jobs at the end of 2012.³ In addition to manufacturing jobs, there are jobs for installing turbines and maintaining the installations. New wind turbines are much larger and generate power at lower wind speeds than equipment manufactured as recently as five years ago. Instead of using imported equipment from foreign countries, around 70 percent of a typical wind turbine manufactured today is made in America,⁴ supporting the domestic economy. A wind project is a long-term economic investment in a local economy with jobs that cannot be outsourced.

Wind energy has brought projects and jobs to all 50 states (see figure 4). By the end of 2012, 39 states and Puerto Rico had installed utility-scale⁵ wind projects, and every state has either a project or a manufacturing facility. Wind development works especially well in many low- to moderate-income agricultural communities, where land can continue to support crops or livestock while a wind project generates land-lease income for farmers and tax revenues for local governments. Land leases contribute at least \$180 million to rural communities each year.

Figure 4: Location of Wind Energy Projects in the United States



Source: AWEA
[Text description of figure 4](#)

The DOE's National Renewable Energy Laboratory (NREL) studied the economic impact of wind energy from 2000 to 2008 in a 12-state region running from Texas to North Dakota, where more than half of all installed wind capacity in the country is located. The NREL found that each megawatt of additional wind capacity raised county-level personal income by about \$11,150 and increased county employment by 0.48 percent during the eight years studied.

If the public welfare benefit test can be met, investments in wind energy installations in many of these rural areas may qualify under the national bank and federal savings association public welfare investment (PWI) authority, which would allow these institutions to make equity investments in these projects. A quick review of Texas (the highest wind capacity state in the United States) shows that several thousand megawatts of wind capacity are located in areas that qualify as low income or rural distressed or underserved tracts. Investments in such areas may qualify under the PWI authority if certain job creation criteria are met. See the article "[Using the Public Welfare Investment Authority to Make Wind Energy Investments.](#)"

Wind Energy Production Tax Credit

A major driver of this success is the production tax credit (PTC), which has supported the developing wind industry, fostered wind technology improvements, and helped drive down the costs of wind energy for consumers. Created in 1992, the PTC is an inflation-adjusted tax credit awarded to a wind or otherwise qualifying energy project (geothermal, hydroelectric, landfill gas, and other technologies) for the first 10 years of operation. The amount of the tax credit is based on the quantity of energy that a project produces. Presently, the PTC rebate amount is 2.3 cents per kilowatt-hour of electricity produced (or \$23.00 per megawatt-hour). The tax credit offsets the federal tax liability of the project owner for each unit of electricity that is delivered to the grid. This tax credit has encouraged wind manufacturers to innovate in favor of lowering costs and building more efficient turbines that are capable of producing more electricity.

Figure 5 illustrates how the PTC increases in value for a theoretical 100 megawatt project, when the performance of a project increases by 5 percent as measured by the capacity factor. (Capacity factor measures the output as compared to full capacity over an 8,760-hour year.)

Figure 5: PTC Performance Incentive from 35% to 40% Capacity Factor

Year	PTC value	PTCs at 35% capacity value	PTCs at 40% capacity value	Added PTC value at higher capacity factor
2005	\$19	\$5,825,400	\$6,657,600	\$832,200
2006	\$19	5,825,400	6,657,600	832,200
2007	\$20	6,132,000	7,008,000	876,000
2008	\$21	6,438,600	7,358,400	919,800
2009	\$21	6,438,600	7,358,400	919,800
2010	\$22	6,745,200	7,708,800	963,600
2011	\$22	6,745,200	7,708,800	963,600
2012	\$22	6,745,200	7,708,800	963,600
2013	\$23	7,051,800	8,059,200	1,007,400
2014, est.	\$23	7,051,800	8,059,200	1,007,400
10-year summary		\$64,999,200	\$74,284,800	\$9,285,600

Note: Annual PTC=100 megawatts × capacity factor × 8,760 hours in a year × PTC value
Source: AWEA

By providing tax credits based on the actual production of electricity, the PTC increases in value as wind equipment becomes more efficient. This approach maximizes the use of a valuable tax incentive that is only provided when wind energy is actually delivered to the grid. Thus, this approach rewards innovation and improved efficiency. It is no surprise that wind production technology has improved over the years. Wind energy costs have dropped by 90 percent since 1980 (when the first turbines came online).

Another strength of the PTC is its ability to attract private investment for new wind farm installations. Project developers include large energy companies with significant resources as well as smaller, more entrepreneurial companies that need to raise capital from third parties to build projects. This market appeals to investors with a significant federal tax obligation. Many project developers may not be able to utilize the tax credit themselves, because they do not generate sufficient income to offset a credit. In those cases, the project developer can seek partners that are willing to invest capital in wind energy projects in order to take advantage of the tax credit. These tax equity investors provide capital in exchange for an ownership stake in a wind project, and they receive their return by taking the bulk of the tax benefits from the PTC as well as from a combination of project cash flows and equipment depreciation.

Because banks have been significant investors in the low-income housing tax credit market, they are accustomed to the sophisticated accounting necessary for tax credit compliance. These banks may also be a natural fit for the wind tax equity market. Banks are bringing the same level of compliance, due diligence, and market discipline regarding the economics of a project to PTC investments. This investor influence has been a strong force in making wind technology more efficient and profitable over the years.

The PTC has been periodically renewed by Congress since 1992. Most recently it was renewed in 2012, when a one-year extension included important modifications. Now, to be eligible for the PTC, a new facility must be “under construction” by the law’s expiration date (December 31, 2013), rather than “placed in service” as previously required.⁶ This change in eligibility timing shifts the availability of the current extension well beyond the end of 2013. Second, the legislation extended the option to choose between taking either the 30

percent energy investment tax credit (ITC) or the PTC for wind installations. (See the OCC publication “Investing in Solar Energy Using the Public Welfare Investment Authority,” July 2011.)⁷

The ITC and the PTC provide support to different types of wind projects. For most utility-scale wind projects, the PTC is more successful at driving down the price of electricity. The value of the PTC is based on a project's energy generation, while the 30 percent energy ITC is calculated using the total cost of a wind installation, including both equipment and labor. Industry improvements in cost reduction and efficiency gains generally have favored choosing the PTC, because cost reduction lowers the value of the ITC while efficiency gains increase the value of the PTC. The ITC value is driven by cost accounting while PTC investments require detailed projections to predict power output. However, ITCs are simpler to calculate, which gives a particularly strong incentive for smaller projects to favor the ITC.

The PTC has been instrumental to the wind sector. In the early 2000s, there were three periods when the credit was temporarily allowed to expire before being retroactively renewed. In the years when the PTC expired, project development dropped 93 percent, 77 percent, and 73 percent, respectively, compared with the previous year. In each case, the market recovered strongly in the year after the PTC was restored. The multiyear extensions enacted in 2005 and 2009 created more policy stability and helped spur tremendous growth in the wind industry. With those longer-term extensions and the change to the “under construction” eligibility this year, the U.S. Congress has acknowledged the need to pair the PTC life cycle with the project planning process so that developers can more effectively finish production-intensive wind projects in time to qualify for the incentive.

Energy tax credit investors include a range of parties, but most of the investors are banks, including Bank of America, Citigroup, Morgan Stanley, JPMorgan Chase, Wells Fargo, and U.S. Bank. Large companies active in the power sector also recognize the investment opportunities of wind, so companies like GE Capital and power utilities like San Diego Gas & Electric have provided tax equity capital to wind projects. Another high-profile tax equity investor is Google, a company with long-term power needs and a keen interest in stable energy prices. This market is attractive to new investors because several of the key tax equity investors exited following the 2008 financial crisis, when the prospects for their long-term taxable income became more uncertain. Although investment activity has rebounded since the financial crisis, the limited supply of willing investment capital makes the return/risk profile stronger for tax equity investors.

For more information about wind energy and tax credits, please visit www.awea.org, or contact Paul Holshouser at (202) 249-7345 or PHolshouser@awea.org.

Community Developments Investments is produced by the OCC's Community Affairs Department. Articles by non-OCC authors represent their own views and not necessarily the OCC's.

¹ AWEA U.S. Wind Industry Annual Market Report Year Ending 2012, www.awea.org/Resources/Content.aspx?ItemNumber=5361&RDtoken=57282&userID=4377.

² 20% Wind Energy by 2030: Increasing Wind Energy's Contribution to U.S. Electricity Supply, U.S. Department of Energy, July 2008, www1.eere.energy.gov/wind/pdfs/41869.pdf.

³ AWEA Wind Energy Facts at a Glance, www.awea.org/Resources/Content.aspx?ItemNumber=5059.

⁴ 2012 Wind Technologies Market Report, U.S. Department of Energy, www1.eere.energy.gov/wind/pdfs/2012_wind_technologies_market_report.pdf.

⁵ The term “utility-scale” applies to large turbine installations requiring transmission system interconnection.

⁶ The Internal Revenue Service (IRS) provided guidance on the meaning of “begun construction.” [Notice 2013-29](#), issued on May 13, 2013, indicates that in order to be eligible to receive the PTC or ITC, a renewable energy facility must begin construction before January 1, 2014, by showing that either (1) “physical work of a significant nature” has begun, or (2) at least 5 percent of the total cost of the project has been incurred (referred to as “safe harbor”). Additionally, “continuous efforts to advance towards completion of the facility” must be made after construction has begun. Subsequently, the IRS issued [Notice 2013-60](#), on September 20, 2013, which provides more certainty through a “deemed satisfaction” rule, so that developers could offer more assurance to investors that projects will qualify for the PTC or ITC. This clarification treats a facility as having satisfied the continuous construction test or the continuous efforts test if the taxpayer places the facility in service before January 1, 2016.

⁷ www.occ.gov/static/community-affairs/community-developments-investments/solar11/cdesolar11_index.htm

U.S. Department of Energy Programs Support Wind Energy

Kenneth Alston, Special Assistant for Finance, U.S. Department of Energy

The U.S. Department of Energy (DOE), through a wide portfolio of activities, aids the development and deployment of wind energy, and the results are taking hold: This clean energy technology has doubled its generating capacity in the United States over the past four years.

A Growing Market

Wind energy is one of the fastest-growing energy technologies in the nation. In 2012, wind energy was the number one source of new energy generation capacity installed in the United States, contributing more than 40 percent of all new generating capacity. Total installed wind capacity in the country has reached more than 60,000 megawatts—enough to power 15.2 million homes annually, more than the number of homes in the states of California and Washington combined.



AWEA

Dry Lake Wind Power Project, in Navajo Country, Arizona, is the state's first utility-scale wind farm with 30 turbines.

At the end of 2012, nine states met more than 10 percent of their total electricity needs with wind power, 39 states had utility-scale¹ wind projects, and 15 states had more than 1,000 megawatts of installed capacity wind power. Wind energy generates more than 3 percent of the nation's electricity portfolio, and according to a 2008 DOE report, wind energy could power as much as 20 percent of the nation's electricity by 2030.

What We Do

The Office of Energy Efficiency and Renewable Energy oversees the DOE's Wind Program. The program, which had a budget of more than \$88 million in 2013, helps accelerate deployment of wind power technologies by improving turbine performance, driving down the levelized cost² of energy, and reducing market barriers to wind energy deployment. The program works with national laboratories, industry, universities, and other federal agencies on both land-based and offshore wind power projects.

Other organizations within the DOE also play an important role in fostering wind energy development. The Loan Program Office has supported more than \$1.7 billion in new wind project financing, while the Advanced Research Projects Agency-Energy (ARPA-E) has issued funding awards for early-stage research and development in wind energy components, materials, and turbines.

Our Activities

The DOE's wind energy activities focus on four areas:

- **Technology research and development:** A crucial factor in the development, siting, and operation of a wind farm is the ability to assess and characterize available wind resources. More accurate prediction and measurement of wind speed and direction allow wind farms to supply clean, renewable power to businesses and homeowners at lower costs.

The DOE provides funding to support the development of innovative wind energy technology through the Wind Program, the Small Business Innovation Research and Small Business

Technology Transfer programs, and ARPA-E. The agency works to lower the cost of wind energy through

- research and development activities focused on innovative wind turbine components, systems, materials, and manufacturing,
 - partnering with the academic community, research institutions, and industry to improve wind turbine and wind plant designs, operation, and reliability;
 - facilitating the development of wind turbine systems in both land-based and offshore environments;
 - exploring cost-reduction opportunities across all types of wind power systems; and
 - developing and validating open-source design tools for evaluating new concepts and educating the next generation of wind turbine designers.
- **Wind turbine testing and certification:** The DOE works with industry, universities, and national laboratories to develop aerodynamic, structural, and electrical test centers. These centers test wind farms, wind turbines, rotor blades, and drivetrains. The agency helps industry improve performance and safety by establishing standards for small wind turbine certification. To maintain the latest standards, the DOE participates in the development of national and international wind energy criteria.
 - **Market acceleration and deployment:** To support and encourage market growth, the DOE has issued loan guarantees to multiple utility-scale wind projects, including Record Hill Wind in Roxbury, ME. At the same time, the DOE partners with environmental groups and agencies to understand the impact of wind installations on bird, bat, and insect species and their habitats, and takes necessary and appropriate mitigation actions. In addition, the agency assists in the development of guidelines for proper wind plant siting and permitting. The agency also investigates and mitigates the potential auditory, visual, radar, and competitive-use impacts of wind energy on society. Finally, the agency provides independent cost analyses of energy, economic assessments, and market information publications.
 - **Wind resource assessment and grid integration:** The DOE assesses domestic wind energy resources for both land-based and offshore wind energy systems. Assessment data can help improve the global understanding of wind farm design conditions and complex aerodynamics. The data also can lead to better understanding of critical wind integration challenges related to electricity supply and demand, wind forecasting, and wind speed variability. The agency is continually developing solutions and best practices for wind energy grid integration.

Through these programs and projects, the DOE will continue to support the growth of the nation's wind industry and the promotion of a clean-energy economy.

For more information, visit www1.eere.energy.gov/wind/ or contact Kenneth Alston at (202) 586-5000 or kenneth.alston@hq.doe.gov.

Community Developments Investments is produced by the OCC's Community Affairs Department. Articles by non-OCC authors represent their own views and not necessarily the OCC's.

¹The term "utility-scale" applies to large turbine installations requiring transmission system interconnection.

²Levelized cost is often cited as a convenient summary measure of the overall competitiveness of different generating technologies. It represents the per-kilowatt-hour cost (in real dollars) of building and operating a generating plant over an assumed financial life and duty cycle. Key inputs to calculating levelized costs include overnight capital costs, fuel costs, fixed and variable operations and maintenance costs, financing costs, and an assumed utilization rate for each plant type. "Levelized Cost of New Generation Resources in the Annual Energy Outlook 2013," January 2013, http://www.eia.gov/forecasts/aeo/pdf/electricity_generation.pdf.

Financing Community-Scale Wind Energy Projects

Greg Richter, NMTC Deal Team Manager, Wells Fargo Community Lending & Investment

Wells Fargo, NA, has made a significant commitment to environmental lending and investment with a goal of providing an additional \$30 billion in environmental finance between 2012 and 2020. To date, Wells Fargo has invested more than \$2 billion of tax equity in wind assets, reducing CO₂ emissions by 42.6 million metric tons and saving more than 6 billion gallons of water.¹ Most of this financing activity has occurred in the holding company, however, this article describes how the bank, Wells Fargo, NA, was able to use the public welfare authority to make an investment in a wind energy project.



Lime Wind

Lime Wind, a three-megawatt, community-scale wind project in eastern Oregon, produces enough electricity each year to power 800 households.

In 2012, Wells Fargo provided \$760 million for clean energy, more than \$500 million of which went directly into solar and wind projects. Last year alone, investments reduced CO₂ emissions by more than 11 million metric tons and provided one year of estimated electricity usage to 1.6 million homes.

As part of this ongoing commitment to renewable energy finance, in 2012 Wells Fargo joined forces with Albina Equity Fund 1 (Albina) to finance Lime Wind, a community-scale wind farm in eastern Oregon. Unlike many of Wells Fargo's investments, which are utility-scale projects involving major institutional players and public utilities, Lime Wind is a local, distributed energy project. It is run by a small operator for the benefit of the local community, ultimately providing a reliable source of green power at rates that are at or below traditional sources.

Tax Credit Financing Structure

The Lime Wind transaction utilized \$8.4 million in new markets tax credits (NMTC) allocation provided by Albina, a subsidiary of Albina Community Bancorp, a minority-owned community development financial institution (CDFI) that focuses on providing capital to low-income neighborhoods. The NMTC allocation provided to Lime Wind came from a \$10 million allocation award from the U.S. Department of the Treasury's CDFI Fund to Albina in 2009. In addition to NMTCs, the transaction was structured to take advantage of the benefits of section 1603 of the American Recovery and Reinvestment Tax Act of 2009, a temporary federal program that gave investors and developers the option to receive a grant equivalent to the energy investment tax credits that could otherwise be earned.²

The transaction was structured as follows:

Wells Fargo, NA, as the tax credit investor, provided \$2.29 million in equity, the amount of the investment by the bank in its subsidiary, the WF-Lime Wind Investment Fund, LLC (WF-Wind Fund), which pooled all other funding sources for the transaction to make an \$8.4 million qualified equity investment in AEF Sub-CDE 1, a community development entity (CDE). In exchange for this investment, the WF-Wind Fund received a 99.9 percent interest in AEF Sub-CDE 1, plus the tax credits derived from the transaction, which will be collected over seven years.

Subsequently, AEF Sub-CDE 1 made qualified low-income community investments into the qualified active low-income community business, Lime Wind Holdings, in the form of a senior and supplemental

loan. The supplemental loan tied directly to the amount of the equity investment paid by Wells Fargo for the transaction.

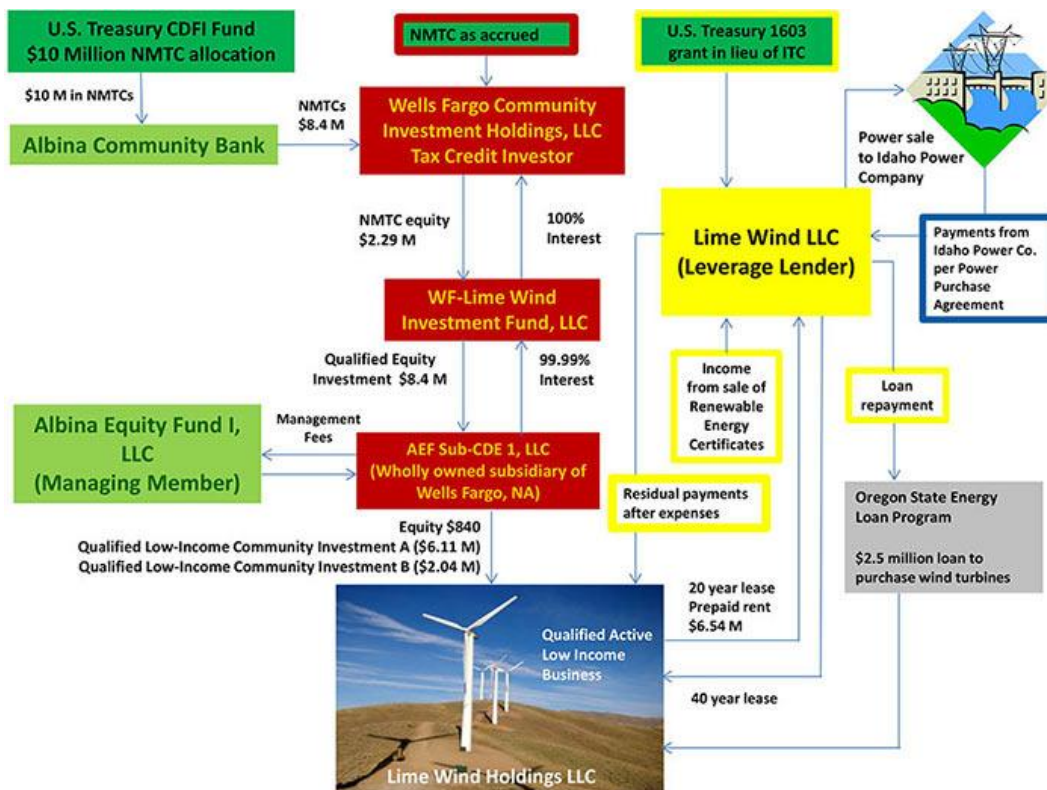
The Lime Wind transaction was structured as a sale/leaseback. Lime Wind Holdings negotiated a sale/leaseback with Lime Wind, LLC, in which rent was prepaid for a 20-year period to Lime Wind Holdings in return for a 40-year lease. Once the seven-year NMTC compliance period has passed, Wells Fargo will have the option to sell its interests in the WF-Wind Fund to Lime Wind, LLC, the sponsor of the project.

Lime Wind’s owner, Randy Joseph, manages day-to-day operations of the wind farm. In addition to earning management fees, Mr. Joseph negotiated the sale of renewable energy certificates to generate additional revenue to the company.

Another important source of financing was the Oregon State Energy Loan Program, which offered a fixed-rate, long-term loan funded through bonds issued by the state. This \$2.5 million loan to Lime Wind Holdings covered the purchase of the wind turbines for the project.

Lime Wind, LLC, negotiated a power purchase agreement (PPA) with the Idaho Power Company. A PPA sets the length of the term, the starting electricity rate, and an escalator clause to place a limit on the amount that the electricity rate can rise, and establishes other contractual duties, such as which party maintains insurance on the facility. Revenue from the sale of electricity was used to cover the debt service on the loan from the Oregon State Energy Loan Program.

The following chart illustrates the flow of investments, revenues, tax benefits, and contractual responsibilities in this transaction.



Compliance and Due Diligence Requirements

Wells Fargo's underwriting analysis focused on standard elements, such as projected cash flows, cost certification, engineering reports, appraisals, feasibility studies, and evaluation of legal documents that controlled the rights and responsibilities of various parties to the transaction as well as the PPA.

As illustrated in the chart, the allocation of revenue and tax benefits had to be carefully structured to meet compliance requirements and ensure that the tax credit and grant benefits would flow to the investor. Due diligence and careful underwriting are always critical to the success of any financing transaction, but even more so in tax credit transactions where receipt of those benefits hinges on meeting all requirements over the course of a seven-year compliance period.

The NMTC totals 39 percent of the qualified equity investment and is claimed over a seven-year compliance period, but these NMTC benefits are subject to full recapture under certain circumstances. For the full seven-year period, the CDE must maintain its certification by the CDFI Fund. In addition, at least 85 percent of the proceeds must continuously be deployed during the compliance period in qualifying low-income investments, and the CDE must not redeem the equity investment. To avoid recapture, the bank must carefully evaluate the ability of its partners to exercise appropriate controls over project selection, development, completion, and ongoing performance.

A number of unique characteristics of this particular wind farm development increased the importance of due diligence regarding the developer's strength and quality. The developer was relatively inexperienced, so third-party consultants and engineers were hired to help manage the proper installation of the wind farm. Therefore, Wells Fargo had to evaluate the capabilities of a broader set of firms and secure assurances, such as an engineering certificate, to ensure that the turbines were properly installed. The bank also had to assess the developer's capacity to manage the continuing maintenance on the project over the 20- to 25-year expected useful life of the wind turbines. Because the developer purchased refurbished turbines, a service contract was established, a replacement reserve was set up, and replacement parts were stockpiled to ensure that the turbines would work properly over their anticipated life cycle and that repairs could be made quickly to avoid service interruptions.

The location of the wind turbines also presented issues that Wells Fargo needed to evaluate. The turbines are in the remote community of Lime, Ore., on the former site of a cement plant. The bank needed to review the 30-year lease that the developer had on the property, which the Bureau of Land Management (BLM) administers. Because the Lime Wind project is on BLM property, federal regulations required a detailed environmental impact assessment to secure the necessary regulatory approvals, which involved a lengthy period of public hearings, comments, and administrative decision making.

Regulatory Considerations

Wells Fargo invested directly in the Lime Wind project using the public welfare investment authority because the project primarily benefits low- and moderate-income individuals and areas by generating permanent jobs. The project also increases tax revenues in the rural area where the wind farm is located, which is a distressed low-income nonmetropolitan census tract.

Additionally, the bank may receive consideration under the Community Reinvestment Act (CRA) for its investment in Lime Wind. Although wind energy investments do not generally qualify for CRA consideration, the economic development aspects attributable to NMTC investments are generally presumed to meet the definition of community development as required by the CRA.

Conclusion

Although the Lime Wind project was a relatively small tax credit investment, and in some respects more complicated than much larger transactions, Wells Fargo strongly believed that the project was important for meeting its commitment to financing environmental business opportunities and improving rural areas through economic development.

For more information, contact Greg Richter at greg.richter@wellsfargo.com or (951) 816-3747.

Community Developments Investments is produced by the OCC's Community Affairs Department. Articles by non-OCC authors represent their own views and not necessarily the OCC's.

¹ "Wells Fargo Environmental Finance Report" (May 2013). Details on environmental benefit calculations are included in this report. www.wellsfargo.com/downloads/pdf/about/csr/reports/environmental_finance_report.pdf.

²When demand for tax credit investments declined in 2008, section 1603 of the American Recovery and Reinvestment Tax Act of 2009 was enacted, which provided developers or investors with the option to receive a direct cash grant payment from the U.S. Department of the Treasury in an amount equal to the tax credit that otherwise would be available under the Internal Revenue Code section 48 energy Investment Tax Credit program. Although that option has now expired, the section 1603 grant was available for qualifying property that was placed in service during 2009, 2010, or 2011 or projects that began construction before December 31, 2011, and have been or will be placed in service by the end of 2016.

How ‘Green’ Investments May Qualify for CRA Consideration

Sharon Canavan, Community Relations Expert, OCC

Loans and investments financing “green” buildings, energy-efficiency improvements, wind farms, solar panels, or other renewable energy systems do not in and of themselves qualify for positive consideration under the Community Reinvestment Act (CRA). Neither the CRA nor its implementing regulations specifically address these types of activities. If a loan or investment (activity) has a primary purpose of community development, as defined in the CRA regulation, however, the activity could receive positive CRA consideration, as long as the national bank’s or federal savings association’s (bank) geographic requirements also are met. An activity is considered to possess the requisite primary purpose of community development if a majority of the dollars or beneficiaries of the loan or investment meet one or more of the enumerated community development purposes.¹



AWEA

A worker at a Peachtree City, Ga., plant welds cranes and hydraulic excavators for use in turbine construction.

The CRA regulation defines community development as the following:

- (1) Affordable housing (including multifamily rental housing) for low- or moderate-income (LMI) individuals;
- (2) Community services targeted to LMI individuals;
- (3) Activities that promote economic development by financing businesses or farms that meet the size eligibility standards of the Small Business Administration’s Development Company or Small Business Investment Company programs (13 CFR 121.301) or have gross annual revenues of \$1 million or less;
- (4) Activities that revitalize or stabilize
 - (i) LMI geographies;
 - (ii) Designated disaster areas; or
 - (iii) Distressed or underserved nonmetropolitan middle-income geographies designated by the Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, and the OCC; or
- (5) Loans, investments, and services that
 - (i) Support, enable, or facilitate projects or activities that meet the “eligible uses” criteria described in Section 2301(c) of the Housing and Economic Recovery Act of 2008 (HERA), Public Law 110-289, 122 Stat. 2654, as amended, and are conducted in designated target areas identified in plans approved by the U.S. Department of Housing and Urban Development in accordance with the Neighborhood Stabilization Program (NSP);
 - (ii) Are provided no later than two years after the last date funds appropriated for NSP are required to be spent by grantees; and
 - (iii) Benefit low-, moderate-, and middle-income individuals and geographies in the bank’s assessment area(s) or areas outside the bank’s assessment area(s) provided the bank has adequately addressed the community development needs of its assessment areas.

Thus, the installation of energy-generating equipment, in and of itself, is not a qualified activity, because this activity does not on its face meet any of the requirements listed above. There are instances, however, where wind energy-related loans or investments could potentially meet the CRA's requirements.

For example, small loans to businesses that manufacture, install, or maintain wind energy generation equipment may receive positive CRA consideration under the review of a bank's retail lending activities, particularly if the loans are made to businesses that have gross annual revenues of \$1 million or less. To the extent that loans to such businesses also meet the definition of community development, examiners may discuss the community development aspects of the loans in the narrative portion of the bank's CRA public performance evaluation.²

An investment in a manufacturer or installer of wind energy components that located to, or retained its location in, an LMI area where its activities will produce jobs for LMI individuals may qualify for CRA consideration because the activity meets the definition of community development by helping to revitalize or stabilize the area by creating jobs for LMI individuals and attracting or retaining businesses. The company need not be a small business, because there are no restrictions on business size as it relates to job creation or retention, or on business creation or retention under the definitions of revitalization and stabilization.³

Some investments in wind energy facilities are structured to take advantage of more than one type of tax credit. In a "twinned transaction," a bank makes two separate equity investments into a single fund—one investment is allocated toward either an investment tax credit (or production tax credit) and another investment is allocated toward a new markets tax credit (NMTC). For example, the single fund uses the two equity contributions to invest in a community development entity (CDE), which in turn invests in a wind energy manufacturing or installation company that is a qualified active low-income community business. CRA consideration should be available for the entire amount represented by both investments in the single fund once the investment is made in the NMTC-eligible CDE, which is presumed to promote economic development.

Any loan to or investment in a Small Business Development Center, a Small Business Investment Company, a Rural Business Investment Company, a New Markets Venture Capital Company, or an NMTC-eligible CDE is presumed to promote economic development and, therefore, should qualify for CRA consideration.⁴ In addition, the fact that an investment into an NMTC-eligible entity is structured in a way to take advantage of an additional or different tax credit should not preclude CRA consideration for the full amount(s) invested in the CDE.

Bankers should refer to the "Interagency Questions and Answers Regarding Community Reinvestment" (www.ffiec.gov/cra/pdf/2010-4903.pdf) and 75 Fed. Reg. 47 (March 11, 2010), p.11642, for examples of qualifying community development activities. Bankers also should consult with their OCC supervisory offices to discuss the facts and circumstances of specific activities for which CRA consideration is desired.

¹See 75 Fed. Reg. 11642, 11649 (March 11, 2010), at __.12(h)—8.

²Intermediate small banks making qualified community development loans to small businesses can opt to have the loans reviewed under the OCC's lending test or the community development test. Large banks making loans qualifying as small business loans as well as community development loans can only report them as small business loans. Intermediate small banks have the option of having small loans to businesses that also meet the definition of community development loans considered under either the lending test or the community development test. For large banks, if a small loan to a business meets the definition of "small business loan" as well as the definition of "community development loan," it may be reported only as a small business loan.

³Detailed information on what activities revitalize or stabilize an LMI geography can be found in the "Interagency Questions and Answers Regarding Community Reinvestment" at 75 Fed. Reg. 11645, 11647, and 11649 (March 11, 2010), p. 11642, at __.12(g)(4)(i)—1, __.12(g)—2, and __.12(h)—5 (at www.ffiec.gov/cra/pdf/2010-4903.pdf).

⁴Ibid., p.11646, __.12(g)(3)—1.

Using the Public Welfare Investment Authority to Make Wind Energy Investments

National banks and federal savings associations (FSA) have broad authority to make loans and extend credit.¹ The public welfare investment (PWI) authority permits national bank and FSA investments in wind energy facilities if the investment is "designed primarily to promote the public welfare, including the welfare of low- and moderate-income (LMI) communities or families (such as by providing housing, services, or jobs).² FSAs may make investments in wind energy facilities under PWI authorities similar to those of banks."³



Courtesy of David Schwartz

The Goodnoe Hills Wind Project, in Klickitat County, Wash., uses wind turbines manufactured by REpower, which makes both onshore and offshore wind equipment.

Wind energy projects do not automatically qualify as PWIs. Federal regulations permit national banks and FSAs to make a PWI if the investment primarily benefits LMI individuals, LMI areas, or other areas targeted by a governmental entity for redevelopment, or the investment would receive consideration as a "qualified investment" under 12 CFR 25.23 of the Community Reinvestment Act (CRA) regulations.⁴

Using the PWI authority, national banks and FSAs may invest in wind energy-producing facilities, directly or indirectly (i.e., by taking interests in the entities themselves, or in funds that hold wind energy facilities), if the beneficiaries or the location of the facilities are consistent with the requirements of the PWI authority.⁵

One way to demonstrate benefit to LMI individuals under the PWI authority, for example, is to show a reduction in energy costs in an affordable housing development. Alternatively, a wind energy-producing facility's location might provide a basis for permitting an investment in such a facility to qualify as a PWI, because that authority allows national banks and FSAs to invest in projects that primarily benefit LMI areas.

Also, the facility could be located in an area targeted by a governmental entity for redevelopment.⁶ Most often, the designation will cover a neighborhood, district, or other geographic area under a formally adopted redevelopment plan that includes special activities and benefits or funding from public and private resources. A governmental entity may include any legally incorporated town, city, county, tribal, or federal governmental agency or entity. Examples of formally designated redevelopment areas include federal empowerment zones, brownfield sites, rural communities, state enterprise zones, or city tax incremental financing (TIF) districts.

The final category involves a "[qualified investment](#)" under the CRA regulations.⁷ Some investments in wind energy-producing facilities may be considered qualified investments if the facilities revitalize or stabilize low- or moderate-income areas or rural, middle-income, underserved, or distressed communities.⁸ Also, an investment that promotes economic development by financing small businesses may be considered a qualified investment.⁹ This could include, for example, an investment that finances a small business, where the small business either installs wind turbines or manufactures the turbine's components.

When the location of the wind energy-producing facility forms the basis for qualifying under the public welfare authority, a national bank or FSA must also demonstrate that there is job creation in order to meet

the public welfare standard.¹⁰ For example, if a project is located in an LMI area *and* creates permanent jobs, the institution typically would be able to provide a sufficient basis for establishing the public welfare benefit. For wind energy-producing facilities, permanent jobs primarily involve maintenance and servicing.

The Federal Financial Institutions Examination Council's Web site, www.ffiec.gov, can be used to find a list of distressed or underserved census tracts. Median family income statistics and a geocoding system to map census tract level information on area median income can also be found on that Web site, although a specific address is necessary to use the geocoding system. For large wind energy arrays located in rural areas, where an address may be unavailable, other data sources may help pinpoint family or area income by county or census tract. Policymap.org is another data source for evaluating area income and includes mapping tools. The U.S. Census Bureau also provides census tract maps by county at www.census.gov.

Certain safety and soundness considerations and limitations apply to all PWIs. A national bank's aggregate investments under the PWI authority cannot exceed 5 percent of the bank's capital and surplus, although this limit may be increased up to 15 percent if the OCC approves a national bank's proposal requesting regulatory permission to exceed the 5 percent limit for its aggregate PWIs.¹¹ Investment limits governing these activities for FSAs differ from those for national banks and vary depending on which legal authority is being used to make the investment.¹² Finally, a PWI may never expose a national bank or FSA to unlimited liability.

The OCC has approved investments in wind energy installations under the PWI authority:

- On December 15, 2011, a national bank received OCC approval for an investment in a fund established as a limited liability company. The purpose of the fund was to finance the construction and operation of six wind turbines. The investment in the fund primarily benefited LMI individuals and areas by allowing students at a technical college to pursue careers in the renewable energy sector. See Community Development Investment Letter #2011-2, December 2011, available at www.occ.gov/static/interpretations-and-precedents/oct12/cd111-2.pdf.
- On September 14, 2012, the OCC approved a national bank's investment in a community development entity that would provide business development and maintenance of a community-scale wind energy facility in an LMI area.

National banks seeking to invest in wind energy generation facilities under the PWI authority must either submit a prior approval notice to the OCC before making an investment or, if the national bank meets the eligibility standards, submit an after-the-fact notice to the OCC. Even if an eligible national bank meets the after-the-fact notification requirements, the national bank should consult with the OCC Community Affairs Department to discuss whether its proposed investment will qualify as a PWI. The OCC currently is in the process of integrating the PWI requirements for FSAs into the agency's regulations. In the meantime, FSAs seeking to make PWIs should comply with the former [Office of Thrift Supervision's PWI requirements](#). FSAs should also consult with the OCC before they make an investment in a wind energy transaction in order to seek assurances from the OCC regarding this determination. The OCC has developed a ["Public Welfare Investments" Fact Sheet](#) that provides information about the requirements for PWIs and the procedures for filing notices and securing approval from the OCC for an investment.

For questions about whether specific investments may qualify as PWIs, or for information on the OCC's approval process for PWIs, contact Karen Bellesi at (202) 649-6420. More information is also available at the OCC's [PWI Web Resource Directory](#).

¹12 USC 24 (Seventh) for national banks and 12 USC 1464(c) for FSAs.

²National banks may make investments that are primarily designed to promote the public welfare under the investment authority in [12 USC 24 \(Eleventh\)](#) and the implementing regulation, [12 CFR 24](#).

³FSAs also are permitted to make PWIs, although FSAs are subject to different investment standards and limits than national banks ([12 CFR 160.36](#) and [12 CFR 559](#); see www.occ.gov/pwj).

⁴12 CFR 24.3.

⁵Examples of investments that qualify under the PWI authority can be found at [12 CFR 24.6](#).

⁶A national bank or FSA making an investment that relies on these criteria should maintain information documenting that the governmental entity or agency has designated the area; the redevelopment criteria for the area; how the PWI is consistent with the governmental entity's or agency's plans; and the type of financing and other support that the governmental entity or agency provides to the area or project in which the investment is made.

⁷12 CFR 25.12(t).

⁸See "Interagency Questions and Answers Regarding Community Reinvestment," [.12\(g\)\(4\)\(iii\) – 3 and – 4](#), for more guidance on what is considered to revitalize or stabilize a non-metropolitan, middle-income, distressed, or underserved area.

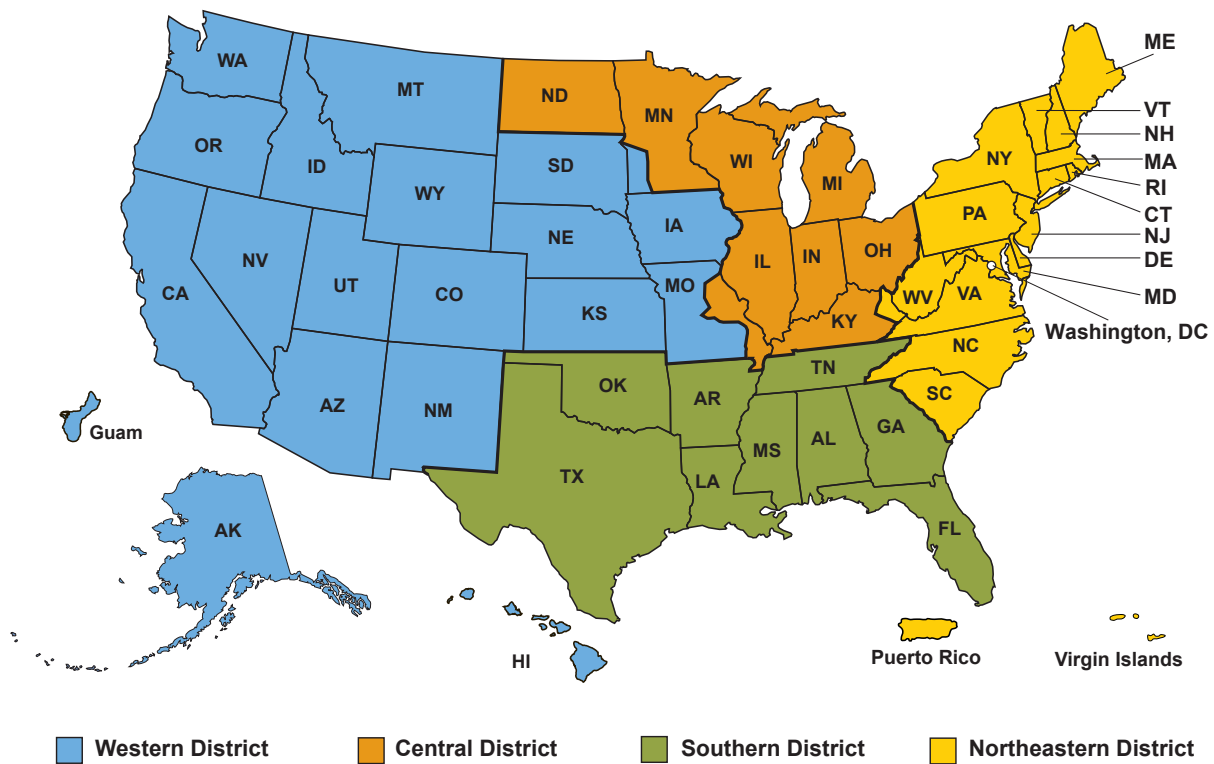
⁹[12 CFR 25.12\(g\)\(3\)](#). The definition of community development includes activities that promote economic development by financing businesses or farms that meet the size eligibility standards of the Small Business Administration's Development Company or Small Business Investment Company programs (13 CFR 121.301) or have gross annual revenues of \$1 million or less. See "Interagency Questions and Answers Regarding Community Reinvestment," [.12\(g\)\(3\) – 1](#), for guidance on promoting economic development by financing small businesses and farms.

¹⁰12 CFR 24.6(b)(3) and (4).

¹¹12 CFR 24.4.

¹²12 CFR 160.36 and 12 CFR 559.

Community Affairs supports the OCC's mission to ensure a vibrant banking system by helping national banks and federal savings associations to be leaders in providing safe and sound community development financing and making financial services accessible to underserved communities and consumers, while treating their customers fairly.



E-mail and telephone information for the OCC's District Community Affairs Officers is available at www.occ.gov/cacontacts.

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