

Community Wind

A Review of Select State and Federal Policy Incentives

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FLAG



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Susan E. Stokes
Executive Director

Community Wind: A Review of Select State and Federal Policy Incentives is available without charge to family farmers at <http://www.flaginc.org>. For a printed copy of this and other FLAG publications, please contact FLAG by telephone at 651-223-5400; by fax at 651-223-5335; by mail at 360 North Robert Street, Suite 500, Saint Paul, Minnesota, 55101; or by electronic mail at lawyers@flaginc.org.

About Farmers' Legal Action Group, Inc. (www.flaginc.org)

Founded in 1986, FLAG is a nonprofit law center dedicated to providing legal services to family farmers and their rural communities in order to help keep family farmers on the land.

America needs an agriculture that supports healthy rural communities, protects the environment, and promotes a safe, diverse, and stable food supply. To achieve these goals, America needs a healthy family farm-based system of agriculture. Targeted, top-notch legal information and advocacy are indispensable in the struggle to defend family-based agriculture and secure social and economic justice for farmers. FLAG exists to provide those legal services.

About Energy Foundation (www.ef.org)

The Energy Foundation is a partnership of major donors interested in solving the world's energy problems. Its mission is to advance energy efficiency and renewable energy—new technologies that are essential components of a clean energy future.

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Community Wind:

A Review of Select State and Federal Policy Incentives

I.	Introduction.....	1
II.	Production-Based Incentives.....	5
	A. Tax Credits for Wind Production.....	5
	1. Federal Production Tax Credit.....	6
	2. Iowa Production Tax Credits	9
	B. Production Payments.....	11
	1. Federal Renewable Energy Production Incentive (REPI)	12
	2. Minnesota Renewable Energy Production Incentive	14
III.	Non-Production-Based Tax Incentives.....	15
	A. Accelerated Depreciation	15
	B. Tax Credits for Wind Energy Installation Costs	16
	1. North Dakota Wind Energy Tax Credit	17
	2. Oregon Energy Income Tax Credit	17
	C. Property Tax Exemptions.....	19
	D. Sales Tax Exemptions.....	21
	E. Relief from Taxes on Production or Sales of Electricity	22
IV.	Special Community Wind Tariffs.....	23
	A. Advanced Renewable Tariffs (Also Known as Feed-In Tariffs)	23
	B. Community-Based Energy Development Tariffs.....	24
V.	Government and Utility Financing Mechanisms.....	31
	A. State Grant Programs	31
	B. State Loan Programs	33
	C. Federal Grant and Loan Programs.....	34
	D. Bonds and Bond-Funded Programs or Entities.....	37
	1. Oregon Small-Scale Energy Loan Program (SELP).....	37
	2. Colorado Bonds for Renewable Energy Cooperatives	38
	3. Federal Clean Renewable Energy Bonds (CREBs).....	39

VI.	Efforts to Increase Demand for Community Wind.....	41
A.	State Renewable Energy Standards.....	41
B.	Market-Based Approaches: Green Energy.....	44
1.	Green Pricing.....	44
2.	Renewable Energy Certificates (RECs).....	46
C.	Flexible Utility Planning Rules for Renewable Energy Purchases.....	48
VII.	Standardized Utility Contracts and Procedures	53
A.	Standardization of Interconnection.....	54
B.	Standardized Power Purchase Agreements (PPAs).....	55
VIII.	Net Metering	59
IX.	Wind Project Permitting.....	65
X.	Wind Property Rights	67
XI.	State-Funded Wind Working Groups	69
XII.	Conclusion	71
	APPENDIX A: Summary of Community Wind Incentives by State.....	75
A.	Colorado.....	75
B.	Iowa	76
C.	Minnesota	77
D.	North Dakota.....	79
E.	Oregon.....	80
F.	Federal.....	82
	APPENDIX B: Chart of Community Wind Incentives by State and Type ...	85
	APPENDIX C: Resources for Accessing State and Federal Laws	89
A.	Colorado.....	89
B.	Iowa	89
C.	Minnesota	89
D.	North Dakota.....	89
E.	Oregon.....	89
F.	Federal.....	90

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A Review of Select State and Federal Policy Incentives

I. Introduction

“Community wind” refers to a method of wind energy development that intentionally seeks to optimize local benefits. For purposes of this report, “community wind” includes locally owned wind projects that sell or offset energy on the electric grid. For a project to be locally owned, community members must have a direct financial stake in the project beyond just land leases or local tax revenue.¹ For example, a community wind project could include several local landowners banding together to purchase multiple turbines and share in a larger investment, or it could be a local school district purchasing and operating a turbine behind a school building.

Community wind directs the benefits of wind development to rural communities and local landowners. While any wind development diversifies the local economy and brings jobs and extra income to the landowners, direct local investment in the project brings significantly higher returns than wages or lease payments.² Community wind development also has particular advantages over

¹ This definition is adapted from Windustry, *Community Wind Energy Information Clearinghouse Working Definition of Community Wind*, <http://www.windustry.com/community> (click ‘What is Community Wind?’ hyperlink) (last visited July 27, 2006).

² There is a growing body of literature detailing the advantages of community wind development for local communities. See Windustry, *Community Wind Energy Information Clearinghouse*, <http://www.windustry.com/community>; Mark Bolinger, *A Survey of State Support for Community Wind Power Development* (March 2004), http://eetd.lbl.gov/ea/ems/cases/community_wind.pdf; Mark Bolinger & Ryan Wiser, *A Comparative Analysis for Business Structures Suitable for Farmer-Owned Wind Power Projects in the United States* (Nov. 2004), <http://eetd.lbl.gov/ea/ems/reports/56703.pdf>; Teresa Welsh Galluzzo, *Small Packages, Big Benefits: Economic Advantages of Local Wind Projects* (Apr. 2005, updated July 2005), http://www.iowapolicyproject.org/2005_reports_press_releases/050405-wind.pdf; General Accounting Office (GAO), *Renewable Energy: Wind Power’s Contribution to Electrical Power Generation and Impact on Farms and Rural Communities*, GAO-04-756 (Sept. 2004), <http://www.gao.gov/new.items/d04756.pdf> (abstract available at

other forms of wind energy development, such as tapping a new and lower cost source of capital, maximizing public support for the project, and increasing overall distributed energy generation and price stability.³

However, successfully executing a community wind project can be difficult. It may not always be possible to take full advantage of the economies of scale associated with very large commercial projects, and organizing many smaller investors can create a greater administrative burden.⁴ Indeed, most community wind projects are, almost by definition, first-time projects for which significant capacity building is necessary. In addition, many government incentives for renewable energy, particularly federal tax incentives, are structured in such a way as to favor commercial or industrial development over community projects.⁵ Thus, up to this point, community wind has not been the predominant wind development model in the United States.

Increasingly, however, policymakers and advocates have recognized the benefits of distributed, local ownership and control of wind projects and have actively sought to promote community wind projects of many sizes through state and federal legislation. This report discusses laws from Colorado, Iowa, Minnesota, North Dakota, Oregon, and the federal government that impact the viability of community wind development. These states were chosen because they have laws that are specifically targeted at community wind or are states that have significant wind power development potential. Certainly there are other states that also could have made this list; however, the selected jurisdictions provide a nice sampling of current efforts.⁶ In addition, laws of the Canadian province of Ontario and several European countries are discussed to provide further examples where appropriate.

This report is intended to provide policy advocates and policymakers concerned about wind development issues with an understanding of the predominant,

<http://www.gao.gov/docsearch/abstract.php?rptno=GAO-04-756> (all sites last visited July 27, 2006).

³ See generally Mark Bolinger, *Community Wind Power Ownership Schemes in Europe and their Relevance to the United States* 4-6 (May 2001), <http://eetd.lbl.gov/ea/emp/reports/48357.pdf> (last visited July 27, 2006).

⁴ Bolinger, *Community Wind in Europe*, *supra* n. 3, at 6-7.

⁵ Bolinger, *Community Wind in Europe*, *supra* n. 3, at 64.

⁶ To begin a thorough review of all of the currently enacted policies across the country, the Interstate Renewable Energy Council (IREC) maintains a Database of State Incentives for Renewable Energy (DSIRE), <http://www.dsireusa.org> (last visited July 27, 2006).

currently enacted policies. In the selected states, nine categories of laws have been identified that impact community wind development: Production-Based Incentives, Non-Production-Based Tax Incentives, Special Community Wind Tariffs, Government and Utility Financing Mechanisms, Efforts to Increase Wind Energy Demand, Standardized Utility Contracts and Procedures, Net Metering, Wind Project Permitting, and Wind Property Rights.⁷

This report gives a comprehensive review of the laws in each category that have been enacted in the selected U.S. states, but this is not intended to be an exhaustive list of all possible policies. In addition, the reader should be aware that this is a constantly developing area of law, and this report reflects the state of these various incentives as of August 2006.

Only a few jurisdictions have incentives within these categories that are truly targeted at developing community wind by specifically requiring local ownership before the benefit is bestowed. However, all have general wind-related laws that, to varying degrees, affect the feasibility of community wind. This report is intended to give the reader the ability to do a side-by-side comparison of the types of laws enacted by different states. Appendix A and B then review the laws discussed on a state-by-state basis, allowing the reader to compare the different “packages” of laws offered by each jurisdiction.

For an evaluation of these policies and recommendations for how a policymaker might best promote community wind, Windustry has written an introductory piece to accompany this report that can be obtained directly from that organization.⁸

⁷ Other factors—such as the availability and proximity of transmission lines and the quality of the wind resource—clearly also impact the feasibility of community wind development; however, these non-legal issues are beyond the scope of this report.

⁸ Windustry can be reached via e-mail (info@windustry.org), by phone (612-870-3461), or by toll-free phone (800-946-3640). Windustry’s Web address is www.windustry.org.

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II. Production-Based Incentives

States can provide direct financial incentives for the production of community wind in two principal ways: (1) income tax credits to producers based on the amount of energy generated, and (2) direct state payments to producers based on the amount of energy generated. Both of these methods have the benefit of subsidizing producers' efforts. Therefore, these payments increase the likelihood of both profitable and effective wind energy production.

However, production payments require a direct financial outlay from the government and therefore are limited by the political will required to make regular budget appropriations.⁹ Tax credits may be easier to enact but are often more difficult for community wind projects to use to their full advantage.

A. Tax Credits for Wind Production

Production tax credits (PTCs) are a form of government support specifically tailored to increase production of renewable energy. However, these tax credits operate by offsetting a taxpayer's tax liability. Farmers and other individual community members often lack sufficient tax liability to take advantage of the amount of credit associated with a wind project. In contrast, commercial wind producers are generally able to take full advantage of any PTCs offered by offsetting tax liability from other income sources. For this reason, the practice of supporting renewable energy with traditional PTCs has dramatically favored development of commercial wind over development of community wind.¹⁰

The federal PTC may be the most well known wind incentive, and its use highlights many of the common difficulties associated with using a PTC for community wind. Iowa has a state PTC that attempts to remedy some of the limitations of the federal PTC and actively seeks to encourage community wind.

⁹ Alternatively, in some cases a utility can be mandated to provide the funds, such as in the case of Xcel Energy's Renewable Development Fund (RDF) in Minnesota, but such a decision may also be limited by political will. *See, e.g., infra* nn. 155-56, 228-29 and accompanying text.

¹⁰ For a good example of this, see Phil Davies, *Fickle like the Wind*, Fed Gazette, Federal Reserve Bank of Minneapolis (November 2005), <http://minneapolisfed.org/pubs/fedgaz/05-11/wind.cfm> (last visited July 27, 2006).

1. Federal Production Tax Credit

The federal government provides a PTC to reduce the income tax liability of the owner of any qualified renewable energy facility, including wind turbines.¹¹ As of 2005, the amount of the federal inflation-indexed PTC is 1.9 cents per kWh.¹² Turbine owners can claim the credit for the first 10 fiscal years of the facility's operation.¹³ The incentive is currently available for projects placed in service by December 31, 2007, at which time Congress must extend the credit to ensure continued availability for new projects.¹⁴

The federal PTC is a significant subsidy for wind project owners that are able to use the credit. However, a wind project is unlikely to produce significant net income in the first years of operation, when revenue is used to pay down debt. Therefore, a wind project investor will need significant taxable income from other sources to fully utilize the available PTC and to generate a return on the investment.

Any excess PTC that cannot be used in the year of production can be carried back one year or forward 20 years.¹⁵ However, to be most useful, the credit needs to be taken advantage of in the early years of the wind project's operation in order to actually reduce the cost of wind generation—often by about 40 percent—and therefore make the project profitable.¹⁶ Indeed, lenders typically require a positive cash flow from the project in these early years to cover repayment of debt and a margin for safety.

Most individual investors face an additional hurdle because ownership of a wind project is considered a "passive" activity when the investor does not actively participate in the operation of the project. Tax credits acquired through passive activity can only be applied against "passive income."¹⁷ This makes the PTC

¹¹ 26 U.S.C. § 45(a)(1), (c)(1)(A) (2000).

¹² IRS Form 8835, *Renewable Electricity, Refined Coal, and Indian Coal Production Credit 3* (2005), <http://www.irs.gov/pub/irs-pdf/f8835.pdf> (last visited July 27, 2006).

¹³ 26 U.S.C. § 45(a)(2)(A)(ii) (2000).

¹⁴ Energy Policy Act of 2005, Pub. L. No. 109-58, § 1301, 119 Stat. 594, 986-90 (Aug. 8, 2005).

¹⁵ 26 U.S.C. § 38(b)(8) (2000) (application to Renewable Energy Production Tax Credit); 26 U.S.C. § 39 (carryforward and carryback rules applied to § 38 credits).

¹⁶ Phil Davies, *Fickle like the Wind*, *supra* n. 10.

¹⁷ IRS Publication 925, *Passive Activity and At-Risk Rules 2* (2005), <http://www.irs.gov/pub/irs-pdf/p925.pdf> (last visited July 27, 2006) (passive income

attractive only to wind producers who have substantial passive income from other sources, a significant limitation for most farmers or other community members for whom the vast majority of income generally comes from working or other “active” sources.¹⁸

According to the Government Accountability Office, the federal PTC has been vital to increasing wind power generation in the United States.¹⁹ It has dramatically reduced the cost of wind energy, adding approximately \$20 per MWh to a project’s taxable revenue averaged over a 20-year life.²⁰ However, the fact that the PTC has historically been subject to off-and-on availability has resulted in a “boom-and-bust cycle in the installation of new wind power capacity.”²¹ Developers often need to plan projects on a timeline that exceeds the two-year windows in which Congress has historically made the PTC available. If the PTC is not renewed for the period in which a wind project is expected to begin, developers must wait until it has been renewed before proceeding with the project in order to take advantage of the PTC.

results from rental activities or other business activities in which the owner does not materially participate in operations).

¹⁸ See Bolinger, *Survey of State Support*, *supra* n. 2, at 2. Some community wind developers have pioneered innovative uses of existing business structures to fully utilize the PTC. This creative structuring enables community members to partner with outside investors who have a significant tax-credit appetite who invest in the project in return for the ability to take advantage of the federal and state tax incentives. See, e.g., *id.* at 9 (describing Minnesota “flip”). However, just because some projects have been able to get around the limitations of the PTC, using innovative business models does not make the current PTC rules friendly to community wind. Indeed, even when some relatively small investors with at least some passive income—such as a community of farmers with some limited ethanol investments to offset—have banded together to distribute the benefits of the PTC, these investors have been negatively impacted by required Alternative Minimum Tax calculations. Fax correspondence from Mark Lindquist, Energy Policy Specialist, The Minnesota Project (Aug. 24, 2006) [hereinafter Lindquist Correspondence].

¹⁹ GAO, *Renewable Energy*, *supra* n. 2, at 31-33.

²⁰ Mark Bolinger, *Avoiding the Haircut: Potential Ways to Enhance the Value of the USDA’s Section 9006 Program 6* (July 2006), <http://eetd.lbl.gov/ea/EMS/reports/61076.pdf>; see also Davies, *Fickle like the Wind*, *supra* n. 10; Ryan Wisner & Mark Bolinger, *Analyzing the Interaction Between State Tax Incentives and the Federal Production Tax Credit for Wind Power 2* (September 2002), <http://eetd.lbl.gov/ea/emp/reports/51465.pdf> (all sites last visited July 31, 2006).

²¹ GAO, *Renewable Energy*, *supra* n. 2, at 31.

Moreover, the federal PTC's "double-dipping" provision may undercut the value of additional government incentives for wind power.²² If a project receives certain kinds of federal or state incentives, the federal PTC is reduced in order to prevent "excessive" reliance on government subsidies.²³

The state incentives most likely to trigger the federal "double-dipping" provision are state grants that buy down the up-front capital costs of the project,²⁴ state loan programs offering below-market interest, and other forms of state-subsidized financing.²⁵ State or local tax credits do not reduce the federal PTC,²⁶ and production incentive payments, other state tax incentives, grants for operational costs, loan guarantees, and renewable purchases mandates are unlikely to trigger the federal double-dipping rules.²⁷ Likewise, USDA Section 9006 grants trigger the "double-dipping" provision (and direct federal loans likely will also if offered in the future), while federal loan guarantees do not.²⁸

However, even if the federal PTC is reduced by application of this double-dipping provision, the other federal and state benefits remain significant incentives for wind production because the federal PTC is not reduced on a one-to-one basis for the triggering incentive. Instead, the PTC is reduced in

²² Wisner & Bolinger, *Analyzing the Interaction*, supra n. 20, at 4; see also Bolinger, *Avoiding the Haircut*, supra n. 20.

²³ Wisner & Bolinger, *Analyzing the Interaction*, supra n. 20, at 4.

²⁴ 26 U.S.C. § 45(b)(3)(A)(i) (federal PTC will be offset by "grants provided by the United States, a state, or a political subdivision of a state for use in connection with the project").

²⁵ Wisner & Bolinger, *Analyzing the Interaction*, supra n. 20, at 5; see also 26 U.S.C. § 45(b)(3)(A)(ii), (iii) (federal PTC will be offset by "proceeds of an issue of state or local government obligations used to provide financing for the project the interest on which is exempt from tax under § 103," and "the aggregate amount of subsidized energy financing provided (directly or indirectly) under a federal, state, or local program provided in connection with the project").

²⁶ IRS Revenue Ruling 2006-9 (February 27, 2006), http://www.irs.gov/irb/2006-09_IRB/ar06.html (last visited July 27, 2006) (reducing the federal PTC by "any other credit allowable" held to not apply to state tax credits; instead construed to apply only to federal tax credits); see also 26 U.S.C. § 45(b)(3)(A)(iv).

²⁷ Wisner & Bolinger, *Analyzing the Interaction*, supra n. 20, at 5; IRS Private Letter Ruling 200206034 (November 8, 2001) (holding that a conditional refund of the Colorado state sales and use tax did not offset the federal PTC). Although this private letter ruling only applies in one particular case, it is indicative of the IRS interpretation of the statute. See Wisner & Bolinger, *Analyzing the Interaction*, supra n. 20, at 5.

²⁸ Bolinger, *Avoiding the Haircut*, supra n. 20, at 8-9.

proportion to the relationship between the amount of state and federal incentive funding and the capital cost of the project.²⁹ Because of the federal PTC reduction is proportional, much of the value of other federal and state incentives for encouraging wind development can still be captured. One study found that state incentives generally retain 60 percent of their value even if the double-dipping provision of the federal PTC is triggered.³⁰ Another study found that the federal grants under the USDA Section 9006 program retain between 17 percent and 69 percent of the value of the grant.³¹ Other federal and state incentives are often more friendly to community wind and also provide an important “backstop” for developers if Congress were to decide not to renew the federal PTC.³²

2. Iowa Production Tax Credits

Iowa has two separate PTCs for wind and renewable energy production. The Wind Energy Production Tax Credit (WEPTC) applies only to wind facilities, while the more recent Renewable Energy Production Tax Credit (REPTC) applies to a variety of renewable energy sources, including wind energy. Both have maximum overall credit limits. Once the maximum limit has been subscribed, new projects are not eligible for the credit unless additional credits become available.

Iowa has attempted to make its PTC more useful to community wind projects by limiting some applications of the credit to Iowa-owned projects and providing for the sale or transfer of the credit to third parties through tax certificates.

a. Wind Energy Production Tax Credit (WEPTC)

Enacted in 2004, Iowa’s WEPTC provides tax credits equal to 1 cent per kWh of electricity sold³³ for the first 10 years³⁴ of a wind project placed in operation between July 2005 and June 2008.³⁵ The credit is capped at 450 MW of eligible projects.³⁶ Any wind facility in Iowa is eligible for this credit.³⁷ However, a

²⁹ Wisner & Bolinger, *Analyzing the Interaction*, supra n. 20, at 4.

³⁰ Bolinger, *Avoiding the Haircut*, supra n. 20, at 9.

³¹ Bolinger, *Avoiding the Haircut*, supra n. 220, at 20.

³² Wisner & Bolinger, *Analyzing the Interaction*, supra n. 20, at 9.

³³ Iowa Code § 476B.3 (2005).

³⁴ Iowa Code § 476B.2.

³⁵ Iowa Code § 476B.1(4)(c).

³⁶ Iowa Code § 476B.5(4).

facility owner may not own more than two qualified facilities.³⁸ If the tax credit is greater than the taxpayer's liability for the year, the credit may be carried over for up to seven years.³⁹

Additionally, to be eligible for the WEPTC the project must be approved by the board of supervisors in the county in which the wind project is located.⁴⁰ This process gives local residents some measure of political control.

WEPTC certificates may be transferred to another person, but only once.⁴¹ The person to whom the credit is transferred must register that transfer with the state, which then issues a new tax credit certificate in the transferee's name, with the same effective date and expiration date as the original.⁴²

If a facility is receiving tax credits under this statute, it is not eligible for other Iowa tax incentives, such as special valuation for property tax or the exemption from retail sales tax, both of which are discussed later in this report.⁴³ In fact, instead of the typical Iowa property tax exemption for wind energy facilities, projects receiving the WEPTC will instead be assessed property tax on the facility for 12 years, with the tax revenue from the facility remitted to the state treasury.⁴⁴

b. Renewable Energy Production Tax Credit (REPTC)

Enacted in 2005, Iowa's REPTC is substantially similar to the WEPTC described above, except that it applies to a variety of renewable energy projects, not just wind facilities, and has stricter statutory eligibility requirements.⁴⁵ It is available for 180 MW of wind projects and 20 MW of other renewable facilities.⁴⁶

³⁷ Iowa Code § 476B.1(4)(b); *see also* Iowa Admin. Code R. 199-15.18 (2006).

³⁸ Iowa Code § 476B.5(5).

³⁹ Iowa Code § 476B.8.

⁴⁰ Iowa Code § 476B.6(1)(a).

⁴¹ Iowa Code § 476B.7. This is similar to Oregon's pass-through option for its Business Energy Tax Credit (BETC), which allows owners of a wind project "cash in" on the value of the tax credit, even if they would have had little or no ability to take advantage of it directly. *See infra* nn. 89-90 and accompanying text.

⁴² Iowa Code § 476B.6-7.

⁴³ Iowa Code § 476B.4(1); *see infra* nn. 105-08, 112 and accompanying text.

⁴⁴ Iowa Code § 476B.6(1)(b).

⁴⁵ Iowa Code § 476C.1.

⁴⁶ Iowa Code § 476C.3(4), as amended by 2005 Iowa S.F. 2399, § 9 (May 30, 2006). The limit was increased from 90 MW of wind capacity and 10 MW for other renewable

To qualify for the REPTC, wind facilities must be at least 51 percent-owned by one or more Iowa residents—including an individual; farm or family farm corporation; limited liability company or family farm limited liability company; family, revocable, testamentary, or authorized trust; small business; electric cooperative association; cooperative corporation; or school district.⁴⁷ In addition, the facility must have at least one owner that meets this requirement for each 2.5 MW of generating capacity,⁴⁸ and none of these owners may own more than two eligible renewable energy facilities.⁴⁹

The REPTC is equal to 1.5 cents per kWh of electricity generated and sold by the facility⁵⁰ for 10 years of operation, so long as the facility remains eligible.⁵¹ Credits in excess of the taxpayer's liability may be carried forward for up to seven years, and the credit may be transferred once.⁵²

Unlike the WEPTC, credit under the REPTC is not contingent on the project receiving county approval. Instead, the owners apply directly to the Iowa Utilities Board for approval on the basis of whether the project meets the law's requirements.⁵³

A project cannot receive both the WEPTC and the REPTC.⁵⁴

B. Production Payments

Production payments provide direct cash payments to energy producers based on the amount of energy produced. Both Minnesota and the federal government provide direct production payments.⁵⁵ Production payments increase

facilities. The Iowa Utilities Board is also required to keep a waiting list of eligible facilities that apply but are not able to get the credits due to the capacity limit, and to issue credits to those facilities on the waiting list as credits become available. 2005 Iowa S.F. 2399, § 9(5).

⁴⁷ Iowa Code § 476C.1(6)(b); *see also* Iowa Admin. Code R. § 199-15.19 (2006).

⁴⁸ Iowa Code § 476C.1(6)(c).

⁴⁹ Iowa Code § 476C.3(5).

⁵⁰ Iowa Code § 476C.2(1).

⁵¹ Iowa Code § 476C.5.

⁵² Iowa Code § 476C.6(1), (2).

⁵³ Iowa Code § 476C.3.

⁵⁴ Iowa Code § 476C.4(6).

⁵⁵ In addition to Minnesota, the states of California, Massachusetts, Nevada, New Jersey, and Washington provide direct production incentives. Database of State Incentives for

profitability and encourage production in the same way as a PTC but are often structured to provide an incentive to entities that are unable to take full advantage of tax credits.

The federal production payment is available only to tax-exempt entities. The Minnesota production payment incentive is not so limited, but is structured instead to benefit Minnesota individuals and businesses without requiring the sizable tax liability needed to take advantage of tax credits. However, the Minnesota production incentive was closed to new applications as of January 1, 2005.

1. Federal Renewable Energy Production Incentive (REPI)

Enacted in 1992, the federal Renewable Energy Production Incentive (REPI) provides price support to tax-exempt entities not eligible to use federal tax credits.⁵⁶ It is available to Native American tribes, state and local governments, municipal electric companies, rural electric cooperatives, and other non-profit entities.⁵⁷ It is intended to provide a similar value to tax-exempt entities as the federal PTC provides to taxable entities.

Indexed for inflation, the REPI today is equal to 1.9 cents per kWh.⁵⁸ Once a project qualifies for REPI, it is eligible for payments for its first 10 years of operation.⁵⁹ However, payments are not guaranteed because their availability depends on annual Congressional appropriations. If annual appropriations are not adequate to fund full payments to all qualified facilities, full payments are first made to Tier 1 facilities, which include all wind facilities. Then, Tier 2 facilities receive partial payments if there are any remaining funds. If sufficient funds are not available for full payments to all Tier 1 facilities, partial payments

Renewable Energy (DSIRE), *Financial Incentives for Renewable Energy* (table), <http://www.dsireusa.org/summarytables/financial.cfm?&CurrentPageID=7&EE=0&RE=1> (last visited April 19, 2006).

⁵⁶ 42 U.S.C. § 13317 (2000).

⁵⁷ 42 U.S.C. § 13317(b).

⁵⁸ 42 U.S.C. § 13317(e). The REPI rate is set at 1.5 cents per kWh in 1993, indexed for inflation, which, like the PTC, is equal to 1.9 cents per kWh in 2005. *See* IRS Form 8835, *supra* n. 12 and accompanying text; *see also* Windustry, *Glossary of Terms and Acronyms*, at <http://www.windustry.com/resources/glossary.htm> (last visited August 16, 2006) (citing the REPI amount as equal to the PTC amount of 1.9 cents per kWh).

⁵⁹ 42 U.S.C. § 13317(d).

are made on a pro rata basis to Tier 1 facilities only. Unfunded production from prior years is added to the funding eligibility in future years.⁶⁰

Historically, REPI funding has not been adequate to provide full payments to all eligible projects, and it is not anticipated that Congress will soon provide full funding.⁶¹ Authorization for the REPI program had expired for new projects in 2003; however, the program has now been extended and reauthorized to include projects in use before October 1, 2016.⁶²

2. Minnesota Renewable Energy Production Incentive

Minnesota's production payment incentive was enacted in 1997.⁶³ It provides cash payments of 1 to 1.5 cents per kWh of generated renewable energy from sources such as wind, solar, and biogas over 10 years of project operation for projects with less than 2 MW of nameplate capacity.⁶⁴

As of July 1, 1999, eligibility for the Minnesota production payment requires the project to be majority-owned by a Minnesota resident, Minnesota business, Minnesota governmental unit, Minnesota municipal utility, or Minnesota cooperative electric association.⁶⁵

Minnesota's incentive was originally financed through the state's general fund and was limited to the first 100 MW of qualified projects to apply.⁶⁶ This first 100 MW limit was reached in five years. In May 2003, Minnesota expanded the incentive to cover an additional 100 MW of capacity, this time to be financed with \$4.5 million per year from Xcel Energy's Renewable Development Fund,

⁶⁰ 10 C.F.R. § 451.9(e) (2006); *see also* U.S. Dept. of Energy, *Weatherization and Intergovernmental Program: Renewable Energy Production Incentive (REPI)*, at <http://www.eere.energy.gov/wip/program/repi.html> (last visited August 16, 2006).

⁶¹ American Public Power Association, *Fact Sheet: Renewable Energy Production Incentive (REPI)* (February 2006), <http://www.appanet.org/files/PDFs/REPIFactSheet.pdf> (last visited July 28, 2006) (reporting appropriations of \$4.95 million in FY 2006 and a budget request of \$4.96 million for FY 2007, but a backlog of requests close to \$80 million with demand continuing to grow).

⁶² Energy Policy Act of 2005, Pub. L. No. 109-58, § 202, 119 Stat. 594, 651-652 (Aug. 8, 2005); *see also* 42 U.S.C. § 13317(g).

⁶³ Bolinger, *Survey of State Support*, *supra* n. 2, at 5.

⁶⁴ Minn. Stat. § 216C.41 (2005). Certain cooperative associations can have projects up to 7 MW of nameplate capacity. Minn. Stat. § 216C.41(1)(c)(3).

⁶⁵ Minn. Stat. § 216C.41(1)(c)(2),(3), (6)(a).

⁶⁶ Bolinger, *Survey of State Support*, *supra* n. 2, at 5.

II. PRODUCTION-BASED INCENTIVES

which Xcel funds in exchange for Minnesota permitting Xcel to store nuclear waste within the state.⁶⁷ This second 100 MW was fully subscribed in only six months. By giving some projects 1 cent per kWh rather than 1.5 cents per kWh, the program is now supporting 225 MW of wind production.⁶⁸ The program stopped taking applications on January 1, 2005.⁶⁹

⁶⁷ Bolinger, *Survey of State Support*, *supra* n. 2, at 5; *see also infra* nn. 155-56 and accompanying text.

⁶⁸ Minn. Dept. of Commerce, *Energy Info Center: Renewable and Efficiency Incentives*, <http://www.state.mn.us/portal/mn/jsp/content.do?contentid=536885915&contenttype=EDITORIAL&agency=Commerce> (last visited Aug. 12, 2006).

⁶⁹ Minn. Dept. of Commerce, *Renewable and Efficiency Incentives*, *supra* n. 68.

III. Non-Production-Based Tax Incentives

In addition to direct tax credits based on energy production, several other tax incentives are available that can make community wind more feasible. In the surveyed jurisdictions, these include provisions for accelerated depreciation of wind-related assets, tax credits based on installation costs, and property and sales tax reductions or exemptions.⁷⁰

Oregon's tax credit for installation costs may be the most community-wind-friendly incentive of this type. General property and sales tax exemptions are likely to benefit all wind development to some degree, but standing alone may not be significant enough to drive community wind projects.

A. Accelerated Depreciation

Under federal tax law, wind projects are eligible for the Modified Accelerated Cost-Recovery System (MACRS) depreciation method,⁷¹ which allows a project to be depreciated over five years instead of the 15 years which would otherwise apply to wind equipment.⁷² However, like the federal PTC, taxpayers can only use this benefit if they have sufficient offsetting tax liability, typically from

⁷⁰ In Europe, tax incentives for wind development also include tax-free generation and a refund of energy or CO₂ taxes directly to renewable energy facilities. Bolinger, *Community Wind in Europe*, *supra* n. 3, at 48. In the United States, income from the generation of electricity is typically taxed and wind energy facilities are not paid a subsidy out of an energy or pollution tax. These European practices are interesting options that might be utilized by states in the future. *Id.* at 53. Other existing state-mandated charges are applied directly to renewable incentives, but they mainly go into funding grant or loan programs. *See infra* nn. 155-56 (Minnesota's Renewable Development Fund) and nn. 157-59 (Oregon's System Benefits Charge).

⁷¹ 26 U.S.C. § 168 (2000). For more information, see IRS Publication 946, *How to Depreciate Property* (2005), <http://www.irs.gov/pub/irs-pdf/p946.pdf>; IRS Form 4562, *Depreciation and Amortization* (2005), <http://www.irs.gov/pub/irs-pdf/f4562.pdf>; *Instructions for Form 4562* (2005), <http://www.irs.gov/pub/irs-pdf/i4562.pdf> (all sites last visited July 28, 2006).

⁷² IRS Publ'n 946, *Depreciate Property*, *supra* n. 71, at Table B-1: Table of Class Lives and Recovery Periods.

passive income for individual taxpayers.⁷³ Also like the PTC, there is a rule against “double-dipping,” so that the MACRS depreciation method is not available for property financed with tax-exempt bonds.⁷⁴ Additionally, state or federal incentives that provide tax-free capital funding for the project, such as grants, will reduce the depreciable basis of the property, reducing the overall depreciation deduction.⁷⁵

All of the states surveyed for this report permit the same accelerated depreciation schedule for state income tax purposes as is available under federal tax law. Because these states’ income tax laws conform with the federal Internal Revenue Code, no adjustments to state income tax calculations are required for depreciation of wind equipment.⁷⁶

B. Tax Credits for Wind Energy Installation Costs

Rather than offering production-based incentives for wind energy development, some states provide financial incentives to wind energy producers based on their installation costs. North Dakota provides this type of incentive through a tax credit; however, it may only be useful to individuals with a large tax liability. Oregon has a similar tax credit with a recently enacted “pass through” option that has dramatically increased the number of people who could benefit from the incentive.

⁷³ Charles Kubert, *Community Wind Financing: A Handbook by the Environmental Law and Policy Center* (2004), <http://www.elpc.org/documents/WindHandbook2004.pdf> (last visited July 31, 2006).

⁷⁴ 26 U.S.C. § 168(g); IRS Publ’n 946, *Depreciate Property*, *supra* n. 71, at 30 (property is instead depreciated using the Alternative Depreciation System).

⁷⁵ 26 U.S.C. § 1016(a)(1) (2000) (“General rule. Proper adjustment in respect of the property shall in all cases be made—(1) for expenditures, receipts, losses, or other items, properly chargeable to capital account.”); Bolinger & Wisner, *Business Structures*, *supra* n. 2, at 8, 6 n. 10.

⁷⁶ Colo. Rev. Stat. §§ 39-22-104 (Individual Income), -304 (Corporate Income) (2006); Iowa Code § 422.35 (2005); Minn. Stat. § 290.01(19) (2006); Letter from the Minn. Dept. of Revenue, to Mike Taylor, Minn. Dept. of Commerce, regarding depreciation method in Minnesota (December 9, 2002), http://www.state.mn.us/mn/externalDocs/Commerce/Depreciation_Information_1223020_14236_depreciation.pdf (last visited July 28, 2006); N.D. Cent. Code §§ 57-38-01.2 (Individual Income), 01.3 (Corporate Income) (2006); Or. Rev. Stat. §§ 316.680 (Personal Income), 317.013 (Corporate Income) (2006).

1. North Dakota Wind Energy Tax Credit

A North Dakota taxpayer may claim a state income tax credit for the cost of a wind energy device installed before January 1, 2011.⁷⁷ If the device was installed before January 1, 2001, the taxpayer can deduct 5 percent of the acquisition and installation costs of the wind turbine each year for three years.⁷⁸ If the device was installed after December 31, 2000, the taxpayer can claim a credit equal to 3 percent of the acquisition and installation costs each year for five years.⁷⁹ If the income tax credit exceeds the taxpayer's liability, the taxpayer can carry the credit forward for five years.⁸⁰

Small farmers with limited tax liability are not likely to be able to take advantage of this incentive.⁸¹ According to North Dakota's Office of Renewable Energy and Efficiency, the tax credit could even increase an individual's tax liability because it requires the taxpayer to use North Dakota's "long form," which exposes one to more tax liability than the state's "short form."⁸²

2. Oregon Energy Income Tax Credit

Oregon has recently enacted an innovative solution to the problem of tax incentives targeting only entities with a significant tax liability. Oregon allows an owner of a wind facility to "pass through" its tax credits to a taxable entity in exchange for a lump-sum cash payment.

a. Business Energy Tax Credit (BETC)

The BETC is available to businesses filing an Oregon tax return that install qualifying energy projects, including wind energy systems.⁸³ This includes individuals, corporations, and other business associations. The project may

⁷⁷ N.D. Cent. Code § 57-38-01.8(1) (2005).

⁷⁸ N.D. Cent. Code § 57-38-01.8(1).

⁷⁹ N.D. Cent. Code § 57-38-01.8(1).

⁸⁰ N.D. Cent. Code § 57-38-01.8(6).

⁸¹ Telephone Interview with Kim Christianson, Energy Program Manager, N.D. Office of Renewable Energy and Efficiency (December 5, 2005) [hereinafter Christianson Interview].

⁸² Christianson Interview, *supra* n. 81.

⁸³ Or. Rev. Stat. §§ 469.185 to 469.225 (2005); Or. Rev. Stat. § 315.354 (2005); Or. Admin. R. 330-090-0105 to 330-090-0150 (2006).

produce energy for sale, or for on-site use if it displaces 10 percent of non-renewable energy sources used on-site.⁸⁴

The amount of the tax credit may be up to 35 percent of eligible project costs, with a maximum amount of \$3.5 million per project.⁸⁵ Ten percent of the credit may be taken in each of the first and second years, and 5 percent each year thereafter.⁸⁶ For projects under \$20,000, the entire credit may be taken in the first year.⁸⁷ If an available credit cannot be used in the tax year, it may be carried forward for up to eight years.⁸⁸

A special feature of this tax credit is its pass-through option, which allows a project owner to transfer the tax credit to a pass-through partner in return for a lump-sum payment, the amount of which is determined by the state.⁸⁹ The pass-through option can be used by those entities that are not subject to Oregon income tax, such as non-profit organizations and government units, or by other project owners who do not have enough Oregon tax liability to fully utilize the credit.⁹⁰

The amount of the lump-sum payment from the pass-through partner is equal to the net present value of the tax credit. The Oregon Department of Energy sets the rate to determine the tax credit's net present value, and may consider inflation rates, opportunity costs, and tax consequences, among other factors, when setting the net present value rate.⁹¹ As of 2003, the five-year BETC pass-through option rate was 25.5 percent, and the one-year BETC pass-through option rate was 30.5 percent.⁹²

⁸⁴ Or. Admin. R. 330-090-0110 (54)(a).

⁸⁵ Or. Rev. Stat. § 315.354(3), Or. Admin. R. 330-090-0150(1) (allows \$10 million in eligible costs).

⁸⁶ Or. Rev. Stat. § 315.354(1)(a).

⁸⁷ Or. Rev. Stat. § 315.354(1)(b).

⁸⁸ Or. Rev. Stat. § 315.354(5).

⁸⁹ Or. Rev. Stat. § 469.206; Or. Admin. R. 330-090-0110(4)(a), (b); Or. Admin. R. 330-090-0140(1)(b).

⁹⁰ Or. Admin. R. 330-090-0120(1)(b); *see also* Or. Admin. R. 330-090-0110(4) (defining "Applicant"); (35) (defining "Pass-through Partner").

⁹¹ Or. Admin. R. 330-090-0110(31), (34); Or. Admin. R. 330-090-0140(1)(b).

⁹² Or. Dept. of Energy, *Business Energy Tax Credits*, <http://www.oregon.gov/ENERGY/CONS/BUS/BETC.shtml>; *see also* Or. Dept. of Energy, *Business Energy Tax Credit Pass-Through*,

As of July 2005, 7,400 tax credits had been issued under the BETC, representing projects that generate or conserve an estimated \$215 million worth of energy per year.⁹³

b. Residential Energy Tax Credit (RETC)

Oregon residents who install residential wind energy equipment are eligible for the RETC.⁹⁴ This tax credit is equal to 60 cents per estimated kWh conserved or offset by renewable energy generation during the first year, up to \$1,500.⁹⁵ Qualifying costs include wind measuring equipment, turbines, towers, additional components, engineering costs, utility interconnection equipment, installation, and additions to a system in future years.⁹⁶ The amount of the credit may not exceed these qualifying costs.⁹⁷ The total credit may be taken in the first year or carried forward for up to five years.⁹⁸

A pass-through option is also available for the RETC.⁹⁹ It operates similarly to the BETC pass-through.¹⁰⁰

C. Property Tax Exemptions

Several states provide some level of property tax exemption for property used in wind energy production.¹⁰¹ Property tax incentives can save a wind project

<http://www.oregon.gov/ENERGY/CONS/BUS/tax/pass-through.shtml> (all sites last visited July 28, 2006).

⁹³ Database of State Incentives for Renewable Energy (DSIRE), *Oregon Incentives for Renewable Energy: Business Energy Tax Credit*, http://www.dsireusa.org/library/includes/incentive2.cfm?Incentive_Code=OR03F&state=OR&CurrentPageID=1 (last visited July 28, 2006).

⁹⁴ Or. Admin. R. 330-070-0010 to 330-070-0097 (2006) (interpreting Or. Rev. Stat. §§ 469.160-469.180 (2005)).

⁹⁵ Or. Admin. R. 330-070-0022(2)(a).

⁹⁶ Or. Admin. R. 330-070-0091; *see also* Or. Dept. of Energy, *Wind Systems*, <http://www.oregon.gov/ENERGY/CONS/RES/tax/wind.shtml> (last visited July 28, 2006).

⁹⁷ Or. Admin. R. 330-070-0022(2)(a).

⁹⁸ Or. Admin. R. 330-070-0024(2).

⁹⁹ Or. Admin. R. 330-070-0014; *see also*, Or. Dept. of Energy, *RETC Pass-Through Option*, <http://www.oregon.gov/ENERGY/CONS/RES/tax/passthrough.shtml> (last visited April 24, 2006).

¹⁰⁰ *See* Or. Admin. R. 330-070-0014.

owner significant costs, but is probably not enough of an incentive to spur new projects in isolation.¹⁰² Although property tax relief alone is not considered a driver of wind development, it may be factored into the planning of a small community wind development if the landowners are also owners of the wind project and are concerned about an increase in the value of their property. From the point of view of the community at large, property tax relief may bring new wind development, but the community loses out on additional tax revenue that could be collected from the project.

Minnesota and North Dakota both provide an exemption from property tax that would be owed on wind energy equipment.¹⁰³ In North Dakota, the exemption lasts for five years, while the Minnesota law imposes no time limit.¹⁰⁴

Other states provide property tax relief for wind energy development by reducing or eliminating any value added to the land due to the installation of wind energy systems. For example, in Iowa, wind energy installations typically do not increase the actual, assessed, and taxable values of the underlying real estate for five assessment years.¹⁰⁵ Alternatively, in lieu of this complete five-year property tax exemption, local cities and counties can elect to adopt an alternative assessment method for wind facilities; however, those that choose this alternative taxing scheme must adhere to specific state law requirements.¹⁰⁶ This state law requires that these cities and counties electing an alternative to the five-year exemption must instead assess the wind equipment at 0 percent of its value in the first year, and then increase that assessed value by 5 percent in years 2 through 6, until they assess the wind equipment at a maximum of 30 percent in

¹⁰¹ See Database of State Incentives for Renewable Energy (DSIRE), *Property Tax Incentives*, <http://www.dsireusa.org/library/includes/type.cfm?Type=Property&Back=fintab¤tpageid=7&Search=TableType&EE=1&RE=1> (last visited July 28, 2006) (note that this list includes property tax incentives for all types of renewable energy; some of those listed only apply to solar energy).

¹⁰² L. Bird, *et. al.*, *Policies and Market Factors Driving Wind Power Development in the United States* 15 (July 2003), <http://eetd.lbl.gov/ea/ems/reports/53554.pdf> (last visited July 28, 2006).

¹⁰³ N.D. Cent. Code § 57-02-08(27) (2005); Minn. Stat. § 272.02(22) (2005).

¹⁰⁴ N.D. Cent. Code § 57-02-08(27).

¹⁰⁵ Iowa Code § 441.21(8)(b) (2005).

¹⁰⁶ Iowa Code § 427B.26.

the seventh year and years thereafter.¹⁰⁷ For example, under one such alternative system, a 42 MW wind project in Cerro Gordo County had a true value of \$42.5 million in 2001 but was assessed at only \$2.1 million in the second assessment year of the project.¹⁰⁸

In Oregon, landowners who use the energy produced by a wind project can have any additional value resulting from the installation of the system excluded from property tax assessments through the 2012 tax year.¹⁰⁹

In North Dakota, after the initial five-year property tax exemption discussed above, a property tax reduction continues to be available for turbines with a nameplate generation capacity of over 100 kW.¹¹⁰ These turbines, which would normally be assessed at 10 percent, are taxed at 3 percent of their assessed value if they are constructed before January 1, 2011. Eligible wind projects that began construction before July 1, 2006, and for which a power purchase agreement was executed before January 1, 2006, are taxed at only 1.5 percent of their assessed value for the duration of the initial power purchase agreement.¹¹¹

D. Sales Tax Exemptions

In Iowa and Minnesota, the sale of wind energy conversion property and materials used to manufacture, install, or construct a wind energy facility are exempt from retail sales tax.¹¹² North Dakota exempts owners and operators of qualifying wind turbines with a nameplate capacity of 100 kW or more from any sales or use tax on projects that began construction after June 30, 1991,¹¹³ as long as the facilities are completed before January 1, 2011.¹¹⁴ Finally, Colorado

¹⁰⁷ Iowa Code § 427B.26(2).

¹⁰⁸ Bird, *Policies and Market Forces*, *supra* n. 102.

¹⁰⁹ Or. Rev. Stat. § 307.175 (2005).

¹¹⁰ N.D. Cent. Code § 57-02-27.3 (2005).

¹¹¹ N.D. Cent. Code § 57-02-27.3; Cory Fong, Commissioner, N.D. Office of State Tax Commissioner, Presentation for Action Summit on Renewable Energy (June 12, 2006), <http://dorgan.senate.gov/documents/events/renewablesummit/RenewableTaxIncentives.ppt> (last visited July 28, 2006).

¹¹² Iowa Code § 423.3(54) (2005); Minn. Stat. § 297A.68(12) (2005).

¹¹³ N.D. Cent. Code § 57-39.2-04.2 (2005) (Sales Tax Provision); N.D. Cent. Code § 57-40.2-04.2 (Use Tax Provision).

¹¹⁴ N.D. Cent. Code §§ 57-39.2-04.2(1)(c)(2), 57-40.2-04.2(1)(c)(2).

provides a sales tax refund for renewable energy equipment, including wind systems, subject to the availability of funding each year.¹¹⁵

E. Relief from Taxes on Production or Sales of Electricity

In lieu of property tax on wind equipment, Minnesota has implemented a small energy production tax. Projects larger than 12 MW are taxed 0.12 cents per kWh for energy produced; projects between 2 and 12 MW are taxed 0.036 cents per kWh; projects between 250 kW and 2 MW are taxed 0.012 cents per kWh; and projects under 250 kW are exempt.¹¹⁶ However, a city, town, or county government may negotiate a payment in lieu of the energy production tax “to provide fees or compensation to the host jurisdictions to maintain public infrastructure and services.”¹¹⁷ The local government may use this negotiated payment to attract wind development to their jurisdiction.

In Iowa, generators of electricity normally pay a “replacement generation” tax of .06 cents per kWh.¹¹⁸ However, electricity generated by wind facilities is exempt from this tax.¹¹⁹

¹¹⁵ Colo. Rev. Stat. §§ 39-26-501, 39-26-502 (2006).

¹¹⁶ Minn. Dept. of Commerce, *Renewable and Efficiency Incentives*, *supra* note 68.

¹¹⁷ Minn. Stat. § 272.028 (2005).

¹¹⁸ Iowa Code § 437A.6(1) (2005).

¹¹⁹ Iowa Code § 437A.6(1)(c).

IV. Special Community Wind Tariffs

In the context of energy generation, a tariff refers generally to a document filed by a utility and approved by the state's Public Utilities Commission (PUC) that typically contains the rates, charges, schedules, regulations, terms, or conditions of a class of regulated electric service.¹²⁰ A state seeking to promote the profitability of community wind, without having to appropriate large amounts of state funds for direct subsidies, may mandate that its regulated utilities implement special tariffs to facilitate the purchase of community wind.

A. Advanced Renewable Tariffs (Also Known as Feed-In Tariffs)

Laws that set specific tariffs, including rates, for the sale and purchase of wind energy have been tremendously helpful in establishing community wind power in Europe.¹²¹ By guaranteeing the right to interconnection, a standard offer process, and a particular price for wind power, European tariffs have created a stable and profitable market for wind, grown a wind manufacturing industry, and decreased the transaction costs associated with each new project.¹²²

A standard offer process sets certain criteria for participation and makes a commitment that any potential project which meets the criteria will receive the terms as set out in the standard offer. In Europe, such tariffs are generally referred to as Feed-in Tariffs, although they have also been called Standard Offer Tariffs or Advanced Renewable Tariffs. Such tariffs are in effect in Germany, France, Spain, the Netherlands, Portugal, Austria, Brazil, Greece and Luxembourg. Originally, the price paid for renewable power in Europe under the Feed-in Tariffs was set as a percentage of the retail price of electricity, and

¹²⁰ See generally Charles Harak & Olivia Bae Wein, *Access to Utility Service* § 1.3.4 (3d ed., National Consumer Law Center 2004).

¹²¹ Bolinger, *Community Wind in Europe*, *supra* n. 3, at 48.

¹²² Bolinger, *Community Wind in Europe*, *supra* n. 3, at 48.

these systems have evolved toward the setting of a guaranteed fixed price per kWh, or tiers of prices based on location, for a given period of time.¹²³

The Canadian province of Ontario is the first jurisdiction in North America to announce its intention to adopt a system of Advanced Renewable Tariffs.¹²⁴ These tariffs and associated Standard Offer Contracts will be available to wind, biomass, solar, and low-impact hydro projects under 10 MW that can be connected to the grid. Projects will be guaranteed a fixed price for 20 years. The price for wind is proposed to be 11 cents (Canadian) per kWh.¹²⁵

B. Community-Based Energy Development Tariffs

In the United States, Minnesota is the only state of those surveyed to have adopted a special community wind tariff. Minnesota recently enacted a Community-Based Energy Development (C-BED) initiative that requires utilities to create a special tariff for locally owned and locally supported wind energy

¹²³ Bolinger, *Community Wind in Europe*, *supra* n. 3, at 29. For example, from 1991 to 2000, Germany's feed-in law required utilities to pay wind generators 90 percent of the average retail electricity price. *Id.* at 30. Germany has since changed many aspects of their tariff law, and the German system now sets a fixed price for the first five years generation. Currently, this price is 0.09 Euro per kWh (equivalent to \$0.11 US at current exchanges rates). After five years, site performance is compared to a set standard. The resulting evaluation determines how long the 0.09 Euro price is guaranteed before it drops to 0.06 Euro (or \$0.07 US currently). This system is designed to support development in less productive wind regions. See Wilson Rickerson, *German Electricity Feed Law Policy Overview* (July 2002), <http://www.ontario-sea.org/ARTs/Germany/GermanyRickerson.html> (last visited July 28, 2006).

¹²⁴ *Electricity Act, 1998*, Statutes of Ontario 1998 c.15, Sched. A, § 25.32; Ministry of Energy Directive, Standard Offer Program (March 21, 2006) [http://www.powerauthority.on.ca/Storage/21/1691 MOE Directive - Standard Offer - 2006-03-21.pdf](http://www.powerauthority.on.ca/Storage/21/1691%20MOE%20Directive%20-%20Standard%20Offer%20-%202006-03-21.pdf); Ontario Power Authority, *Joint Report to the Minister of Energy: Recommendations on a Standard Offer Program for Small Generators Connected to a Distribution System* (March 17, 2006), [http://www.powerauthority.on.ca/Storage/21/1686 SOP Report to Minister - Final.pdf](http://www.powerauthority.on.ca/Storage/21/1686%20SOP%20Report%20to%20Minister%20-%20Final.pdf) (all sites last visited July 28, 2006). The Standard Offer program was authorized by a directive of the Ontario Minister of Energy on March 21, 2006, upon receipt of a report prepared by Ontario Power Authority and the Ontario Electricity Board, which have rulemaking authority. The final rules and contract terms are expected to follow closely to recommendations in the report. Draft rules and a draft contract are expected to be developed by August 2006.

¹²⁵ Ontario Power Authority, *Standard Offer Program*, *supra* n. 124, at 21.

projects.¹²⁶ This C-BED legislation is specifically intended to encourage broad-based, local ownership of new wind energy installations in Minnesota.¹²⁷ It has the benefit of requiring essentially no financial outlay on the part of the state. However, some unique aspects of this C-BED initiative make its effectiveness still largely untested.

Minnesota's C-BED law requires each public utility in the state to file a C-BED tariff.¹²⁸ However, the law does not require that this tariff guarantee C-BED projects a specific price.¹²⁹ Instead, the tariff must permit qualifying C-BED projects to negotiate a price and then to "front load" their revenues in the initial years of operation.¹³⁰ By front-loading revenues, C-BED projects should be able to access financing more easily and re-pay construction costs more quickly, thereby reducing the cost of investment and making C-BED projects more profitable. In addition, because most bank financing for capital equipment has a 10- to 12-year loan term, this front-loading of revenues makes positive case flows more viable in early phases of the operation.

Although the C-BED law requires utilities to set up this special tariff to provide a framework for negotiation with C-BED projects, nothing requires utilities to enter into any power purchase agreements (PPAs) using this tariff.¹³¹ Thus, the C-BED law provides no guarantee that C-BED projects will receive a contract to sell their electricity. However, the law directs that utilities needing new power generation "should take reasonable steps to determine if one or more C-BED projects are available that meet the utility's cost and reliability requirements."¹³² In addition, utilities must detail their efforts to purchase C-BED energy in their resource plans, and utilities' efforts to purchase from C-BED projects are

¹²⁶ Minn. Stat. § 216B.1612 (2005).

¹²⁷ Minn. Stat. § 216B.1612(1).

¹²⁸ Minn. Stat. § 216B.1612(4).

¹²⁹ Minn. Stat. § 216B.1612(7)(a).

¹³⁰ Minn. Stat. § 216B.1612(3)(a). Typically, a PPA would provide for a fixed price for the power produced over the life of the project. Minnesotans for an Energy-Efficient Economy (now known as Fresh Energy), *The Rise of the Community Wind Corporation*, 15 Sustainable Minnesota 2 (Summer 2005).

¹³¹ Minn. Stat. § 216B.1612(5)(a) (2005).

¹³² Minn. Stat. § 216B.1612(5)(a).

considered as part of their “good faith effort” to meet the state’s renewable energy objective.¹³³

Qualifying C-BED Projects. To qualify for the C-BED tariff, a project of only one or two turbines must be owned entirely by “qualifying owners,” and at least 51 percent of the total financial benefits of the project must flow to those owners over the life of the project.¹³⁴ For projects with more than two turbines, no single qualifying owner may own more than 15 percent of the project.¹³⁵

A “qualifying owner” includes Minnesota residents, limited liability corporations organized under Minnesota law and “made up of members who are Minnesota residents,” Minnesota nonprofit organizations, and Minnesota cooperative associations.¹³⁶ In addition, a Minnesota political subdivision, local government, or tribal council can be a qualifying owner.¹³⁷ However, rural electric cooperatives, generation and transmission cooperatives, municipal electric utilities, and municipal power agencies are not eligible for C-BED benefits.¹³⁸ Qualifying owners may develop projects larger than 2 turbines with non-qualifying owners, but the C-BED tariff, including front-loading, only applies to the portion of the project owned by qualifying owners.¹³⁹ However, the C-BED tariff will not apply to the terms, including price, of the purchase agreement for the portion of the project owned by non-qualifying owners.¹⁴⁰

In addition, to qualify for the C-BED tariff, the project must have a resolution of support adopted by the county board of each county in which the project is located—or by the tribal council if a project is located within a reservation.¹⁴¹ This is intended to ensure that the project garners local support.

¹³³ Minn. Stat. § 216B.1612(5)(b)-(c); *see also infra* n. 224 and accompanying text.

¹³⁴ Minn. Stat. § 216B.1612(2)(f)(2).

¹³⁵ Minn. Stat. § 216B.1612(2)(f)(1).

¹³⁶ Minn. Stat. § 216B.1612(2)(c)(1)-(4).

¹³⁷ Minn. Stat. § 216B.1612(2)(c)(5), (6).

¹³⁸ Minn. Stat. § 216B.1612(2)(c)(4), (5).

¹³⁹ Minn. Stat. § 216B.1612(7)(c). This may be especially important for the feasibility of larger projects. Telephone interview with John Fuller, Senate Counsel to the Jobs, Energy and Community Development Committee (October 20, 2005) [hereinafter Fuller Interview].

¹⁴⁰ Minn. Stat. § 216B.1612(7)(c).

¹⁴¹ Minn. Stat. § 216B.1612(2)(f)(3).

Although not a C-BED tariff requirement, the C-BED law encourages local landowners' participation in the wind project by requiring a C-BED developer to provide an investment opportunity, "to the extent feasible," to landowners on whose property a transmission line will be constructed to carry the project's energy to market.¹⁴²

The C-BED law also seeks to ensure that C-BED projects will remain in the hands of qualifying Minnesota owners. The law prohibits transfer of a C-BED project to a non-qualifying owner for the first 20 years of the PPA.¹⁴³ C-BED owners must also provide the utility sufficient security that they will perform as agreed under the contract.¹⁴⁴

C-BED Incentives. The key benefit of the C-BED tariff is that qualifying C-BED projects can negotiate with the utility for PPA with a minimum 20 year term which earns a higher rate in the first 10 years of a PPA than in the last 10 years.¹⁴⁵ As stated earlier, by front-loading revenues, C-BED projects should be able to reduce start-up costs and achieve profitability more quickly.

Although the C-BED law does not set a specific price for community wind energy, it does set a top price that a utility can be required to pay. This price ceiling is set at "2.7 cents per kilowatt hour net present value rate over the 20-year life of the power purchase agreement."¹⁴⁶ The net present value rate is a somewhat complicated concept, but is a key aspect of how the C-BED law works.

¹⁴² Minn. Stat. § 216B.1612(6). Normally, farmers who have land crossed by transmission lines get only a one-time or annual payment for the land used by the lines; however, investing in the wind energy project itself could provide new long-term benefits to the farmer. Minnesota's 2005 Omnibus Energy Bill also includes a provision requiring study of landowners' compensation for transmission easements, including alternatives to lump-sum payments. 2005 Minn. Laws 527-528 (Ch. 97, art. 11(1)(3)).

¹⁴³ Minn. Stat. § 216B.1612(3)(c).

¹⁴⁴ Minn. Stat. § 216B.1612(3)(c).

¹⁴⁵ Minn. Stat. § 216B.1612(3)(a). The utility and developer can negotiate not to use the front-loading provision of the C-BED tariff, but only at the discretion of the developer. *Id.* § 216B.1612(7)(b).

¹⁴⁶ Minn. Stat. § 216B.1612(3)(a). The statute defines Net Present Value Rate as "a rate equal to the net present value of the nominal payments to a project divided by the total expected energy production of the project over the life of its power purchase agreement." *Id.* § 216B.1612(2)(d).

“Present value” is an economics concept that accounts for the fact that money received today is worth more than money received sometime in the future.¹⁴⁷ PPAs regularly run for 20 years or more. In order to calculate the actual financial cost of these contracts, future cash flows have to be “discounted” to their net present values. The “discount rate” used for this calculation should be the same as the interest rate that money received today would earn over time—or the same rate the utility pays for financing its own projects in everyday business.

Therefore, the price ceiling for a C-BED project of 2.7 cents Net Present Value Rate per kWh means that the net present value of the average rate the project will receive over the life of the PPA cannot exceed 2.7 cents per kWh. This calculation requires discounting the total of all of the payments the project will receive over the course of the PPA to present value, then dividing by the total expected energy production over that period. Utilities and C-BED project owners can negotiate a lower net present value rate if it would meet the needs of both parties. This would, of course, result in lower revenues for the project owners.¹⁴⁸ Once the net present value rate is agreed upon for a particular PPA, the utility and the C-BED developer should be able to negotiate the degree of front-loading desired. Because the net present value rate does not change for the utility based on the degree to which this front-loading is calculated, this front-loading should in theory make no—or relatively little—difference for the utility’s bottom line over the course of the PPA, although it may mean that the utility will have to recover more of the costs of the PPA in the near-term.

To give a simple example, if a utility has a standard discount rate of 7.95 percent and applies that to a C-BED tariff rate, a negotiated net present value rate of 1.626 cents per kWh could result in a fixed actual rate of 3.3 cents per kWh for 20 years. That rate could then be front-loaded to give 4 cents per kWh in the first ten

¹⁴⁷ See Government Accountability Office, *A Glossary of Terms Used in the Federal Budget Process*, GAO-05-734SP, 69, 79, <http://www.gao.gov/new.items/d05734sp.pdf> (last visited July 31, 2006) (defining ‘Net Present Value’ and ‘Present Value,’ respectively). Money that is received today can be invested immediately and is expected to increase over time. Therefore, a million dollars that starts earning interest today is more valuable than a million dollars received several years in the future. Conversely, a promise to receive a million dollars in ten years is worth less than a million dollars today.

¹⁴⁸ The C-BED ceiling of 2.7 cents net present value rate was decided in meetings among Minnesota developers, utilities, and other interested parties. Fuller Interview, *supra* n. 138. Therefore, in theory, projects with a net present value rate below 2.7 cents should be able to cash flow and should include actual rates that are within ranges that are feasible for both sides of the PPA.

years and 1.796 cents in the last ten years—with effectively no impact on the utility’s total payments over time because the net present value rate of 1.626 cents per kWh would remain unchanged.¹⁴⁹

Many of the C-BED tariffs are still being finalized in Minnesota. Once a tariff is approved by the PUC, the C-BED developer and utility can then negotiate a PPA consistent with the tariff.¹⁵⁰ In addition, the PUC ultimately must approve the PPA to ensure fairness to the parties and the public.¹⁵¹

C-BED projects may not take advantage of two other state incentives for wind development: production incentives, discussed above, and net metering, discussed below.¹⁵²

¹⁴⁹ See Community-Based Energy Development, *C-BED Calculator*, <http://www.c-bed.org/calculator.html> (last visited July 31, 2006). The 2.7 cents net present value ceiling is approximately equal to an average, levelized rate of 5.5 cents per kWh over the life of the project. Lindquist Correspondence, *supra n.* 18.

¹⁵⁰ Minn. Stat. § 216B.1612(7)(a) (2005).

¹⁵¹ Minn. Stat. § 216B.1612(7)(e). The fact that the C-BED PPAs are approved after 30 days if no objections are raised is a unique feature of the legislation from the utility’s point of view. Minnesota PUC approval typically takes 90 days and can often take much longer. Email correspondence with David Moeller, Attorney for Minnesota Power (June 2, 2006).

¹⁵² Minn. Stat. § 216B.1612(7)(d) (2005).

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V. Government and Utility Financing Mechanisms

Many states and the federal government provide subsidized financing to wind generation facilities, often in the form of grants or low-interest loans. Funding is provided through various mechanisms that have varying effects on the government funder's budget. Options include direct governmental appropriations and utility financing programs derived from either charges assessed on every customer's electric bill or utility settlement funds paid to the state. In addition, the federal government recently developed a "tax-credit bond" to support the capital costs of wind development.

Community wind projects sometimes find accessing traditional commercial lenders and equity investors difficult. Therefore, government financing options can be a significant benefit.

A. State Grant Programs

State funding programs vary in the type of benefits offered and the source of funds for those benefits. Minnesota and Oregon both have specific financial assistance available for community wind.

Minnesota. In 2005, Minnesota appropriated \$400,000 "to assist two Minnesota communities in developing locally owned wind energy projects by offering financial assistance rebates."¹⁵³ The Minnesota Department of Commerce's State Energy Office is looking to use these grants to fund new grid-connected community wind energy projects of 900 kW or larger to be installed, interconnected, and operating by June 30, 2007.¹⁵⁴

¹⁵³ 2005 First Spec. Sess. Minn. Laws 2087 (Ch. 1, art. 2, sec. 11(10)(a)).

¹⁵⁴ See Minn. Dept. of Commerce, *Community Energy Wind Projects to Receive \$400,000*, <http://www.state.mn.us/portal/mn/jsp/content.do?id=536882793&subchannel=null&sc2=null&sc3=null&contentid=536907426&contenttype=EDITORIAL&programid=536899674&agency=Commerce> (last visited July 31, 2006).

Although technically derived from a private funding source, Xcel Energy's Renewable Development Fund also provides benefits to Minnesota's community wind projects. This fund, which provides grants to renewable energy projects, including wind installation, research, and development, was mandated by the State of Minnesota in exchange for Xcel's continued storage of nuclear waste in the state.¹⁵⁵ To date Xcel Energy has committed to funding nearly \$53 million for renewable energy projects, with a third round of funding to begin in late 2006 or 2007.¹⁵⁶

Oregon. The Oregon Legislature created a fund for conservation and renewable resource programs under Oregon's electric industry restructuring law.¹⁵⁷ The fund's revenues derive from a System Benefits Charge—a 3 percent fee on the electric bills of customers of Portland General Electric (PGE) and Pacific Power, assessed from 2002 to 2012.¹⁵⁸ An estimated \$10 million to \$13 million per year (about 17 percent of the fund) is spent on renewable energy generation projects.¹⁵⁹

The Energy Trust of Oregon administers the fund through various grant programs. These programs include the Energy Trust Community Wind Program specifically for commercial-scale community wind projects.¹⁶⁰ This program provides funding in an amount up to the "above-market cost" of the project, which is the difference between the current cost of electricity on the open market and the cost of electricity generated by the project, essentially bringing the cost of

¹⁵⁵ Minn. Stat. § 116C.779 (2005); Xcel Energy, *Renewable Development Fund*, at http://www.xcelenergy.com/XLWEB/CDA/0,3080,1-1-1_27620_11838-801-0_0_0-0,00.html (last visited July 31, 2006).

¹⁵⁶ Xcel Energy, *Renewable Development Fund*, *supra* n. 155. In its second round of funding in 2005, the Minnesota Public Utilities Commission approved funding for 29 projects totaling nearly \$37 million. A third round of funding will be available in 2006 or 2007. Database of State Incentives for Renewable Energy (DSIRE), *Renewable Development Fund Grants*, http://www.dsireusa.org/library/includes/incentivesearch.cfm?Incentive_Code=MN11F&Search=Technology&techno=Wind¤tpageid=2&EE=0&RE=1 (last visited July 31, 2006).

¹⁵⁷ Or. Rev. Stat. § 757.612 (2005) (Electric Utility Restructuring law enacted as S.B. 1149, 70th Legis. Assembly (Or. 1999), amended by H.B. 3633, 71st Legis. Assembly (Or. 2001)).

¹⁵⁸ Or. Rev. Stat. § 757.612(2)(a).

¹⁵⁹ Or. Dept. of Energy, *Oregon's Renewable Resource Programs*, <http://www.oregon.gov/ENERGY/RENEW/programs.shtml> (last visited July 31, 2006).

¹⁶⁰ Energy Trust of Oregon, Inc., *Community Wind*, <http://www.energytrust.org/RR/wind/community/index.html> (last visited July 31, 2006).

producing community wind down to market level so that it can be sold at a rate similar to non-renewable energy and still generate a return for investors.¹⁶¹ In March 2006, the Energy Trust put out a Community Wind Request for Proposals and received 17 responses totaling 133 MW of capacity. As of May 2006, four of those projects have been selected to continue the proposal process, representing 26 MW of capacity likely to be commissioned in 2007.¹⁶²

Other Energy Trust grant programs include the Utility-Scale Generation Program to provide incentives to cover projects that produce at least 10 MW of power,¹⁶³ and the Open Solicitation Program which funds the above-market costs of grid-connected renewable energy projects.¹⁶⁴ Both of these programs could also be utilized by community wind projects.

B. State Loan Programs

Loan programs can also be valuable to wind developers and typically require a significantly smaller overall financial commitment from a state than grants or other funding mechanisms.

Iowa. The Iowa Energy Center administers a revolving loan program called the Alternate Energy Revolving Loan Program to encourage the development of alternative energy within the state.¹⁶⁵ The fund was initially created by a special assessment on electric and gas utilities, and is maintained by repayment of loans and interest accrued by the fund.¹⁶⁶ The loans are interest-free over 20 years but cannot exceed half of the project costs or \$250,000 at any single facility.¹⁶⁷ Wind

¹⁶¹ Energy Trust of Oregon, Inc., *Open Solicitation: Frequently Asked Questions, What portion of the total project cost is eligible for funding?*, <http://www.energytrust.org/RR/os/faq.html#5> (last visited July 31, 2006) (includes a more detailed description of calculating above-market costs).

¹⁶² Energy Trust of Oregon, Inc., Memo from Alan Cowan, Wind Program Manager, *Energy Trust's 2006 Community Wind Request for Proposals (RFP)*, http://www.energytrust.org/RR/wind/community/060524_RFPShortList.pdf (last visited July 31, 2006).

¹⁶³ Energy Trust of Oregon, Inc., *Utility Scale*, <http://www.energytrust.org/RR/us/index.html> (last visited July 31, 2006).

¹⁶⁴ Energy Trust of Oregon, Inc., *Open Solicitation*, <http://www.energytrust.org/RR/os/index.html> (last visited July 31, 2006).

¹⁶⁵ Iowa Code § 476.46(1), (2)(c) (2005).

¹⁶⁶ Iowa Code § 476.46(3).

¹⁶⁷ Iowa Code § 476.46(2)(d)(2), (2)(e)(1).

projects under 20 kWh are eligible for 10 percent of the available funds, and wind projects of 20 kWh or more are eligible for 20 percent of the funds, while other types of alternative energy facilities are allocated the remainder.¹⁶⁸

Minnesota. The Minnesota Rural Finance Authority (RFA) has two loan programs that can provide farmers with investment capital for wind power installations—the Agricultural Improvement Loan Program and the Value-Added Stock Loan Participation Program. The Agricultural Improvement Loan Program is a low-interest loan program that provides loans to farmers for improvements or additions to agricultural facilities, including wind systems of up to 1 MW.¹⁶⁹ The Value-Added Stock Loan Participation Program helps farmers buy into wind energy cooperatives of up to 2 MW of capacity on any one shareholder’s agricultural property.¹⁷⁰ Both are “participation loan” programs, in which the RFA makes loans in conjunction with local banks. The borrower must be a Minnesota resident or a domestic family farm corporation or family farm partnership, and must be the principal operator of a farm.¹⁷¹ In addition, the borrower’s net worth must be under \$361,000 (as of 2005, indexed for inflation).¹⁷²

Minnesota also has an Energy Investment Loan Program available to Minnesota cities, counties, townships, hospitals, and K-12 schools that add renewable energy facilities to existing buildings.¹⁷³

C. Federal Grant and Loan Programs

The federal government also has several financing options specifically available for farmers and rural communities that could be used to fund a community wind

¹⁶⁸ Iowa Energy Center, *[AERLP] Program Guidelines*, at <http://www.energy.iastate.edu/funding/aerlp-guidlines.html> (last visited July 18, 2006).

¹⁶⁹ Minn. Stat. § 41B.043 (2005); Minn. Dept. of Agriculture, *Agricultural Improvement Loan Program*, <http://www.mda.state.mn.us/AgFinance/improvement.html> (last visited July 31, 2006).

¹⁷⁰ Minn. Stat. § 41B.046(4b) (2005); Minn. Dept. of Agriculture, *Value-Added Stock Loan Program*, <http://www.mda.state.mn.us/AgFinance/stockloan.html> (last visited July 31, 2006).

¹⁷¹ Minn. Stat. § 41B.043(1); Minn. Stat. § 41B.03(1), (2) (Agricultural Improvement Loan Program); Minn. Stat. § 41B.046(4b) (Value-Added Stock Loan Program).

¹⁷² Minn. Stat. § 41B.043(5) (2005) (Agricultural Improvement Loan Program); Minn. R. 1656.0031 (2005) (Value-Added Stock Loan Program).

¹⁷³ Minn. Stat. § 216C.09; Minn. R. 7607.0100 to 7607.0180 (2005).

project. For the first time in a federal farm policy package, the 2002 Farm Bill included an energy title which is intended to provide a variety of opportunities for farmers specifically seeking support for the installation of renewable energy projects.¹⁷⁴

Of particular note in the 2002 Farm Bill is the Renewable Energy Systems and Energy Efficiency Improvements Program, known as Section 9006.¹⁷⁵ Congress authorized the use of \$23 million each year from 2003 to 2006 for loans, loan guarantees, and grants under Section 9006 to help agricultural producers and rural small businesses “purchase renewable energy systems and make energy efficiency improvements.”¹⁷⁶ Grants are available for up to 25 percent of project costs, with grants ranging from \$2,500 to \$500,000.¹⁷⁷ Loan guarantees of up to \$10 million are available for up to 50 percent of project costs.¹⁷⁸ Direct loans are authorized but have not yet been implemented by USDA.¹⁷⁹ A single project can qualify for both grant and loan assistance, but only up to 50 percent of total eligible costs.¹⁸⁰ Incentives are available to farmers and small rural businesses that demonstrate financial need, meaning that the applicant is unable to finance the project independently or from commercial resources without assistance.¹⁸¹ Eligible projects include wind energy systems and must be in rural areas.¹⁸²

As mentioned earlier, Section 9006 grants will trigger the “double-dipping” provision of the federal PTC, reducing the value of the incentives for farmers who seek to receive both types of incentives, while loan guarantees under the program will not. If USDA implements a Section 9006 direct loan program, it is also likely to trigger the “double-dipping” provision.¹⁸³

¹⁷⁴ GAO, *Renewable Energy*, *supra* n. 2, at 45 & n. 49.

¹⁷⁵ 7 U.S.C. § 8106(a) (2000); 7 C.F.R. Pt. 4280 (2006).

¹⁷⁶ 7 U.S.C. § 8106(a), (f).

¹⁷⁷ 7 U.S.C. § 8106(c)(1)(A); 7 C.F.R. § 4280.110(e).

¹⁷⁸ 7 U.S.C. § 8106(c)(1)(B); 7 C.F.R. § 4280.123(b).

¹⁷⁹ Bolinger, *Avoiding the Haircut*, *supra* n. 20, at 3.

¹⁸⁰ 7 U.S.C. § 8106(c)(1)(B).

¹⁸¹ 7 U.S.C. § 8106(b); 7 C.F.R. § 4280.107(a)(5); 7 C.F.R. § 4280.103 (definition of demonstrated financial need).

¹⁸² 7 C.F.R. § 4280.108.

¹⁸³ *See supra* nn. 24-28 and accompanying text.

Funding for Section 9006 financing is dependent on the annual Congressional appropriations process. Between 2003 and 2005, roughly \$65 million was actually awarded in 9006 grants.¹⁸⁴

Another program authorized by the 2002 Farm Bill, the Energy Audit and Renewable Energy Development Program, or Section 9005, has not yet been funded. It is intended to provide competitive grants to entities to assist farmers, ranchers, and rural small businesses become more energy efficient and learn to use renewable energy resources.¹⁸⁵

Other federal grant and loan programs available for wind development include:

- Value-Added Agricultural Product Market Development Grants: For farmers and ranchers to install farm- and ranch-based renewable energy systems, administered by the USDA.¹⁸⁶
- Rural Industrialization Assistance Loans: Loans and loan guarantees administered by the USDA for farmers and ranchers to make capital improvements, including developing renewable energy systems.¹⁸⁷
- Energy Loans and Grants for Rural Communities with Extremely High Energy Costs: Loans and grants administered by the USDA for renewable energy systems “serving communities in which the average residential expenditure for home energy is at least 275 percent of the national average.”¹⁸⁸
- Rural and Remote Communities Electrification Grants: Grants administered by the USDA for various energy-related community needs, with preference for renewable technologies.¹⁸⁹
- Conservation Reserve Program (CRP): Federal conservation program for farmland; 2002 Farm Bill allows wind turbines on enrolled CRP land as the

¹⁸⁴ See Bolinger, *Avoiding the Haircut*, *supra* n. 20 at 1. In addition, two loan guarantees were awarded in 2005, although the size of the financial appropriation required to make those guarantees is not entirely clear. *Id.* at 1 n. 6.

¹⁸⁵ 7 U.S.C. § 8105(a) (2000).

¹⁸⁶ 7 U.S.C. § 1621, as amended by Pub. L. No. 107-171, § 6401, 116 Stat. 134, 424-426 (effective on Oct. 1, 2002).

¹⁸⁷ 7 U.S.C. § 1932(a), (e)(3).

¹⁸⁸ 7 U.S.C. § 918a(a)(1); 7 U.S.C. § 902(a).

¹⁸⁹ 7 U.S.C. § 918c.

Secretary of Agriculture deems appropriate in locations determined by the Secretary, enabling farmers to make productive use of CRP land while still earning CRP conservation payments.¹⁹⁰

D. Bonds and Bond-Funded Programs or Entities

Bonds provide an additional potential source of affordable financing for community wind projects. Bond projects also have the benefit of generating grassroots investment, albeit indirectly, in wind energy development.

1. Oregon Small-Scale Energy Loan Program (SELP)

In Oregon, renewable energy and other small-scale energy projects, including wind power, are eligible for low-interest, fixed-rate loans funded by Oregon general obligation bonds.¹⁹¹ Loans are available to individuals, businesses, schools, governments, corporations, cooperatives, and nonprofit organizations in amounts ranging from \$20,000 to \$20 million.¹⁹² Terms range from 5 to 20 years, and current rates and fees are set by the Oregon Department of Energy, which administers the program.¹⁹³ The bonds are issued on a periodic basis, but a special sale may be made to accommodate a large loan request.¹⁹⁴

The program is funded through the bond market, so loan rates are subject to the bond market, and a wind project developer can choose either taxable or tax-exempt bonds to fund the loan.¹⁹⁵ Wind project developers who also wish to use

¹⁹⁰ 16 USC § 3832(a)(7)(B)(i-iii); see also Jesse Ratcliffe, *A Small Step Forward: Environmental Protection Provisions in the 2002 Farm Bill*, 30 Ecology L.Q. 637, 645 (2003).

¹⁹¹ Or. Const. Article XI(10) (2005); Or. Rev. Stat. §§ 470.050 *et. seq.*; Or. Admin. R. 330-110-005 *et. seq.* (2004); Or. Dept. of Energy, *Proposed Amended Rules, The Small Scale Local Energy Loan Program*, http://www.oregon.gov/ENERGY/LOANS/docs/Jan_2006_SELP_Admin_Rules_AMENDED.pdf (last visited July 31, 2006).

¹⁹² Or. Rev. Stat. §§ 470.060, 470.130; Or. Dept. of Energy, *Renewable Resource Programs*, *supra* n. 159.

¹⁹³ Or. Dept. of Energy, *Energy Loan Rates*, <http://www.oregon.gov/ENERGY/LOANS/rates.shtml> (last visited July 31, 2006); Or. Dept. of Energy, *Loan Fee Schedule*, <http://www.oregon.gov/ENERGY/LOANS/fees.shtml> (last visited July 31, 2006).

¹⁹⁴ Or. Dept. of Energy, *Loan Fee Schedule*, *supra* n. 193; Or. Rev. Stat. § 470.220 (authorizing issue of bonds for funding).

¹⁹⁵ Or. Dept. of Energy, *Energy Loan Rates*, *supra* n. 193.

the federal PTC will likely choose taxable bonds, because tax-exempt bonds will trigger the “double-dipping” provisions of the PTC, reducing the value of the incentive to the project.¹⁹⁶ The program is self-funding, as loan fees pay administrative costs.¹⁹⁷

As of 2004, 643 loans totaling \$363 million had been closed, 215 of them for renewable energy projects.¹⁹⁸

2. Colorado Bonds for Renewable Energy Cooperatives

In 2004, Colorado authorized the creation of Renewable Energy Cooperatives.¹⁹⁹ The state’s goal is to “encourage local ownership of renewable energy generation facilities and improve the financial stability of rural communities.”²⁰⁰ Wind energy is an authorized renewable energy source.²⁰¹ Renewable energy cooperatives are authorized to generate, transmit, and sell electricity at wholesale rates.²⁰² Utilities are required to interconnect with renewable energy cooperatives according to applicable interconnection rules and procedures.²⁰³

¹⁹⁶ See *supra* nn. 24-28 and accompanying text.

¹⁹⁷ Or. Dept. of Energy, *Renewable Resource Programs*, *supra* n. 159; Or. Rev. Stat. § 470.060 (fees).

¹⁹⁸ Database for State Renewable Energy Incentives (DSIRE), *Oregon Incentive for Renewable Energy: Small-Scale Energy Loan Program*, <http://www.dsireusa.org/library/includes/incentive2.cfm?IncentiveCode=OR04F&state=OR&CurrentPageID=1&RE=1&EE=1> (last visited July 31, 2006).

¹⁹⁹ Colo. Rev. Stat. § 7-56-210 (2004). Electric cooperatives are generally private electric utilities that are owned by their member-customers rather than by investors, hence, they are inherently locally-owned. They are organized as non-profit entities and are exempt from federal income taxes so long as at least 85 percent of their income comes from member-customers. They are established pursuant to state statutes which set any applicable standards, but because they are owned and controlled by their customers they are typically not subject to state public utility laws as are investor-owned utilities. However, even though the state utility laws and PUC regulations may not apply directly to electric cooperatives, the Public Utilities Commission does have jurisdiction to establish appropriate protections for cooperative customers. NCLC, *Access to Utility Service*, *supra* n. 120, § 1.5.

²⁰⁰ Colo. Rev. Stat. § 7-56-210(1) (2004).

²⁰¹ Colo. Rev. Stat. § 7-56-210(3).

²⁰² Colo. Rev. Stat. §§ 7-56-210(2), 7-56-510.

²⁰³ Colo. Rev. Stat. § 40-3-107.5.

An amendment to the original authorization allows the Colorado agricultural development authority to issue revenue bonds to finance renewable energy cooperatives.²⁰⁴ Bonds may be used by these cooperatives to finance construction of generation facilities, construction or upgrading of transmission lines, acquiring a necessary right-of-way, and necessary construction or upgrades for interconnection to the existing grid.²⁰⁵ The bonds are to be repaid from revenue generated by the project.²⁰⁶ Bond income is tax-exempt in the state for the bondholder.²⁰⁷

No renewable energy cooperative wind projects have yet been developed using the state bonds.²⁰⁸

3. Federal Clean Renewable Energy Bonds (CREBs)

The federal Energy Policy Act of 2005 authorized local governments, tribal governments, electric cooperatives, and clean energy bond lenders to issue CREBs to finance renewable energy projects, including wind projects.²⁰⁹ The CREB is a “tax credit bond,” which essentially provides interest-free financing to the issuing entity. Bondholders receive a tax credit from the federal government in lieu of interest.²¹⁰

²⁰⁴ Colo. Rev. Stat. § 35-75-111.5.

²⁰⁵ Colo. Rev. Stat. § 35-75-111.5(1).

²⁰⁶ Colo. Rev. Stat. § 35-75-111.5(2), (3).

²⁰⁷ Colo. Rev. Stat. § 35-75-111.5(6).

²⁰⁸ Email correspondence with Michael A. Bowman, Executive Director, Echo Green Project (March 23, 2006).

²⁰⁹ Energy Policy Act of 2005, Pub. L. No. 109-58 § 1303, 119 Stat. 594, 991-997 (Aug. 8, 2005); 26 U.S.C. § 54(j)(4) (2000); Internal Revenue Service Notice 2005-98 at 3, <http://www.irs.gov/pub/irs-drop/n-05-98.pdf> (last visited July 31, 2006); Internal Revenue Service Notice 2006-07 at 2, <http://www.irs.gov/pub/irs-drop/n-06-07.pdf> (last visited April 30, 2006). See generally Nixon Peabody, LLP, *IRS Issues Guidance Regarding Clean Renewable Energy Bonds* (Dec. 14, 2005), http://www.nixonpeabody.com/linked_media/publications/PA_12142005.pdf (last visited July 31, 2006); National Rural Electric Cooperative Association, *Clean Renewable Energy Bonds (“CREBs”)*, <http://www.nreca.org/Documents/PublicPolicy/CleanRenewableEnergyBonds.pdf> (last visited July 31, 2006).

²¹⁰ IRS Notice 2005-98, *supra* n. 209, at 1-2; NRECA, *CREBs*, *supra* n. 209, at 1.

For issuing entities, CREBs become a federal incentive like the PTC, but provide up-front financing instead of financial assistance while the project is generating electricity.²¹¹ Entities that are authorized to issue CREBs are generally non-taxable entities that could not take advantage of the PTC.

Up to \$800 million in CREBs is available for issue between December 31, 2005, and January 1, 2008, but applications for CREB authority had to be filed with the Internal Revenue Service (IRS) by April 26, 2006.²¹² The IRS will allocate CREBs on a project-by-project basis, starting with the smallest request and working up to the largest request until the limit has been reached.²¹³

²¹¹ NRECA, *CREBs*, *supra* n. 209, at 4.

²¹² 26 U.S.C. § 54(f)(1); IRS Notice 2005-98, *supra* n. 209, at 1-2, 7.

²¹³ IRS Notice 2005-98, *supra* n. 209, at 9.

VI. Efforts to Increase Demand for Community Wind

Market-based supports are an increasingly common form of state action to facilitate the development of wind projects.²¹⁴ In addition to efforts to mandate that utilities purchase renewable energy, states are also making market-based efforts to increase wind development by establishing “green” energy programs and are changing utility planning regulations to facilitate purchases of renewable energy. These demand-oriented efforts might be, but rarely are, specifically targeted to foster a market for community wind.

A. State Renewable Energy Standards

State renewable energy standards have been identified as “the most powerful tool that a state can use to promote wind energy.”²¹⁵ Direct initiatives to create demand for wind energy vary based on whether the state simply sets a hopeful goal for total renewable energy use or it mandates a specific result. State laws also vary based on what is defined as “renewable.” Of the states surveyed here, only Minnesota mandates that community wind projects make up some portion of the energy market, and even that is only for the special case of Xcel Energy’s unique obligations.

Mandates. Among the surveyed states, Colorado has a renewable energy standard (RES) that mandates a specific percentage of energy use be from renewable sources, while Iowa mandates a specific amount of wind generation.

In 2004, Colorado was the first state to implement an RES by a direct vote.²¹⁶ Amendment 37 to the Colorado Constitution requires utilities that serve over 40,000 customers to generate or purchase renewable energy for 3 percent of retail sales by 2007, 6 percent by 2011, and 10 percent by 2015.²¹⁷ The Colorado PUC has authority to make rules concerning the standard, including establishing a

²¹⁴ Bolinger, *Community Wind in Europe*, *supra* n. 3, at 1.

²¹⁵ Bird, *Policies and Market Factors*, *supra* n. 102, at 2.

²¹⁶ David Olinger, *Renewable Energy: Utilities pledge to meet goal but still cite cost issues*, *The Denver Post*, Nov. 4, 2004, at B-05.

²¹⁷ Colo. Rev. Stat. § 40-2-124(1)(c)(I) (2005).

system of tradable renewable energy credits that a utility may acquire to comply with the standard.²¹⁸ All energy production contracts with outside developers must be for a minimum of 20 years, unless the seller wishes to have a shorter term.²¹⁹

Although Colorado's RES does not directly provide incentives to involve farmers and local communities in wind energy development, supporters of the legislation and the initiative justified it as a rural economic development tool.²²⁰ Nearly all of the growth in renewable energies is expected to come from wind power, as Xcel Energy, Colorado's largest utility, is seeking bids for wind projects that would get it close to the 10 percent level required by 2015.²²¹

Iowa requires a total of 105 MW of renewable energy from all of its rate-regulated utilities, with each utility's share of that obligation calculated based on its percentage share of peak demand in Iowa.²²² This requirement has been met, with 1,016 MW of renewable energy capacity installed in Iowa as of December 2005, 80 percent of which is wind energy.²²³

Objectives. Currently, Minnesota's Renewable Energy Objective (REO) requires each electric utility to make a "good faith effort" to have generated or procured at least 1 percent of its total retail sales from renewable sources in 2005, and requires them to increase that amount by 1 percent each year until 2015, when renewable energy should be 10 percent of the total electricity sold in the state.²²⁴ The Minnesota Supreme Court recently affirmed on a 3-3 vote a Minnesota PUC rule that the 1 percent per year increase is a benchmark for achieving the overall goal, and that utilities can count existing renewables in achieving the 10 percent

²¹⁸ Colo. Rev. Stat. § 40-2-124(1)(d).

²¹⁹ Colo. Rev. Stat. § 40-2-124(1)(f)(III).

²²⁰ See Colorado Farm Bureau Newswire, *Renewable Energy Bill Reenergizes Itself in SB 168* (Apr. 7, 2004), http://www.colofb.com/html/news/newswire_detail.php?nid=229; Gargi Chakrabarty, *Renewable-energy bill dies*, Rocky Mountain News, March 30, 2004, at 7B; Editorial Discussion, *Winds Of Change Felt In Energy Proposal; Initiative Mandates Boost In Renewable Sources, But Is It Too Inflexible, Costly?*, Rocky Mountain News, October 7, 2004, at 37A (all sites last visited July 31, 2006).

²²¹ Olinger, *Renewable Energy*, *supra* n 216.

²²² Iowa Admin. Code § 199-15.11(1) (2006) (requiring MidAmerican to buy 55.2 MW of renewable energy and Interstate to buy 49.8 MW, for the total of 105 MW).

²²³ Iowa Dept. of Natural Resources, *2006 Iowa Comprehensive Energy Plan Update 6*, <http://www.iowadnr.com/energy/info/files/06plan.pdf> (last visited Aug. 1, 2006).

²²⁴ Minn. Stat. § 216B.1691(2) (2005).

goal.²²⁵ Most recently, Minnesota Governor Tim Pawlenty publicly announced his goal to have Minnesota utilities install 800 MW of community wind projects by 2010.²²⁶

Although Minnesota's REO is generally voluntary, if a utility is found to have not pursued the renewable energy goal in good faith it may not be permitted to build new facilities in Minnesota.²²⁷ In addition, the REO is mandatory for Xcel Energy. In exchange for allowing Xcel to continue storing nuclear waste at its Prairie Island facility, Minnesota has required Xcel to develop an additional 1,125 MW of wind power by December 31, 2010.²²⁸ Of this 1,125 MW mandate, a total of 100 MW must come from small (2 MW or less) wind generation projects and an additional 60 MW must come from small, locally owned wind projects.²²⁹

Other Proposals. Other states are still considering or developing renewable energy requirements. North Dakota rejected a bill that would have required state agencies to purchase ten percent of their electricity from wind energy sources, with a preference for in-state wind projects, in 2005, despite several proposals and ongoing lobbying efforts by renewable energy supporters.²³⁰ In Oregon, Governor Ted Kulongoski is supporting a goal to have renewable resources meet 25 percent of Oregon's energy needs by 2025. He has directed the Oregon Department of Energy to develop a "renewable portfolio standard" to propose to

²²⁵ *In the Matter of Detailing Criteria and Standard for Measuring an Electric Utility's Good Faith Efforts in Meeting the Renewable Energy Objectives under Minn. Stat. § 216B.1691, 714 N.W.2d 426 (Minn. 2006) (affirming without opinion 700 N.W.2d 533 (Minn. App. 2005)).* The original PUC ruling is available at Minn. Pub. Utilities Commn. Docket No. E-999/CI-03-869, 2004 Minn. PUC LEXIS 82 (June 1, 2004) (modified only slightly on reconsideration at Minn. Pub. Utilities Commn., Docket No. E-999/CI-03-869, 2004 Minn. PUC LEXIS 113, *10 (Aug. 13, 2004)).

²²⁶ See, e.g., New Rules Project: Democratic Energy, *Community Based Energy Development Moving Ahead in Minnesota* (December 16, 2005), <http://www.newrules.org/de/archives/000093.html> (last visited Aug. 1, 2006).

²²⁷ Minn. Stat. § 216B.243(3)(10).

²²⁸ Minn. Stat. § 216B.1691(6)(b); Bolinger, *Survey of State Support*, supra n. 2, at 3-4.

²²⁹ Minn. Stat. § 216B.1691(6)(a); Bolinger, *Survey of State Support*, supra n. 2, at 4.

²³⁰ S.B. 2229 § 7, 59th Legis. Assembly (N.D. 2005). A motion to reconsider also failed. *Journal of the Senate* 341-42, 59th Legis. Assembly (N.D. Feb. 8, 2005), <http://www.legis.nd.gov/assembly/59-2005/journals/sr25.pdf#Page341> (last visited Aug. 4, 2006)).

the legislature in 2007.²³¹ In addition, the Oregon Department of Energy created a “Renewable Energy Action Plan” at the direction of Governor Kulongoski that has a notable short-term goal of developing 30 MW of community wind projects by the end of 2006.²³²

A federal renewable energy standard (RES) was included as an amendment to the broader Senate Energy Bill in 2005.²³³ The national RES would have required utilities to increase renewable electricity sales to 10 percent by 2020.²³⁴ However, the RES was dropped after it failed to garner support from either the House of Representatives or the Bush administration.²³⁵

B. Market-Based Approaches: Green Energy

States also indirectly encourage the development of renewable energy sources by facilitating market demand for “green” energy. One option is requiring utilities to offer a green-pricing program. Another is the regulation of tradable Renewable Energy Certificates (RECs).

1. Green Pricing

Several states have mandated that utilities give their consumers the option of choosing renewable energy sources for their electricity.²³⁶ Under such an option, consumers choose to pay a premium for the energy they consume, making an additional payment for each “block” of renewable energy purchased. The utility

²³¹ Office of the Governor, *Governor Kulongoski’s Action Plan for Energy* (February 24, 2006), <http://www.governor.oregon.gov/Gov/sos2006/energy.pdf> (last visited Aug. 1, 2006).

²³² Or. Dept. of Energy, *Oregon’s Renewable Energy Action Plan*, 6 (April 12, 2005), <http://oregon.gov/ENERGY/RENEW/docs/FinalREAP.pdf> (last visited Aug. 1, 2006).

²³³ Energy Policy Act of 2005, H.F. 6.EAS, 109th Congress (2005) (as amended by S.Amend. 791, S.J.6769 (June 16, 2005)).

²³⁴ H.F. 6.EAS, 109th Congress (2005) Title II, § 291, Subsec. 609(a).

²³⁵ Minnesotans for an Energy-Efficient Economy (now known as Fresh Energy), *Renewable Energy Standard Stripped from National Energy Bill*, 15 Sustainable Minnesota, Fall 2005, at 1, http://www.fresh-energy.org/publications/news/me3v15n4_fal05.pdf (last visited July 31, 2006).

²³⁶ Database for State Renewable Energy Incentives (DSIRE), *Mandatory Utility Green Power Option*, <http://www.dsireusa.org/library/includes/type.cfm?Type=Mandatory&Back=regtab&CurrentPageID=7&EE=1&RE=1&Search=TableType> (last visited Aug. 1, 2006).

then must acquire enough renewable energy to meet consumer demand by developing more renewable generation, buying generation from a renewable source, or purchasing renewable energy credits approved by the state's Public Utilities Commission.²³⁷

Minnesota and Iowa require utilities to offer green power to their customers.²³⁸ Oregon also has a Utility Green Power Options law, which requires Pacific and Portland General Electric to provide residential and small business customers with at least one power option with significant new renewable resources.²³⁹ As of 2002, over 33,000 customers were supporting renewable energy sources through Oregon's program.²⁴⁰

In North Dakota and Colorado, utilities voluntarily offer such programs.²⁴¹ These programs vary greatly in the type and quality of renewable power offered and their incremental prices, although generally state utility commissions must approve green-pricing tariffs. An independent entity called Green-e has been developed to certify utility programs on a voluntary basis.²⁴² Recently there have been suggestions that premium green-pricing programs be developed that specifically support community renewable projects.

²³⁷ U.S. Dept. of Energy, *Guide to Purchasing Green Power*, http://www.eere.energy.gov/femp/pdfs/purchase_green_power.pdf; see also Database of State Incentives for Renewable Energy (DSIRE), *Glossary: Required Utility Green Power Option*, <http://www.dsireusa.org/glossary/glossary.cfm?EE=0&RE=1&CurrentPageID=8#required> (all sites last visited Aug. 1, 2006).

²³⁸ Minn. Stat. §216B.169; Iowa Code § 476.47. The premium paid by the consumer in Minnesota ranges from 1 to 2.6 cents per kilowatt hour, depending on the utility and program. U.S. Dept. of Energy, *Green Pricing: Utility Programs by State*, <http://www.eere.energy.gov/greenpower/markets/pricing.shtml?page=1> (last visited Aug. 1, 2006). In Iowa, the premium paid ranges from 0.5 to 3.5 cents per kWh, depending on the utility and program. *Id.*

²³⁹ Or. Rev. Stat. § 757.603(2). The premium paid by the consumer ranges from 0.78 to 2.5 cents per kWh, depending on the utility and program. DOE, *Green Pricing: Utility Programs*, *supra* n. 238.

²⁴⁰ Or. Dept. of Energy, *Renewable Resource Programs*, *supra* n. 159.

²⁴¹ The premium paid by the consumer ranges from 0.5 to 2.5 cents per kWh in North Dakota, and -0.67 to 3 cents per kWh in Colorado, depending on the utility and program. DOE, *Green Pricing: Utility Programs*, *supra* n. 238.

²⁴² See Green-e, Renewable Electricity Certification Program, <http://www.green-e.org> (last visited Aug. 1, 2006).

2. Renewable Energy Certificates (RECs)

Renewable Energy Certificates (RECs), also known as green tags, green certificates, or tradable renewable certificates, represent the positive attributes of renewable energy decoupled from the actual electricity produced.²⁴³ When RECs are authorized, producers of renewable energy can sell their renewably produced electricity for a price competitive with non-renewable sources, and then separately sell a REC that represents the environmental, social, or other benefits of that same electricity.²⁴⁴

RECs are an attractive market-based approach to increasing renewable energy because they are not tied to the physical location of the renewable energy production facility. End-users of electricity can voluntarily buy RECs,²⁴⁵ and RECs are gaining increasing importance as state mandates require utilities to provide certain quantities of renewable energy or offer green pricing programs.²⁴⁶

RECs can also be used as a project-financing tool for new renewable facilities, which can sell the RECs in long-term contracts in advance of actual production.²⁴⁷

State regulation ensures the functioning of a viable market for RECs by ensuring that RECs sold actually represent energy generated from renewable sources and that RECs are not sold more than once for the same quantity of energy produced. States regulate the REC market by developing standards and procedures for verification of RECs within their own jurisdiction, and by cooperating with REC accounting systems on regional and national levels. Regulations also ensure that, if a utility counts the electricity it purchases from a facility toward its renewable

²⁴³ DOE, *Purchasing Green Power*, *supra* n. 237, at 10.

²⁴⁴ DOE, *Purchasing Green Power*, *supra* n. 237, at 10.

²⁴⁵ Ed Holt & Lori Bird, *Emerging Markets for RECs: Opportunities and Challenges* [Summary Version] 2 (North American Wind Power, July 2005), http://www.eere.energy.gov/greenpower/resources/pdfs/0705_naw_eh1b.pdf (last visited Aug. 1, 2006) [hereinafter Holt & Bird, *Emerging Markets* [Summary]]. Prices in voluntary markets typically range from \$2 to \$6 per MWh; voluntary markets are estimated to be worth from \$15 to \$45 million annually. *Id.*

²⁴⁶ Holt & Bird, *Emerging Markets* [Summary], *supra* n. 245, at 2. Renewable energy requirements are discussed in § VI.A of this report. Prices in compliance markets range from \$0.70 to \$49 per MWh, depending on the type of renewable and geographic location; compliance markets are estimated to be worth around \$140 million annually. *Id.*

²⁴⁷ Holt & Bird, *Emerging Markets* [Summary], *supra* n. 245, at 1.

energy standard, that facility may not also sell RECs to other entities for the same energy produced.²⁴⁸

Colorado's and Minnesota's renewable energy standards and objectives currently allow utilities to meet their renewable energy obligations by purchasing RECs on a verifiable tracking system.²⁴⁹

While North Dakota rejected a renewable energy standard in 2005, it enacted a law giving the North Dakota PUC the authority to "establish and participate in a program to track, record, and verify the trading of credits for electricity generated from renewable and recycled heat sources" within North Dakota and with similar entities in other states.²⁵⁰ The PUC is currently developing regulations pursuant to this code provision, which should be in place by the end of 2006.²⁵¹

Oregon and Colorado are currently covered by the Western Renewable Energy Generation Information System (WREGIS), a regional, voluntary, independent renewable energy tracking system.²⁵² A Midwest Renewable Energy Tracking System (M-RETS) is in development for Iowa, Illinois, Minnesota, North Dakota, South Dakota, Wisconsin, and Manitoba (Canada). This is a voluntary regional system that participants intend to be operating by the end of 2006.²⁵³

²⁴⁸ Holt & Bird, *Emerging Markets* [Summary], *supra* n. 245, at 3; *see also* Ed Holt & Lori Bird, *Emerging Markets for RECs: Opportunities and Challenges* [Long Version] 41-44 (National Renewable Energy Laboratory, Jan. 2005), <http://www.eere.energy.gov/greenpower/resources/pdfs/37388.pdf> (last visited Aug. 1, 2006).

²⁴⁹ Colo. Rev. Stat. § 40-2-124(1)(d); Minn. Stat. § 216B.1691(4)(a) (allowing PUC to establish rules for verifying tradable credits), (4)(b) (accepting renewable energy credits to satisfy REO).

²⁵⁰ N.D. Cent. Code § 49-02-24 (2006).

²⁵¹ Telephone interview with Jerry Lein, Public Utility Analyst, N.D. Pub. Serv. Commn., (December 5, 2005).

²⁵² Rasa Keanini, *Presentation on WREGIS to the Oregon Portfolio Advisory Committee* (September 1, 2005), http://www.oregon.gov/PUC/electric_restruc/advcomm/05mntgs/western_renewable_energy_generation.pdf (last visited Aug. 1, 2006).

²⁵³ *See* Midwest Renewable Energy Tracking System, <http://www.mrets.net> (last visited Aug. 1, 2006).

C. Flexible Utility Planning Rules for Renewable Energy Purchases

Generally, a regulated utility must get permission from the state Public Utilities Commission to build or acquire large amounts of new energy from a new generation facility. State laws and regulations determine the criteria the PUC uses to evaluate the request—traditionally, by requiring the utility to apply a least-cost standard that primarily seeks to minimize electric costs to consumers.²⁵⁴ Renewable energy sources are sometimes disadvantaged under these processes if they are higher-cost than conventional sources, especially when indirect costs, such as environmental damage caused by conventional energy, are not accounted for.²⁵⁵ North Dakota, for example, utilizes a traditional least-cost evaluation standard, which is “to ensure reliability at most efficient cost.”²⁵⁶ It also has a statute that explicitly prohibits quantifying environmental externalities in the planning, selection or acquisition of electric resources.²⁵⁷

However, states can eliminate this disadvantage by preferring renewable sources in the energy development and planning process, typically called Integrated Resource Planning or Least Cost Planning.²⁵⁸ States like Iowa, Oregon, and Colorado have broad planning processes that can easily accommodate renewable energy sources. Minnesota’s process explicitly prefers renewable sources.

²⁵⁴ David Moskovitz, *Profits and Progress Through Least-Cost Planning*, vii (Nat’l Ass’n of Regulatory Utility Commissioners Nov. 1989), <http://www.raponline.org/Pubs/General/Pandplcp.pdf> (last visited July 31, 2006).

²⁵⁵ See generally Mark Bolinger & Ryan Wiser, *Balancing Cost and Risk: The Treatment of Renewable Energy in Western Utility Resource Plans* (August 2005), <http://eetd.lbl.gov/ea/ems/reports/58450.pdf> (last visited July 31, 2006).

²⁵⁶ Jerry Lein, Public Utilities Analyst, N.D. Pub. Serv. Commn., *Regulatory Assistance Project Electric Resource Long-range Planning Survey* Item 13, <http://www.raponline.org/Pubs/IRPsurvey/IRPND.pdf> (last visited Aug. 1, 2006).

²⁵⁷ N.D. Cent. Code § 49-02-23.

²⁵⁸ U.S. Dept. of Energy, Energy Information Administration, *Electricity: Glossary*, http://www.eia.doe.gov/cneaf/solar.renewables/rea_issues/glossary.html (Feb. 2001) (last visited July 31, 2006) (“Integrated Resource Planning, IRP: In the case of an electric utility, a planning and selection process for new energy resources that evaluates the full range of alternatives, including new generation capacity, power purchases, energy conservation and efficiency, cogeneration, district heating and cooling applications, and renewable energy resources, in order to provide adequate and reliable service to electrical customers at the lowest system cost. Often used interchangeable with least-cost planning.”).

In Minnesota, new non-renewable sources of energy are only allowed if it is affirmatively demonstrated that renewables are more expensive, considering environmental costs, state policies, and the state's overall energy picture.²⁵⁹ To force utilities to plan for renewable energy, Minnesota requires each utility to file a resource plan every two years²⁶⁰ that includes a least-cost plan to meet 50 to 75 percent of all new energy needs through a combination of renewable energy sources and conservation methods.²⁶¹

Iowa's policy on electric energy acquisition is also not based strictly on least cost planning. Instead, it requires that each new electric energy resource, including a wind facility, be "reasonable when compared to other feasible alternative sources of supply."²⁶² By choosing a reasonableness standard rather than a strict least-cost standard, utility regulators have the discretion to take general state policy goals, environmental costs, and long-term energy needs into consideration when approving new generation facilities.²⁶³ The Iowa Utilities Board recently applied this standard when approving a maximum 545 MW wind project by MidAmerican, Iowa's largest utility.²⁶⁴

²⁵⁹ Minn. Stat. §§ 216B.2422(4) (preference for renewable energy facility); 216B.243 (3a) ("The commission may not issue a certificate of need under this section for a large energy facility that generates [or transmits] electric power by means of a nonrenewable energy source ... unless the applicant for the certificate has demonstrated ... that the alternative selected is less expensive (including environmental costs) than power generated by a renewable energy source.").

²⁶⁰ Minn. Stat. § 216B.2422(2); Minn. R. 7843.0300(2) (2006).

²⁶¹ Minn. Stat. § 216B.2422(2).

²⁶² Iowa Code § 476.53(4)(c)(2).

²⁶³ Iowa Code § 473.2 ("All supply and demand options are considered and evaluated using comparable terms and methods in order to determine how best to meet consumers' demands for energy at least cost. ... Environmental costs of proposed actions having significant impact on the environment and the environmental impact of the alternatives are identified, documented, and considered in the resource development.").

²⁶⁴ Iowa Utilities Board, *In re: MidAmerican Energy Company*, Docket No. RPU-05-4, 2006 Iowa PUC LEXIS 172 (April 18, 2006). The Iowa Utilities Board concluded that Iowa law "does not require the wind project to be the least-cost alternative, but a reasonable alternative to other sources of supply." *Id.* at *11. When approving a wind facility, the Board considers whether the facility meets the state's goal of attracting new generating facilities that provide reliable service and economic benefits to the state. The Board compared wind power to fossil fuel sources (such as coal and natural gas), and determined that customers would benefit from an energy source that did not fluctuate

Oregon’s utility planning rule is similar to Iowa’s, in that it “considers and evaluates a reasonable range of practicable demand and supply resource alternatives over the planning period on a consistent and comparable basis.”²⁶⁵ When reviewing plans for new energy acquisitions, Oregon’s Energy Facility Siting Council considers future uncertainties and societal impacts associated with each type of energy resource, such as fluctuating future prices.²⁶⁶ Furthermore, the Council must ensure the long-term costs of each resource, including reliability, strategic flexibility, environmental costs and benefits, and the energy policy of the state, are considered.²⁶⁷ Overall, “the goals of a least-cost plan are to minimize expected total resource costs for society and the variance in those costs due to uncertainty about future conditions.”²⁶⁸ However, in application, this standard is concerned with more than avoiding rate increases, and is flexible enough to include renewables in the planning process.

Colorado’s current planning rule is intended to be neutral with respect to energy resources.²⁶⁹ It requires that the utility consider renewable resources “that provide beneficial contributions to Colorado’s energy security, economic prosperity, environmental protection, and insulation from fuel price increases” as a part of its bid solicitation and evaluation process.²⁷⁰ To that end, utilities are directed to prefer renewable resources “where cost and reliability considerations are equal.”²⁷¹

In 2006, the Public Service Company of Colorado petitioned the Colorado Public Utilities Commission to open a rulemaking to amend Colorado’s utility planning

with fossil fuel prices and that would not increase in price due to transportation costs. *Id.* at *11. Adding more wind power to the energy mix in Iowa was deemed a reasonable hedge against increasing fossil fuel prices. The Board also considered the environmental benefits of increasing capacity using wind facilities and the legislature’s goal of encouraging renewable energy development. *Id.* at *12.

²⁶⁵ Or. Admin. R. § 345-023-0020(1)(b) (2006).

²⁶⁶ Or. Admin. R. § 345-023-0020(1)(h).

²⁶⁷ Or. Admin. R. § 345-023-0020(1)(i), (k).

²⁶⁸ Or. Admin. R. § 345-023-0020(1)(i).

²⁶⁹ 4 Colo. Code Regs. § 723-3-3601.

²⁷⁰ 4 Colo. Code Regs. § 723-3-3610(f).

²⁷¹ 4 Colo. Code Regs. § 723-3-3610(f).

rules.²⁷² Colorado's current rule exempts from competitive resource acquisition bidding projects with less than 30 MW of capacity.²⁷³ One change considered would have extended that exemption to all projects that would "diversify resources by acquiring locally and community owned projects to achieve statutory policy benefits that outweigh costs of acquiring them."²⁷⁴ However, in June of 2006, the Colorado Public Utilities Commission denied the request to reopen rulemaking, so these changes are no longer currently being considered.²⁷⁵

²⁷² Colo. Pub. Utilities Commn., *Docket to Consider Revisions to the Commission's Electric Least-Cost Resource Planning Rules*, Docket No. 05M-375E, <http://www.dora.state.co.us/puc/rulemaking/05M-375E.htm> (last visited Aug. 1, 2006).

²⁷³ 4 Colo. Code Regs. § 723-3-3611(b), (c).

²⁷⁴ CPUC, *Docket to Consider Revisions to Planning Rules*, *supra* n. 272, at Colorado Renewable Energy Society Comments for Rule 3611 (January 17, 2006), http://www.dora.state.co.us/puc/rulemaking/Comments/05M-375E_CRES01-17-06comments.doc (last visited Aug. 1, 2006).

²⁷⁵ CPUC, *Docket to Consider Revisions to Planning Rules*, *supra* n. 272, at Order Denying Petition to Open Rulemaking Proceeding (June 6, 2006), http://www.dora.state.co.us/puc/decisions/2006/C06-0657_05M-375E.doc (last visited Aug. 1, 2006).

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VII. Standardized Utility Contracts and Procedures

For a wind generator to sell energy to a utility, that wind project must be “interconnected” with the electric grid. In addition, a wind generator also needs a “power purchase agreement” (PPA) with the utility to sell the power it produces. Without standardized agreements, the generator must independently negotiate both an interconnection agreement and a PPA with the utility. This can impose significant costs, particularly on community wind projects new to the process.²⁷⁶ Therefore, standardized processes and contract terms can be a significant benefit to community members looking to develop a wind resource. As part of the standardization, interconnection agreements and power purchase agreements are sometimes combined to form a single contract.²⁷⁷

State and federal agencies each have authority to standardize interconnection agreements and PPAs for utilities within their jurisdiction. At the federal level, the Federal Energy Regulatory Commission (FERC) has jurisdiction over all public utilities that own, control, or operate facilities used for transmitting electric energy in interstate commerce.²⁷⁸ States generally have jurisdiction over all other distribution of energy.²⁷⁹

²⁷⁶ In fact, the lack of uniform interconnection standards has been identified as perhaps the most significant regulatory barrier to community wind development in the United States. Bolinger, *Community Wind in Europe*, *supra* n. 3, at 53; R. Brent Alderfer, M. Monika Eldridge, & Thomas J. Starrs, *Making Connections: Case Studies of Interconnection Requirements and Their Impacts on Distributed Power Projects i-ii*, (April 2000, revised July 2000), <http://www.nrel.gov/docs/fy00osti/28053.pdf> (last visited July 31, 2006) (finding significant technical, business practice, or regulatory barriers to interconnection of distributed generation projects in all but 7 of the 65 case studies, including 16 in which there was no interconnection).

²⁷⁷ States typically require utilities to file their tariffs with the Public Utilities Commission. If a state has enacted standard terms for the contract between a utility and generator, the utility’s filed tariff must conform to those standard terms in order to be approved. NCLC, *Access to Utility Service*, *supra* n. 120, § 1.3.4.

²⁷⁸ *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities, Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, 75 F.E.R.C. 61,080, Order No. 888, 758-59 (April 24, 1996). This rule requires open

A. Standardization of Interconnection

Standardized interconnection has two components: standardized procedures to determine whether a generator can be safely interconnected with the grid, and standardized interconnection agreements that contain the contractual provisions for the interconnection. Standard interconnection contracts allow developers of a new energy generation project to rely on pre-set terms when making their plans, reducing uncertainty and the costs associated with negotiating a contract with the utility.

In 2005, FERC issued interconnection standards for distributed energy generation projects under 20 MW that apply to utilities under FERC jurisdiction.²⁸⁰ FERC's rule creates a Small Generator Interconnection Procedure (SGIP)²⁸¹ and a Small Generator Interconnection Agreement (SGIA).

access transmission tariffs for all public utilities within FERC's jurisdiction. When the rule was promulgated, it covered 166 public utilities in the U.S.

²⁷⁹ FERC Order 888, *supra* n. 278, at 402 (listing seven indicators of local distribution). As a general rule of thumb, for technical reasons only systems over 10 MW would be subject to FERC rules and projects up to 10 MW would be under state jurisdiction. Telephone Interview with Mike Taylor, staff member at the Minnesota Department of Commerce, State Energy Office (April 4, 2006) [hereinafter Taylor Interview]. The technical distinction is based on the ability of a project to connect to transmission lines (only projects over 10 MW), which are under FERC jurisdiction, and distribution lines (projects up to 10 MW), which are under state jurisdiction.

²⁸⁰ *Standardization of Small Generator Interconnection Agreements and Procedures*, 111 F.E.R.C. 61,220, Order No. 2006 (May 12, 2005). The rule acknowledges that it does not apply to most interconnections under 20 MW because they will instead be connected to a local distribution line under state jurisdiction. *Id.* at 1, 5; *see also supra* n. 279.

FERC also has a rule for a Large Generator Interconnection Procedure (LGIP) and a Large Generator Interconnection Agreement (LGIA) that applies to facilities over 20 MW. *Standardization of Generator Interconnection Agreements and Procedures*, 104 F.E.R.C. 61,103, Order No. 2003 (July 24, 2003). Recognizing that there are substantial technical differences between traditional electrical generators and wind turbines, FERC created special technical requirements for wind installations over 20 MW. *Interconnection for Wind Energy*, 111 F.E.R.C. 61,353, Order No. 661 (June 2, 2005).

²⁸¹ The details of the SGIP are beyond the scope of this report. However, basically, the SGIP provides three ways to evaluate the interconnection request: (1) the 10 kW Inverter Process for a certified inverter-based Small Generating Facility no larger than 10 kW, (2) the Fast Track Process for a certified Small Generating Facility no larger than 2 MW, and (3) a Study Process to be used by a Small Generating Facility between 2 and 20 MW, or projects that failed the technical screening processes provided by (1) and (2) above. All

includes basic contract terms, such as dispute resolution, confidentiality, liability, termination and default, assignments, and insurance coverage for each project level.²⁸² It dictates that any necessary metering must be installed at the developer's expense.²⁸³ The default term of the interconnection agreement is 10 years, which can be renewed for one-year periods.²⁸⁴

The rule is intended to promote consistent, nationwide interconnection rules, and is intended to be used as a model for states that have not standardized interconnection.²⁸⁵ This goal has been realized in several of the states covered by this report.²⁸⁶

B. Standardized Power Purchase Agreements (PPAs)

Another route to standardized contracts for electricity generation is the federal Public Utility Regulatory Policies Act (PURPA), which requires utilities to interconnect with and buy power from any "qualifying facility" and allows FERC and states to create rules establishing standard contract terms for

three processes are designed to ensure that the proposed interconnection will not endanger the safety and reliability of the utility's transmission system. FERC Order 2006, *supra* n. 280, at 3.

²⁸² FERC Order 2006, *supra* n. 280, at 19-26, 58-101.

²⁸³ FERC Order 2006, *supra* n. 280, at 62.

²⁸⁴ FERC Order 2006, *supra* n. 280, at 64.

²⁸⁵ FERC Order 2006, *supra* n. 280, at 4.

²⁸⁶ Colorado, for example, has recently enacted new interconnection rules that basically mirror the FERC rules but apply only to facilities under 10 MW. 4 Colo. Code Regs. § 723-3-3665. Minnesota's rules cover facilities up to 10 MW and require utilities to file a tariff consistent with the Minnesota PUC rule. Minn. Stat. 216B.1611; Minn. Pub. Utilities Commn., *In the Matter of Establishing Generic Standards for Utility Tariffs for Interconnection and Operation of Distributed Generation Facilities under Minnesota Laws 2001, Chapter 212*, Docket No. E-999/CI-01-1023, at 29 (Sept. 28, 2004), <http://www.puc.state.mn.us/docs/orders/04-0131.pdf> (last visited Aug. 2, 2006). Iowa standards cover "qualifying facilities" that are covered by the federal Public Utility Regulatory Policies Act (PURPA), and alternative energy production (AEP) facilities, but these standards are not very detailed. Iowa Admin. Code 199-15.1 *et. seq.* North Dakota's rules cover "qualifying facilities" that are covered by PURPA. N.D. Admin. Code 69-09-07-01 *et. seq.* (2005), but its standards are also not detailed. See Interstate Renewable Energy Council, *National Interconnection Project Interconnection Rules for Distributed Generation*, <http://www.irecusa.org/connect/state-by-state.pdf> (last visited Aug. 2, 2006) (providing a state-by-state summary of current interconnection rules).

qualifying facilities.²⁸⁷ A qualifying facility includes renewable energy generators with capacity under 80 MW.²⁸⁸ Under PURPA, utilities are required to purchase qualifying facilities' generated energy at the utility's "avoided cost" —the cost of electricity generation for that particular utility.²⁸⁹ Although a utility's avoided cost is usually not a favorable rate, the PURPA scheme has been valuable to non-utility power producers who can generate electricity below the utility's avoided cost, and therefore make a profit, by utilizing PURPA's guaranteed market.

States have authority under PURPA to create a more favorable definition of avoided cost and other standard contract terms in order to benefit wind projects that rely on PURPA for interconnection and access to power markets. To that end, Oregon recently issued a new rule on PPAs that includes specific methodologies for determining the avoided cost rate mandated by PURPA.²⁹⁰ The Oregon PUC further determined that standardized PPAs for avoided cost deals were necessary because the expense of negotiating all the terms of PPAs acted as a market barrier to qualifying facilities of up to 10 MW.²⁹¹ Although the

²⁸⁷ Public Utility Regulatory Policies Act (PURPA), 16 U.S.C. § 824a-3 (2000). Recent changes to PURPA in the 2005 Federal Energy Policy Act exempt utilities operating in a competitive electricity market from PURPA's mandatory purchase requirements. Energy Policy Act of 2005, Pub. L. No. 109-58 § 1253, 119 Stat. 594, 967-970 (Aug. 8, 2005). FERC has not yet issued rules allowing a utility to refuse to interconnect with a qualifying facility under this new authority, but it could happen in the near future. Telephone Interview with Stuart Mitchell, Energy Department staff member, Minn. Pub. Utilities Commn. (April 4, 2006) [hereinafter Mitchell Interview]. If FERC allows utilities to bypass PURPA requirements under this new amendment, qualifying facilities will not be guaranteed "avoided cost" but instead will have to participate in the utility's bidding system to get a contract to sell energy. Taylor Interview, *supra* n. 279.

²⁸⁸ 16 U.S.C. § 824a-3(a); FERC, *Electric – Qualifying Facilities: What Is a Qualifying Facility?*, <http://www.ferc.gov/industries/electric/gen-info/qual-fac.asp> (last visited Aug. 2, 2006).

²⁸⁹ 16 U.S.C. § 824a-3(d); Or. Pub. Utilities Commn., *Staff's Investigation Relating to Electric Utility Purchases from Qualifying Facilities*, Order No. 05-584, at 20 (May 13, 2005), http://www.oregon.gov/ENERGY/RENEW/Wind/OWWG/docs/OPUC_PURPA_order_5-584.pdf (last visited Aug. 2, 2006). Avoided cost is defined as the "costs a utility would incur to obtain an amount of power that it purchases from a QF, either by the utility's self-generation or by purchase from a third party." *Id.*

²⁹⁰ OPUC Order No. 05-584, *supra* n. 289, at 2. Particular methodologies would be required depending on whether the utility is, for example, in a resource deficient position (needing more energy to meet demand) or a resource sufficient position (having enough capacity to meet demand). *Id.* at 20, 26, 28.

²⁹¹ OPUC Order No. 05-584, *supra* n. 289, at 17.

Oregon rule does not promulgate one standard PPA, it does require each utility to file a standard PPA consistent with the rule.

The standard term for these PPAs was lengthened from 5 years to a maximum of 20 years, allowing the qualifying facility's choice of a standard fixed pricing option for the first 15 years and requiring selection of a market pricing option for the last 5 years.²⁹² Some basic terms and conditions must also be included in all standard PPAs, covering issues such as creditworthiness, security, insurance, indemnification, and remedies upon default.²⁹³

Minnesota also has a standard rule defining avoided costs for qualifying facilities up to 10 MW.²⁹⁴ However, Minnesota's rule does not contain the methodology

²⁹² OPUC Order No. 05-584, *supra* n. 289, at 20, 34. All three utilities must implement the Fixed Price Method, the Deadband Method, and the Gas Market Method. The Fixed Price Method establishes a price to be paid over the contract's entire term. The Deadband and Gas Market Methods fluctuate based on monthly natural gas price indexes. PGE may also use its Mid-C Index Rate Option, which bases a daily indexed rate on the Dow Jones Mid-Columbia electricity price index. The other two utilities may develop market-based pricing options for future consideration. *Id.* at 34-35.

²⁹³ OPUC Order No. 05-584, *supra* n. 289, at 44-45, 47, 50-51.

²⁹⁴ MPUC, *Order Establishing Standards*, *supra* n. 286, at 10-15.

options that a qualifying facility in Oregon can choose from; instead, Minnesota has an avoided cost measure based on actual monthly on- and off-peak rates for the year, combined with a series of add-ons that the qualifying facility will be paid if the utility avoids other costs because of the interconnection, such as required emission reductions, renewables counted toward the state Renewable Energy Objective,²⁹⁵ and saved distribution or capacity costs.²⁹⁶

Other states covered by this report also have rules giving some definition to “avoided cost.”²⁹⁷

²⁹⁵ See *supra* nn. 224-26 and accompanying text.

²⁹⁶ MPUC, *Order Establishing Standards*, *supra* n. 286, at Attachment 6: *Guidelines for Establishing the Terms of the Financial Relationship Between an Electric Utility and a Distributed Generation Customer with No More Than 10 MW of Capacity* (Item 4: “Rates should reflect the value of the distributed generation to the utility, including any reasonable credits for emissions or for costs avoided on the generation, transmission, and/or distribution system.” Additional specific items to be added to the basic avoided cost rate follow in Item 6.).

²⁹⁷ See, e.g., Iowa Admin. Code 199-15.11(4); N.D. Admin. Code 69-09-07-01(1).

VIII. Net Metering

Net metering laws permit customers with their own power generation sources to sell back excess power to the grid, so that electricity flows to and from that customer from a single meter.²⁹⁸ Net metering measures the difference between the customer's use of electricity from the utility and the customer's generation of electricity—in effect, when the customer is producing more energy than it is using, the electric meter runs backward. This is equivalent to a credit on the customer-generator's electric bill for delivery of energy at the regular retail rate for the amount of energy produced that offsets the amount of energy used from the grid.

Most states require a utility to file a tariff to be applied to net metering facilities and a standard contract.²⁹⁹ In most states, the energy used and generated by the customer is netted at the end of each billing cycle, usually monthly. If a customer produced more electricity than was used in a month, the additional energy is called net excess generation.

There is great diversity among states about how a utility must compensate a customer for net excess generation. Colorado rolls net excess generation forward each month, allowing the customer to apply it against the next month's energy use from the utility at the retail rate, then requires the utility to purchase any remaining excess amount at the end of the calendar year at the utility's avoided cost rate.³⁰⁰ Oregon also rolls forward net excess generation monthly to offset retail energy use, but the Oregon PUC has the authority to determine the use for

²⁹⁸ GAO, *Renewable Energy*, *supra* n. 2, at 26.

²⁹⁹ *See, e.g.*, 4 Colo. Code Regs. § 723-3-3664(c) (tariff required); Minn. Stat. § 216B.164(6) (standard contract required); N.D. Admin. Code 69-09-07-09(3)(b) (standard contract required).

³⁰⁰ 4 Colo. Code Regs. § 723-3-3664(b). Avoided cost rate is determined by rules specific to each state, but is generally equivalent to the wholesale rate. *See, e.g.*, Interstate Renewable Energy Council (IREC), *Connecting to the Grid: A Guide to Distributed Generation Interconnection Issues* 20, http://www.irecusa.org/articles/static/1/binaries/IREC_Draft_Interconnection_Guide_4th_ed_v4.pdf (last visited Aug. 2, 2006), (quoting a typical retail rate at 9 cents per kWh and a typical avoided cost rate of 2 cents per kWh).

VIII. NET METERING

any net excess generation, credited at the avoided cost rate, that remains at the end of the year.³⁰¹ North Dakota requires the utility to purchase net excess generation monthly at the avoided cost rate.³⁰² Minnesota requires utilities to purchase a customer's net excess generation at the average retail rate, significantly higher than the avoided cost rate and a strong incentive to net meter.³⁰³ Minnesota's standard net metering contract allows the customer to choose whether the purchased amount will be credited to future bills or whether the utility will issue a check monthly.³⁰⁴

Net metering is often limited to power generation sources below a certain capacity. Facilities eligible for net metering range from 25 kW or less in Oregon,³⁰⁵ 40 kW or less in Minnesota,³⁰⁶ 100 kW or less in North Dakota,³⁰⁷ and

³⁰¹ Or. Rev. Stat. § 757.300(3) (2006). The Oregon PUC is authorized to grant the credit back to the utility. The utility can use the credit in low-income energy assistance programs, refund it to the customer-generator, or put it to another use as determined by the PUC. The year is counted as beginning in March, unless otherwise agreed to by the utility and customer-generator. Or. Rev. Stat. § 757.300(3)(d).

³⁰² N.D. Admin. Code 69-09-07-09(2)(b).

³⁰³ Minn. R. 7835.3300 (2005). The average retail rate is equal to the total revenue from sales of electricity minus the revenue from fixed charges, divided by the annual kWh sales for the customer class. Wisconsin is the only other state to require purchase of net excess generation at this rate for renewable energy facilities. Wisc. Pub. Serv. Commn., *Investigation on the Implementation of Cogeneration and Small Power Production Rates and Rules*, Docket Nos. 05-ER-11, 05-ER-12, 05-ER-13, 1983 Wisc PUC LEXIS 46, *34-35, *61 (June 21, 2003); see also Database of State Incentives for Renewable Energy (DSIRE), *Wisconsin Incentives for Renewable Energy: Net Metering*, http://www.dsireusa.org/library/includes/incentive2.cfm?Incentive_Code=WI03R&state=WI&CurrentPageID=1&RE=1&EE=0 (last visited Aug. 16, 2006).

³⁰⁴ Minn. R. 7835.9910 (2005) (Uniform Statewide Contract Form); Minn. Dept. of Commerce, *Soar Electric Rebate Planning Packet*, http://www.state.mn.us/mn/externalDocs/Commerce/Solar_Electric_Interconnection_Packet_Other_Utility_Customers_031704115402_utilitypacket.pdf (last visited Aug. 2, 2006).

³⁰⁵ Or. Rev. Stat. § 757.300(8) (allowing Oregon PUC to promulgate a rule establishing a higher limit). Failed legislation introduced in the Oregon Senate in 2005 would have changed some of the rules for net metering, including raising the limit to either 100 kW or 250 kW. H.B. 3480 §3(1)(d)(B), 73rd Legis. Assem. (Or. 2005) (100 kW limit), S.B. 658 §1(1)(d)(B), 73rd Legis. Assem. (Or. 2005) (250 kW limit).

³⁰⁶ Minn. Stat. § 216B.164(3).

³⁰⁷ N.D. Admin. Code § 69-09-07-09(2)(a).

up to 2 MW in Colorado under a 2005 rule.³⁰⁸ Because of these capacity limitations, net metering is of greatest interest to small wind energy projects, often only large enough to provide for a single household or farm. However, some utility-scale wind projects may qualify for net metering in states, such as Iowa, that have increased the capacity limits (or have no limit) on facilities that may net meter.

The federal Energy Policy Act of 2005 directs state regulatory authorities and non-regulated utilities to consider net metering rules if they have not already done so.³⁰⁹

Special Net Metering Issues in Iowa. As has been mentioned, Iowa's net metering rule is unique in that it does not limit the size of eligible projects.³¹⁰ Thus, large utility-scale installations can be built behind the meter, as has occurred at several public schools in Iowa.³¹¹ At these facilities, excess generation is "banked" monthly and the excess is refunded to the consumer-generator at the utility's avoided cost rate.

However, the Iowa net metering rule only applies to rate-regulated utilities, which are investor-owned utilities in Iowa.³¹² Rural electric cooperatives are not rate-regulated and, therefore, are arguably not required to net meter.³¹³

³⁰⁸ Colo. Code Regs. §723-3-3664(a).

³⁰⁹ Federal Energy Policy Act of 2005, Pub. L. 109-58, § 1251, 119 Stat. 594, 962-963 (Aug. 8, 2005). These and other amendments to PURPA could significantly change the net metering landscape, according to some experts, but it will depend on future FERC rulings and state action. *See supra* n. 287; Taylor Interview, *supra* n. 279; Mitchell Interview, *supra* n. 287.

³¹⁰ Iowa Admin. Code § 199-15.11(5).

³¹¹ Bolinger, *Survey of State Support*, *supra* n. 2, at 11 (reporting that 8 schools using behind-the-meter installations operate 10 turbines ranging from 50 kWh to 750 kWh with a combined capacity of 3.6 MW).

³¹² Iowa Admin. Code § 199-15.2(1)(e) (2006) (applying § 199-15.11 to rate regulated utilities).

³¹³ The question of whether rural electric cooperatives must provide net metering in Iowa has been the subject of a well known dispute between an Iowa farmer, Greg Swecker, and his electric cooperative, Midland Power Cooperative. In 1998, Mr. Swecker installed a 65 kW wind turbine on his farm. Midland refused to net meter the facility, and there were further disputes about the appropriate fees Midland could charge and the price it would pay for the electricity generated. The case has moved among the Iowa Utilities Board, Iowa state courts, federal court, and the Federal Energy Regulatory Commission (FERC). In 2004, the parties entered a Settlement Agreement. However, in 2005, the Iowa

In 1997 and 1998, three customers of MidAmerican, Iowa's largest utility, brought complaints before the Iowa Utilities Board because MidAmerican declined to enter into net metering agreements as required by law. MidAmerican argued that Iowa's netting process was illegal because it effectively required MidAmerican to buy electricity at a higher retail rate, rather than the lower avoided cost required in PURPA. After protracted litigation, a settlement was reached in 2002 in which MidAmerican was granted a waiver from the Iowa net metering rule that limits the capacity of net-metered generators to 500 kW.³¹⁴ Further, MidAmerican may roll net excess generation forward indefinitely from month to month. In practice, MidAmerican has no real obligation to pay a customer for any excess electricity produced. The state's other major utility, Interstate Power and Light Company, a subsidiary of Alliant Energy, received a similar waiver in 2004.³¹⁵ These two utilities together serve nearly all of Iowa's electric customers, with the others largely served by cooperatives that are not subject to the net metering rule.

Supreme Court decided that Iowa courts could not require Midland to provide net metering, as that decision was a policy matter to be determined by the Iowa legislature, the Iowa Utilities Board, or FERC. *Windway Technologies v. Midland Power Cooperative*, 696 N.W.2d 303, 307-308 (Iowa 2005). In June 2005, FERC decided that PURPA required Midland to provide net metering to Mr. Swecker. *Gregory Swecker*, 111 FERC ¶ 61,365, 62,585 (June 6, 2005). However, on February 27, 2006, FERC granted Midland's request for reconsideration of that order, finding that Congress's amendments of PURPA in the Energy Policy Act of 2005, Pub. L. 109-58, § 1251, 119 Stat. 594, 962-963 (Aug. 8, 2005), now control the matter. In amending PURPA, Congress required each state regulatory authority and each non-regulated utility (which includes Midland), to consider making net metering available to consumers within two years of enactment of the Energy Policy Act. *See supra* n. 309. In light of Congress's specific guidance to Midland regarding net metering, FERC determined that it is not appropriate use its power to enforce a net metering agreement on behalf of Mr. Swecker. *Gregory Swecker*, 114 FERC ¶ 61,205, 61,693 (February 27, 2006). Mr. Swecker may still bring an enforcement action in court directly against Midland if he so chooses. 114 FERC ¶ 61,205, 61,694.

³¹⁴ Iowa Utilities Board, *In re: MidAmerican Energy Company*, Docket Nos. TF-01-293; WRU-02-8-156, Order Granting Waiver and Approving, with Clarifications, Tariff (March 8, 2002).

³¹⁵ Iowa Utilities Board, *In re: IES Utilities, Inc., and Interstate Power Company n/k/a Interstate Power and Light Company*, Docket Nos. TF-03-180; TF-03-181; WRU-03-30-150, Order Approving Tariffs with Modification and Granting Waiver at 5-6 (January 20, 2004).

Even under MidAmerican's and Interstate's waivers, customers with facilities larger than 500 kW get some benefit from net metering. If a facility is larger than 500 kW, the facility's output is prorated for net metering purposes—for example, if a customer has a 1,500 kW facility, one-third of the output is net metered, offsetting the facility's purchase of energy from the utility at the retail rate, while two-thirds is sold to the utility at avoided cost. The net metering rule thus still has some value for larger facilities, but by limiting the capacity that is eligible for net metering it has been substantially restricted by the waivers.³¹⁶

It is unclear whether similar challenges could be brought in other states in the future.

³¹⁶ Email correspondence, John Pearce, Utility Specialist, Iowa Utilities Board (March 31, 2006).

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IX. Wind Project Permitting

The land use permitting process for wind facilities traditionally happens on a local level. One way for states to facilitate community wind projects is to simplify regulatory hurdles, such as zoning laws, for wind projects. However, the need for state action is somewhat uncertain given that one of the inherent benefits of community wind projects is less resistance to the project at the local level—because the community ideally already has a sense of ownership in the project and recognizes the local benefits.³¹⁷

Both Minnesota and Oregon have a state, rather than a local, zoning process for larger wind projects. Minnesota requires a comprehensive statewide zoning law for projects larger than 5 MW.³¹⁸ These projects receive a permit from the Minnesota Environmental Quality Board, rather than going through a local zoning process.³¹⁹

In Oregon, wind facilities with over 35 MW of average generating capacity, defined by statute as 105 MW of peak capacity, may choose to use either the local siting process or a consolidated state process.³²⁰ For projects with less than 100 MW of average generating capacity, the state siting process is expedited.³²¹

In 2005, North Dakota took a slightly different approach to permitting by increasing from 50 MW to 100 MW the capacity threshold for state jurisdiction over siting of power facilities.³²² Below this threshold, energy facilities do not

³¹⁷ Bolinger, *Community Wind in Europe*, *supra* n. 3, at 5.

³¹⁸ Minn. Stat. §§ 116C.691 (2005) *et. seq.*; Minn. Stat. § 116C.691(2) (defining large wind system as over 5 MW).

³¹⁹ Minn. Stat. § 116C.697.

³²⁰ Or. Rev. Stat. § 469.320(9); *see also* Or. Rev. Stat. § 469.300(4) (defining “average electric generating capacity” for wind facilities).

³²¹ Or. Rev. Stat. § 469.370(10).

³²² N.D. Cent. Code § 49-22-02, -03(5)(a) (2006) (as amended by North Dakota House Bill 1283 (2005)); *see also* North Dakota Sustainable Energy for Economic Development (ND SEED), *Wind Vane: 2005 North Dakota Legislation* (Spring 2005), www.ndseed.org/docs/Spring2005WindVane.doc (last visited August 16, 2006).

IX. WIND PROJECT PERMITTING

need siting approval from the state Public Service Commission. In addition, North Dakota reduced the maximum siting fee from \$150,000 to \$100,000 and added a provision requiring that any unused portion of the fee must be returned to the applicant.³²³

³²³ N.D. Cent. Code § 49-22-22.

X. Wind Property Rights

Property laws that recognize and define landowner wind rights impact the feasibility of all kinds of wind development by eliminating any ambiguity about who owns what rights to wind. When such laws are in place, a wind project developer can confidently lease the rights to the wind on an owner's land or execute a wind easement to ensure unobstructed access to the wind.

Several states have enacted statutes specifically recognizing the validity of wind easements in particular. Minnesota's wind easement statute provides for access to the wind and requires a description of the area around the turbine that must be kept free from obstruction.³²⁴ Oregon's statute is substantially similar to Minnesota's.³²⁵

During the 2005 session, the North Dakota Legislature strengthened landowners' rights to wind by legally defining wind options, leases, and easements.³²⁶ As in Minnesota and Oregon, the legislature codified a legal right to a wind easement, which allows an owner of land or airspace to create a right to "adequate exposure of a wind power system to the winds."³²⁷ Such an easement has the same effect as an interest in real property and continues when the land changes hands unless it terminates under its own terms.³²⁸ Unlike in Minnesota and Oregon, however, the North Dakota wind easement law states that wind rights can only be transferred through a wind easement.³²⁹ This issue has not yet come before a court in North Dakota, so it is something of an open question whether this provision effectively prohibits leasing of wind rights.

³²⁴ Minn. Stat. § 500.30 (2005).

³²⁵ Or. Rev. Stat. Ann § 105.900 (2003).

³²⁶ N.D. Cent. Code §§ 47-05-14 to 47-05-16 (2005).

³²⁷ N.D. Cent. Code § 47-05-14.

³²⁸ N.D. Cent. Code § 47-05-15.

³²⁹ N.D. Cent. Code § 47-05-16.

North Dakota also created rules for wind option agreements, which are contracts that allow a holder of an option the exclusive right to explore the development of wind energy facilities on a property for a fixed price on agreed terms.³³⁰

Additionally, North Dakota law now requires that wind option agreements and wind easements terminate if wind development has not occurred within five years of the execution of the agreement.³³¹ This is intended to ensure that landowners will not be burdened by unproductive contracts.

³³⁰ N.D. Cent. Code § 9-01-22.

³³¹ N.D. Cent. Code § 9-01-22 (providing for the termination of option agreements); N.D. Cent. Code § 47-05-16 (providing for the termination of easements); N.D. Cent. Code § 47-16-42 (providing for the termination of wind energy leases).

XI. State-Funded Wind Working Groups

Several states have working groups supported by government funds to promote the continued development of wind energy projects of policy initiatives.

Minnesota has released \$300,000 to fund a Clean Energy Resource Team (CERT) in each of six designated regions.³³² The CERTs include community members and are intended to develop “a strategic vision and a renewable and conservation energy plan for each region, reflecting a mix of energy sources.”³³³

North Dakota recently created an Office of Renewable Energy and Energy Efficiency to assist in the development of renewable energy within the state and promote the conservation of energy.³³⁴ The office now administers energy programs and provides information pertaining to the state and federal incentives available for the full range of renewable energy sources.³³⁵

The Oregon Wind Working Group (OWWG) was formed in July 2002 under the U.S. Department of Energy’s Wind Powering America initiative.³³⁶ The group seeks to place “an emphasis on rural economic development aspects of small and

³³² 2005 First Spec. Sess., Minn. Laws 2087 (Ch. 1, art. 2(11)(10)(a)).

³³³ Clean Energy Resource Teams, *Helping Minnesota Communities Determine Their Energy Future (Fact Sheet) 1*, <http://www.cleanenergyresourceteams.org/pdf/CERTs%20Flyer%20updated.pdf> (last visited Aug. 2, 2006).

³³⁴ N.D. Cent. Code § 54-44.5-09 (2005). The office formerly existed on a less official basis within the Department of Community Service. Telephone interview with William Huether, State Energy Engineer, North Dakota Office of Renewable Energy and Energy Efficiency (December 1, 2005).

³³⁵ Press Release, Governor John Hoeven, *Hoeven Signs Broad New Renewable Energy Legislation* (April 22, 2005), <http://www.governor.state.nd.us/media/news-releases/2005/04/050422.html> (last visited Aug. 2, 2006).

³³⁶ Or. Dept. of Energy, *Oregon Wind Working Group*, <http://www.oregon.gov/ENERGY/RENEW/Wind/OWWG/OWWG.shtml> (last visited Aug. 2, 2006).

medium sized wind energy projects.”³³⁷ Thus far, OWWG has brought together a network of community wind advocates who were active in the Oregon PUC process to change the PURPA rules regarding PPAs.³³⁸ OWWG has also engaged with county-level economic development groups to encourage small renewable options that are available on a regional level.³³⁹ They are also studying production-based payment models.³⁴⁰

³³⁷ Or. Dept. of Energy, *Oregon Wind Working Group Action Plan*, <http://www.oregon.gov/ENERGY/RENEW/Wind/OWWG/ActionPlan.shtml> (last visited Aug. 2, 2006).

³³⁸ See *supra* nn. 290-93 and accompanying text.

³³⁹ Telephone interview with Carel DeWinkel, OWWG Senior Policy Analyst, Or. Dept. of Energy (March 30, 2006) [hereinafter DeWinkel Interview].

³⁴⁰ See DeWinkel Interview, *supra* n. 339.

XII. Conclusion

In general, although state and federal incentives for wind power projects have favored commercial development over community-based wind development, a range of incentives have been offered that could benefit a community wind development project. Policymakers can encourage community wind projects through incentives that provide financial support for community owned projects, facilitate access to energy markets, or reduce administrative and regulatory burdens. The incentives discussed in this report each reach one or more of these goals; however, more effort can be placed on tailoring incentives to community wind. Furthermore, some combination of legal and financial support for community wind will be required to achieve a change in the existing pattern of development. Considering that no one incentive is likely to drive community wind development in isolation, policymakers can keep all of these options in mind when designing a “package” of incentives for community wind projects.

Minnesota provides the best example of a state that has implemented a variety of community wind incentives, making it a leader in community wind development in the United States.³⁴¹ An important component of Minnesota’s community wind support was the Renewable Energy Production Incentive, which at one time provided targeted financial support to community owned projects.³⁴² In conjunction with standard utility contracts,³⁴³ these and other Minnesota incentives led to a boom in Minnesota community wind development, culminating in 275 MW of community wind today.³⁴⁴ The state has recently set an informal goal of reaching 800 MW of community wind by 2010.³⁴⁵ To continue its policy commitment to community wind, Minnesota enacted the Community-Based Energy Development (C-BED) law, which requires local ownership of

³⁴¹ Bolinger, *Survey of State Support*, *supra* n. 2, at 4.

³⁴² See *supra* § II.B.2.

³⁴³ See *supra* § VII, nn. 286, 294-96.

³⁴⁴ See Windustry, *Reaching Community Wind’s Potential*, *supra* n. 8.

³⁴⁵ See *supra* n. 226 and accompanying text.

wind projects to qualify for a special front-loaded wind tariff.³⁴⁶ Implementation of the C-BED law is in the early stages, and time will tell whether it is a successful model for community wind development in the United States.

Iowa has also targeted its wind incentives at community owned projects by providing a Production Tax Credit available only to projects that are majority-owned by Iowa residents or businesses.³⁴⁷ The available credits were quickly subscribed, expanded, and again fully subscribed with a waiting list, demonstrating the strong desire for community wind in the state.³⁴⁸

Oregon has created incentives specifically for community wind, primarily through tax credits for residential or business wind installations. The owner of the wind project may sell the tax credit to a third party, which allows residents or businesses that do not have a large enough independent tax liability to get the full financial benefit of the tax credit.³⁴⁹ Oregon has also created dedicated funds for supporting renewable energy projects through bonds and through a Systems Benefits Charge paid by electric consumers.³⁵⁰ Oregon has also worked to reduce the regulatory and administrative burden on wind projects.³⁵¹

Other states surveyed in this report have taken steps to encourage wind development, but not all have targeted community wind or enacted a full package of incentives. North Dakota has the greatest wind potential in the lower forty-eight states, but has been slow to create incentives for wind development and has far fewer installed MW of wind capacity than its neighbors that provide incentives, like Minnesota and Iowa.³⁵² North Dakota has focused primarily on reducing the regulatory burden on wind development as an indirect incentive.³⁵³

Colorado has also taken an indirect route to incentives for wind development, primarily through the creation of a Renewable Energy Standard, which requires utilities to obtain 10 percent of their energy from renewable sources by 2015.³⁵⁴

³⁴⁶ See *supra* § IV.B.

³⁴⁷ See *supra* § II.A.2.b.

³⁴⁸ See *supra* n.46.

³⁴⁹ See *supra* § III.B.2.

³⁵⁰ See *supra* § V.D.1, nn. 157-64 and accompanying text.

³⁵¹ See *supra* nn. 290-293, 320-21 and accompanying text.

³⁵² See Windustry, *Reaching Community Wind's Potential*, *supra* n. 8.

³⁵³ See *supra* nn. 322-23, 236-31 and accompanying text.

³⁵⁴ See *supra* nn. 216-21 and accompanying text.

Colorado has also worked on streamlining the regulatory process for wind projects and expanding the size of projects that are allowed to net meter.³⁵⁵

On the federal level, the Production Tax Credit³⁵⁶ and favorable accelerated depreciation rules³⁵⁷ have been the main driver of commercial wind development in the United States, but they are structured in such a way as to make it difficult for community wind projects to take advantage of their benefits. On the other hand, grant, loan and other regulatory programs have been established through the USDA to help farmers get involved in wind energy projects on their land.³⁵⁸ Finally, FERC has taken steps intended to reduce the regulatory burden and provide open and fair access to electricity markets through reforms of the standard interconnection process.³⁵⁹

Local communities throughout the United States can own and operate their own wind projects, creating a local source of renewable electricity and a new local revenues. However, because of factors such as high costs and difficulty accessing some government supports, most local communities have so far been unable to invest in a community wind project. However, as evidenced in this report, policymakers do have opportunities to create incentives that support sustainable locally owned wind developments.

³⁵⁵ See *supra* § VII.A, n. 308 and accompanying text, 4 Colo. Code Regs. § 723-3-3665 (interconnection rules that mirror the FERC rules which apply to facilities under 10 MW).

³⁵⁶ See *supra* § II.A.1.

³⁵⁷ See *supra* § III.A.

³⁵⁸ See *supra* § V.C.

³⁵⁹ See *supra* § VII.A.

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APPENDIX A:

Summary of Community Wind Incentives by State

This appendix provides a brief state-by-state summary of the wind incentives discussed in the accompanying report. This appendix covers developments in Colorado, Iowa, Minnesota, North Dakota, and Oregon, as well as on the federal level.

A. Colorado

For tax incentives, Colorado only provides a limited sales tax exemption for wind projects.¹ There are no state grants or loans. Colorado has progressed more on the regulatory side, as the recent rule on standard interconnection agreement follows FERC's latest rules² and a new rule allows net metering for facilities up to 2 MW, which is quite high compared to other states.³ On the business side, Colorado has authorized Renewable Energy Cooperatives to issue bonds for financing purposes.⁴

Residents of Colorado recently approved a ballot initiative requiring utilities to obtain 10 percent of their energy from renewable sources by 2015.⁵ The initiative was supported by advocates of rural development, who see it as a way to encourage the local benefits that flow from wind energy. The Colorado Public Utilities Commission was also considering an update to the least-cost planning rules for building new energy generation facilities that would consider the goals of the renewable energy standard in the energy acquisition planning process; however, that is no longer currently being pursued.⁶

¹ Colo. Rev. Stat. §§ 39-26-501, 39-26-502 (2006).

² 4 Colo. Code Regs. § 723-3-3665.

³ 4 Colo. Code Regs. § 723-3-3664(a).

⁴ Colo. Rev. Stat. § 7-56-210 (2004).

⁵ Colo. Rev. Stat. § 40-2-124, subd. I(c)(I) (2005).

⁶ Colo. Pub. Utilities Commn., *Docket to Consider Revisions to the Commission's Electric Least-Cost Resource Planning Rules*, Docket No. 05M-375E, at Order Denying Petition to

SUMMARY OF COMMUNITY WIND INCENTIVES BY STATE

B. Iowa

Iowa provides the Wind Energy Production Tax Credit⁷ for wind developments and the Renewable Energy Production Tax Credit⁸ for any renewable energy facility majority-owned by Iowa residents. Property, sales and electricity generation tax exemptions are available.⁹ Iowa has successful loan programs targeted at small, farmer-owned projects.¹⁰

Iowa's standard interconnection procedures are not very developed or detailed,¹¹ and its net metering law has met challenges and has been undermined by waivers that allow the covered utilities to provide net metering for up to 500 kW of energy production.¹²

Iowa's two rate-regulated utilities are required to together generate or acquire 105 MW of renewable energy, which they have far surpassed.¹³ Iowa's least-cost planning rule is also broad enough to include renewable resources in the planning process by allowing consideration of many factors including the state's

Open Rulemaking Proceeding (June 6, 2006)<http://www.dora.state.co.us/puc/rulemaking/05M-375E.htm> (last visited Aug. 1, 2006).

⁷ Iowa Code § 476B (2005).

⁸ Iowa Code § 476C.

⁹ Iowa Code §§ 441.21, subd. 8(b); 427B.26 (property tax); 423.3, subd. 54 (sales tax); 437A.6, subd. 1(c) (generation tax).

¹⁰ Iowa Code §§ 476.46 (Alternate Energy Revolving Loan Program); 15E.111 (Value-Added Agricultural Products and Processes Financial Assistance Program).

¹¹ Iowa Admin. Code § 199-15.1 *et. seq.* (2006).

¹² Iowa Admin. Code § 199-15.11(5); Iowa Utilities Board, *In re: MidAmerican Energy Company*, Docket Nos. TF-01-293; WRU-02-8-156, Order Granting Waiver and Approving, with Clarifications, Tariff (March 8, 2002); Iowa Utilities Board, *In re: IES Utilities, Inc., and Interstate Power Company n/k/a Interstate Power and Light Company*, Docket Nos. TF-03-180; TF-03-181; WRU-03-30-150, Order Approving Tariffs with Modification and Granting Waiver at 5-6 (January 20, 2004).

¹³ Iowa Admin. Code § 199-15.11(1).

SUMMARY OF COMMUNITY WIND INCENTIVES BY STATE

policy of encouraging the use of renewable resources and the long-term energy picture in the state.¹⁴

C. Minnesota

Minnesota is considered “both the birthplace and current hotbed of community wind power in the United States.”¹⁵ Minnesota combines an abundant wind resource with a tradition of progressive public policy and a significant network of grassroots organizers and entrepreneurs interested in renewable energy. In Minnesota in particular, local community members have pioneered innovative uses of existing business structures to fully utilize federal and state incentives for wind power.¹⁶ Not surprisingly, Minnesota also has the most comprehensive regulatory and statutory scheme in place for renewable energy development.¹⁷

Among the states surveyed here, Minnesota’s community wind scheme is unique in that it includes a production incentive payments program that began in 1997 but is no longer available for new projects,¹⁸ and now includes the recent

¹⁴ Iowa Code §§ 476.53(c)(2), 473.2; Iowa Utilities Board, *In re: MidAmerican Energy Company*, Docket No. RPU-05-4, 2006 Iowa PUC LEXIS 172 (April 18, 2006).

¹⁵ Mark Bolinger, *A Survey of State Support for Community Wind Power Development* (March 2004), http://eetd.lbl.gov/ea/EMS/cases/community_wind.pdf. (last visited July 27, 2006).

¹⁶ In Minnesota, at least two innovative business models have been successful for developing community wind projects. One is simply an LLC comprised of local investors able to fully utilize some or all of the available tax credits. The second, more common model is the Minnesota “flip” structure. For the first 10 years of the project, a farmer or local group owns a tiny percent of the project but retains 51 percent voting rights and a “management fee” while a tax-motivated entity owns the rest and uses the PTC, accelerated depreciation, or other tax incentives. After the 10 years or when the investor has met its investment requirement, the project “flips” to the local owner who then owns the project debt-free. Bolinger, *Survey of State Support*, *supra* n. 15 at 9.

¹⁷ Government Accountability Office, *A Glossary of Terms Used in the Federal Budget Process*, GAO-05-734SP, 69, <http://www.gao.gov/new.items/d05734sp.pdf> (last visited July 31, 2006)

¹⁸ Minn. Stat. § 216C.41 (2005).

APPENDIX A:

SUMMARY OF COMMUNITY WIND INCENTIVES BY STATE

Community-Based Energy Development law that requires local ownership of wind projects to qualify for a special front-loaded wind tariff.¹⁹

Minnesota does not provide any credits toward personal or corporate taxes for wind developers, but does exempt wind energy systems from property and sales taxes.²⁰ There are a variety of state grant and loan programs, some specifically for farmers.²¹

Minnesota law allows facilities under 40 kW to net meter, but this only allows the smallest facilities to take advantage of net metering.²² There are statewide interconnection standards for facilities under 10 MW²³ and a statewide zoning process for projects over 5 MW.²⁴

Minnesota's energy resource acquisition rules explicitly prefer renewable resources.²⁵ To encourage utilities to plan for renewable energy, each is required to file a resource plan that includes a least-cost plan to meet 50 to 75 percent of all new energy needs through a combination of renewable energy sources and conservation methods.²⁶

The state's Renewable Energy Objective requires electric utilities to make good faith efforts to provide 10 percent renewable energy by 2015.²⁷ The REO is

¹⁹ Minn. Stat. § 216B.1612.

²⁰ Minn. Stat. §§ 272.02, subd. 22 (property tax); 297A.68, subd. 12 (sales tax).

²¹ *E.g.*, 2005 First Spec. Sess. Minn. Laws 2087 (Ch. 1, art. 2, sec. 11(10)(a)) (\$400,000 appropriation for community wind); Minn. Stat. §§ 116C.779 (2005) (Renewable Development Fund); 41B.043 (Agricultural Improvement Loan Program); 41B.046 (Value-Added Stock Loan Program); Minn. Stat. § 216C.09 (Energy Investment Loan Program).

²² Minn. Stat. § 216B.164, subd. 3.

²³ Minn. Stat. § 216B.1611; Minn. Pub. Utilities Commn., *In the Matter of Establishing Generic Standards for Utility Tariffs for Interconnection and Operation of Distributed Generation Facilities under Minnesota Laws 2001, Chapter 212*, Docket No. E-999/CI-01-1023, at 29 (Sept. 28, 2004), <http://www.puc.state.mn.us/docs/orders/04-0131.pdf> (last visited Aug. 2, 2006).

²⁴ Minn. Stat. § 116C.693, *et. seq.*

²⁵ Minn. Stat. §§ 216B.2422, subd. 4 (preference for renewable energy facility); 216B.243 subd. 3(a) (2005).

²⁶ Minn. Stat. § 216B.2422, subd. 2 (2005).

²⁷ Minn. Stat. § 216B.1691.

SUMMARY OF COMMUNITY WIND INCENTIVES BY STATE

mandated for Xcel Energy, in addition to a requirement to develop 1,125 MW of wind energy by 2010, 160 MW of which must come from small (2 MW or less), locally-owned facilities.²⁸ Governor Pawlenty has stated an informal goal of developing 800 MW of community wind projects by 2010.²⁹ Xcel Energy has responded to the governor's goal by announcing its intent to secure 500 MW of C-BED wind power by 2010.³⁰

D. North Dakota

North Dakota possesses the greatest potential for wind-generated power in the lower forty-eight states.³¹ However, North Dakota has just begun to create incentives for wind energy development, most recently by reducing the regulatory burden on wind projects on the theory that this will create an indirect incentive for development.³² North Dakota has also acted largely through tax incentives targeted at commercial wind developments.³³ Property and sales tax exemptions are also available.³⁴

North Dakota allows net metering for facilities under 100 kW, larger than some other states allow. The state's interconnection procedures are not very

²⁸ Bolinger, *Survey of State Support*, *supra* n. 15 at 3-4.

²⁹ See, e.g., New Rules Project: Democratic Energy, *Community Based Energy Development Moving Ahead in Minnesota* (December 16, 2005), <http://www.newrules.org/de/archives/000095.html> (last visited April 25, 2006).

³⁰ Office of the Governor, *Community Based Energy Development Grows in Minnesota; Xcel Energy To Add 500 Megawatts By 2010* (March 28, 2006), <http://www.governor.state.mn.us/mediacenter/pressreleases/PROD007481.html> (last visited July 19, 2006).

³¹ American Wind Energy Association, *Wind Project Data Base: North Dakota Wind Energy Development*, <http://www.awea.org/projects/northdakota.html> (last visited May 10, 2006) (ranking North Dakota as first in the nation in wind energy potential).

³² See generally Memorandum by the North Dakota Legislative Council staff for the Electric Industry Competition Committee, to the public, regarding *Impact of Competition on the Generation, Transmission, and Distribution of Electric Energy Study* (August 2005).

³³ N.D. Cent. Code § 57-38-01.8 (2005).

³⁴ N.D. Cent. Code §§ 57-02-08(27) (property tax); 57-39.02-04.2 (sales tax); 57-40.2-04.2 (use tax).

SUMMARY OF COMMUNITY WIND INCENTIVES BY STATE

developed.³⁵ State siting approval is not required for wind facilities under 100 MW and the state has recently reduced siting fees.³⁶

North Dakota's statute creating wind easements is unique. Particularly, it provides that wind easements terminate if not developed in 5 years to protect property owners from being burdened by unproductive contracts.³⁷

E. Oregon

Oregon seems to be keeping community wind projects in mind when developing incentives for wind development in general. It provides the Business Energy Tax Credit³⁸ and Residential Energy Tax Credit,³⁹ and importantly both have the pass-through option, which allows a project with little or no tax liability to receive a lump-sum payment from a pass-through partner in exchange for the tax credit.⁴⁰ The state also provides a property tax exemption for wind facilities.⁴¹

Oregon provides loans under its Small-Scale Energy Loan Program (SELP), which is administered by the Oregon Department of Energy.⁴² Oregon also finances loan and grant programs through a Systems Benefit Charge applied to utility bills of the customers of Oregon's two investor owned utilities, PGE and

³⁵ N.D. Admin. Code § 69-09-07-01, *et. seq.* (2005).

³⁶ N.D. Cent. Code §§ 49-22-01, -22.

³⁷ N.D. Cent. Code §§ 47-05-14 to -16.

³⁸ Or. Rev. Stat. §§ 469.185-.225, 315.354 (2005); Or. Admin. R. 330-090-0105 to -0150 (2006).

³⁹ Or. Admin. R. 330-070-0010 to 330-070-0097; *see also* Or. Rev. Stat. §§ 469.160-.180 (2005).

⁴⁰ Or. Rev. Stat. § 469.206 (BETC); Or. Admin. R. 330-070-0014 (RETC).

⁴¹ Or. Rev. Stat. § 307.175.

⁴² *See*, Oregon Department of Energy, *Energy Loan Program*, <http://egov.oregon.gov/ENERGY/LOANS/index.shtml> (last visited July 19, 2006).

APPENDIX A:

SUMMARY OF COMMUNITY WIND INCENTIVES BY STATE

PacifiCorp.⁴³ The funding programs are targeted at a range of projects, including the Energy Trust Community Wind Program.⁴⁴

There are no standard interconnection procedures or agreements in Oregon, but the state has recently revised its rule requiring a standard power purchase agreement (PPA) for facilities under 10 MW.⁴⁵ Net metering is allowed for facilities under 25 kW, which is very small, but recent legislation authorizes the Oregon PUC to increase the limit.⁴⁶ Facilities under 105 MW of nameplate capacity can choose the state siting process rather than local process if desired.⁴⁷

Oregon's energy resource acquisition rules are broad enough to include planning for renewable resources. A broad range of issues are considered, including environmental, social, public policy, and long-term energy conditions.⁴⁸

Oregon is working toward a Renewable Portfolio Standard—the governor is proposing 25 percent by 2025.⁴⁹ The state's Renewable Energy Action Plan by the Oregon Department of Energy includes plans for small and community wind projects.⁵⁰ The Oregon Wind Working Group also has specific objectives for facilitating the development of community wind.⁵¹

⁴³ Or. Rev. Stat. § 757.612.

⁴⁴ Energy Trust of Oregon, *Community Wind*, <http://www.energytrust.org/RR/wind/community/index.html> (last visited April 27, 2006).

⁴⁵ Or. Public Utilities Commission, *Staff's Investigation Relating to Electric Utility Purchases from Qualifying Facilities*, Order No. 05-584, at 3 (May 13, 2005).

⁴⁶ Or. Rev. Stat. § 757.300(1)(d), (8).

⁴⁷ Or. Rev. Stat. § 469.320(9), (10).

⁴⁸ Or. Admin. R. § 345-023-0020.

⁴⁹ Office of the Governor, *Governor Kulongoski's Action Plan for Energy* (February 24, 2006), <http://www.governor.oregon.gov/Gov/sos2006/energy.pdf> (last visited April 25, 2006).

⁵⁰ Oregon Department of Energy, *Oregon's Renewable Energy Action Plan* at 6 (April 12, 2005), <http://oregon.gov/ENERGY/RENEW/docs/FinalREAP.pdf> (last visited April 26, 2006).

⁵¹ Oregon Dept. of Energy, *Oregon Wind Working Group Action Plan*, <http://egov.oregon.gov/ENERGY/RENEW/Wind/OWWG/ActionPlan.shtml#top> (last visited April 25, 2006).

SUMMARY OF COMMUNITY WIND INCENTIVES BY STATE

F. Federal

The main driver of commercial wind development in the United States has been the Production Tax Credit (PTC),⁵² but community projects can take advantage of the PTC only by developing innovative business models that include partnering with larger entities that have a significant-enough tax-credit appetite.

Accelerated depreciation is also available for wind projects, but can again only be used by commercial entities that can use such large deductions.⁵³ The Renewable Energy Production Incentive is available for non-taxable entities, but depends on regular appropriations.⁵⁴

Although not specifically aimed at local ownership of wind facilities, the federal government now offers a variety of grant and loan programs, many targeting farmers and rural communities through the USDA Section 9006 programs.⁵⁵ Land that farmers have enrolled in the Conservation Reserve Program may be used for wind farms.⁵⁶ Clean Renewable Energy Bonds are also a federal incentive that provides interest-free financing for certain local entities, such as local governments and rural electric cooperatives.⁵⁷

The Federal Electric Regulatory Commission (FERC) has established standard interconnection procedures and agreements for projects of up to 20 MW, although not all projects will fall under FERC's jurisdiction.⁵⁸ It is hoped that states will follow FERC's lead and implement the same guidelines to provide

⁵² 26 U.S.C. § 45 (2005).

⁵³ 26 USC § 168. For more information, see IRS Publication 946, IRS Form 4562: Depreciation and Amortization, and Instructions for Form 4562 (2005), <http://www.irs.gov/pub/irs-pdf/f4562.pdf> (last visited April 25, 2006).

⁵⁴ 42 U.S.C. § 13317.

⁵⁵ See generally, 7 U.S.C. § 8106 (a); 7 C.F.R. § 4280 (July 18, 2005).

⁵⁶ 16 USC § 3832(a)(7)(B)(i-iii).

⁵⁷ Energy Policy Act of 2005, Pub. L. No. 109-58 § 1303 (2005) (to be codified at 26 U.S.C. § 54).

⁵⁸ *Standardization of Small Generator Interconnection Agreements and Procedures*, 111 F.E.R.C. 61,220, Order No. 2006 (May 12, 2005).

APPENDIX A:

SUMMARY OF COMMUNITY WIND INCENTIVES BY STATE

greater uniformity nationwide. FERC's guidelines also include a specific agreement and procedures for large wind facilities.⁵⁹

Although utilities had been required to interconnect with all qualifying facilities under the Public Utilities Regulatory Policies Act (PURPA), in 2005 Congress did away with the requirement to interconnect for utilities deemed to be in a competitive energy market.⁶⁰ FERC has yet to rule that a utility is not required to interconnect, but this change in law could mean substantial changes in interconnection requirements and net metering laws.

⁵⁹ *Standardization of Generator Interconnection Agreements and Procedures*, 104 F.E.R.C. 61,103, Order No. 2003 (July 24, 2003); *Interconnection for Wind Energy*, 111 F.E.R.C. 61,353, Order No. 661 (June 2, 2005).

⁶⁰ 16 U.S.C. § 824a-3; Energy Policy Act of 2005, Pub. L. No. 109-58 (2005).

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APPENDIX B: Chart of Community Wind Incentives by State and Type

	Colorado	Iowa	Minnesota	North Dakota	Oregon	Federal
Production – Based Incentives (Tax Credits or Production Payments)		Wind Energy Production Tax Credit Renewable Energy Production Tax Credit	Production Incentive Payments			Production Tax Credit Renewable Energy Production Incentive
Non-Production-Based Tax Incentives	Sales Tax Refund (limited)	Property Tax Exemption/Reduction Sales Tax Exemption Generation Tax Exemption	Property Tax Exemption Sales Tax Exemption	Income Tax Credit for Installation Property Tax Exemption Sale and Use Tax Exemption	Business Energy Tax Credit Residential Energy Tax Credit Property Tax Exemption	Accelerated Depreciation (Modified Accelerated Cost-Recovery System)
Special Community Wind Tariff			Community-Based Energy Development			
Government and Utility Financing Mechanisms	Bonds for Renewable Energy Cooperatives	Alternate Energy Revolving Loan Program	Department of Commerce's State Energy Office Grant for Community Wind Xcel Energy's Renewable Development Fund Agricultural Improvement Loan Program Value-Added Stock Loan Participation Program Energy Investment Loan Program		Energy Trust Community Wind Grant Program Energy Trust Utility Scale Grant Program Energy Trust Open Solicitation Grant Program Small-Scale Energy Loan Program	Clean Renewable Energy Bonds 2002 Farm Bill and other Grant and Loan Programs

APPENDIX B: Chart of Community Wind Incentives by State and Type

	Colorado	Iowa	Minnesota	North Dakota	Oregon	Federal
Efforts to Increase Demand for Community Wind	Public utilities that serve over 40,000 customers must get 10 percent of energy from renewable sources by 2015	Rate-regulated utilities must buy an aggregate of 105 MW renewable energy Broad and flexible utility planning rule	Objective that utilities will use 10 percent by 2015; required only for Xcel Additional wind requirements for Xcel Utility planning rule prefers renewables		Broad and flexible utility planning rule	
Standardized Utility Contracts and Procedures	Yes—under 10 MW	Yes—“Qualifying facilities” under PURPA and Alternate Energy Production facilities	Yes—under 10 MW	Yes—“Qualifying facilities” under PURPA	No standard interconnection agreement Standard contract rule for power purchase agreements for facilities under 10 MW	Yes for all facilities under FERC jurisdiction
Net Metering	Yes—under 2 MW	Yes—unlimited, but utility waivers limit requirement to 500 kW	Yes—under 40 kW	Yes—under 100 kW	Yes—under 25 kW	TBD following Energy Policy Act of 2005.
Wind Project Permitting			State zoning process over 5 MW	No Public Service Commission approval necessary for facilities under 100 MW	Choice of state or local zoning process for facilities under 105 MW nameplate capacity	Turbines may be sited on Conservation Reserve Program land

APPENDIX B: Chart of Community Wind Incentives by State and Type

	Colorado	Iowa	Minnesota	North Dakota	Oregon	Federal
Wind Property Rights			Statutory wind easements	Statutory wind easements and options that terminate in 5 years if not developed	Statutory wind easements	
Policy Initiatives			Clean Energy Resource Teams	State Office of Renewable Energy and Energy Efficiency	Oregon Wind Working Group	Department of Energy Office of Renewable Energy and Energy Efficiency DOE Wind & Hydropower Program

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APPENDIX C:

Resources for Accessing State and Federal Laws

A. Colorado

Statutes: <http://www.leg.state.co.us/> (click 'CO Revised Statutes' hyperlink)

Agency Regulations: <http://www.sos.state.co.us/CCR/Welcome.do>

B. Iowa

Statutes and Agency Regulations:

<http://www.legis.state.ia.us/IowaLaw.html>

C. Minnesota

Statutes and Agency Regulations:

<http://www.leg.state.mn.us/leg/statutes.asp>

D. North Dakota

Statutes: <http://www.legis.nd.gov/information/statutes/cent-code.html>

Agency Regulations: <http://www.legis.nd.gov/information/rules/>

E. Oregon

Statutes: <http://www.leg.state.or.us/ors/>

Agency Regulations: <http://arcweb.sos.state.or.us/banners/rules.htm>

APPENDIX C:

RESOURCES FOR ACCESSING STATE AND FEDERAL LAWS

F. Federal

Statutes: <http://www.gpoaccess.gov/uscode/index.html>

Agency Regulations: <http://www.gpoaccess.gov/cfr/index.html>

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