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CASE STUDIES OF STATE SUPPORT FOR RENEWABLE ENERGY

Renewable Energy Loan Programs

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CASE SUMMARY

Case Description

Several states offer loans targeted at renewable technologies. Although financing does not reduce the capital cost of a project, by spreading payments out over a long timeframe, financing can make projects more *affordable*. This case study first reviews experience with the Oregon Energy Loan Program, one of the more durable and innovative loan programs offered in the U.S. for renewable energy technologies. The case then describes the features of renewable energy loan programs in Idaho, New York, Ohio, Pennsylvania, and Wisconsin. These additional states are featured to demonstrate the range of possible loan program designs and to identify innovative design features.

Innovative Features

An increasing number of states are developing loan programs specifically targeted to renewable energy. This case study posits that the ideal renewable energy loan program (from the perspective of gaining broad market acceptance, especially among residential customers) would have four main attributes:

- long repayment term,
- low interest rate,

- low hassle and administrative fees, and
- unsecured.

Loan programs examined here typically offer at least two of these four attributes, with a few programs boasting all four.

Results

- The Oregon Energy Loan Program is one of a few state loan programs able to finance the installation of large-scale renewable energy systems, and is unique in that it does so by issuing either taxable or tax-exempt (even for private projects) bonds.
- Although the program maintains the flexibility to tailor specific bond issuances to a project's needs, the double dipping provisions of the federal production tax credit (PTC) may still limit the value of the program for large-scale wind and closed-loop biomass projects. Several features of Oregon's program also limit its use for smaller loan sizes.
- As currently configured, Oregon's program likely

provides the most value to larger renewable facilities that cannot benefit from the PTC (clarity on whether the loan program would offset the PTC would be useful).

- Experience reported from other states suggests that even well designed loan programs may generate little interest if a more fundamental requirement for success – the perceived value proposition of the technology being financed – is weak. In other words, loan programs are found to play a useful role in making projects that

are inherently economic or near economic more affordable to a wider range of customers. Experience shows that higher-cost renewable technologies, such as PV, may not avail themselves to otherwise-attractive loan programs unless the loan program is combined with other favorable incentives such as an aggressive buy-down program (see German experience in separate case study on support for PV in Japan and Germany).

CASE STUDY DETAILS

Renewable energy technologies typically combine high up-front capital costs with low operating costs. This characteristic requires the project owner to make relatively large initial payments, making renewable energy technologies likely candidates for financing. Although financing does not reduce the capital cost of a project, by spreading payments out over a long timeframe financing can make projects more *affordable*, thereby broadening their appeal to a wider range of consumers. Additionally, if a project is to be financed, reduced-rate financing clearly lowers the *financing* cost of a project. For these reasons, several states and state clean energy funds offer loans targeted at renewable energy technologies (and many more offer loans targeted at energy efficiency). Because no single state has developed a loan program that clearly stands out among the others, this case study reviews experience with several state programs with a specific focus on Oregon's program.

Based on the experience reported below and in a separate case study on support for PV in Japan and Germany, the ideal renewable energy loan program (especially from the perspective of generating broad market acceptance among residential customers) would have four main attributes:¹

- **Long term:** The loan would have a term of at least 10 years to reduce monthly payments to affordable levels.
- **Low interest rate:** For residential loans, the interest rate would fall below that on a 30-year mortgage (because mortgage-based financing is an alternative for many homeowners).
- **Low hassle and administrative fees:** Applications, paperwork, and fees would be kept to a minimum, with quick loan approval, especially for smaller loans.
- **Unsecured:** No debt service coverage requirements or liens on property are required (other than the asset being financed).

With these criteria in mind, this case begins with an overview of the Oregon Energy Loan program, which has been operating in the state since 1979. The case then reviews experience in other states in an attempt to identify innovative design concepts and lessons learned from a broader array of programs.

Oregon's Energy Loan Program

Administered by the Oregon Office of Energy (OOE), Oregon's Energy Loan Program funds energy conservation projects, renewable energy projects, projects producing or using

¹ Note that while these attributes are desirable from the borrower's perspective, they may not be from

the lender's perspective, and may even conflict with one another (e.g., unsecured loans typically do not carry low interest rates).

alternative fuels, and projects producing new products from recycled materials. The program is funded through the regular issuance of general obligation and private activity bonds that can be structured as either taxable or tax-exempt (either state or both state and federal), depending on a project's needs. In fact, larger private renewable energy projects can often be financed with tax-exempt bonds – a feature unique to Oregon's program. The OOE may issue bonds several times per year, depending on anticipated loan volume. Particularly large loans (the largest so far is \$16.7 million, but there is no upper limit) may require a special bond issuance. Loan terms typically range from 15-20 years, and loan interest rates are typically 100 to 150 (maximum) basis points above the bond yield. For example, as of September 2002, loan interest rates ranged from 5.0% to 6.0% depending on the term of the loan, the type of borrower (commercial, state agency, other public, or residential), and the tax status of the bond financing (with tax-free financing at the low end of the range, and taxable financing at the upper end). Large commercial projects must generate, or otherwise have sufficient financial backing to come up with, at least 125% of the revenue necessary to cover the loan. For small projects, the borrowers' overall financial health is the limiting factor. No other financial institution (besides the OOE) is involved.

The OOE program is targeted to larger loan sizes. In fact, it is one of the few state loan programs that are able to finance the installation of large, utility-scale renewable energy systems (for another example, see a separate case study on Pennsylvania's use of subordinated debt to finance a wind project). While residential customers are eligible for loans, the program is clearly not geared toward them. Because of the way that the program is funded (through bond tenders), minimum underwriting and other administrative fees make small loans prohibitively expensive. For example, the minimum fixed fee (regardless of loan size) is \$500, and a \$10,000 loan would generate \$610 in fees. While individual projects can be

aggregated to share the cost of the fees, doing so could impose significant transaction costs on residential applicants, unless the OOE or some other organization (such as the new Energy Trust) actively facilitates residential aggregations.

While Oregon's Energy Loan Program is geared towards larger projects, it is also not clear that all large renewable energy projects are able to take advantage of it. In the case of tax-free financing, the subsidized nature of the loan may trigger offset provisions that reduce the value of the federal production tax credit (PTC) for wind and closed-loop biomass projects. While OOE staff believe that they can issue taxable bonds that would not trigger PTC offsets, the interest rate on such bonds would not be as attractive as the tax-free rates typically offered under the program, potentially limiting its appeal.²

In conclusion, Oregon's Energy Loan Program appears to contain at least two of the attributes of an ideal loan program outlined above: long terms and relatively low interest rates. However, a regressive fee structure and minimum debt service coverage requirements for large commercial projects fail to satisfy the "low hassle and administrative fees" (at least for small residential projects) and "unsecured" criteria. This reality is at least partly reflected in the number and types of systems that have been funded: roughly a dozen residential PV systems (mostly for off-grid applications) and less than a handful of small wind systems have obtained loans, compared to 20 or so commercial hydro projects (with QF contracts), as well as a few digester and landfill gas systems and one large solar project (in Ashland). Overall, the existing program appears best suited for larger renewable facilities that cannot benefit from the federal

² Though the 100 basis point range (from 5.0% to 6.0%) between tax-free and taxable financing rates implies that even taxable financing is at an attractive rate (6.0%). Were this rate considered to be below-market, however, even taxable financing could conceivably be construed as "subsidized" and thereby trigger PTC offsets.

PTC (e.g., commercial PV, biogas systems, etc.).

Idaho Renewable Energy Loan Program

In 1998, the Energy Division of the Idaho Department of Water Resources expanded its energy loan program to include renewable resources. This revolving loan program is funded with a total of \$3 million (for both energy efficiency and renewable energy) from Exxon settlements, which it continually distributes through new loans as existing loans are repaid. Residential loan amounts range from \$1,000 to \$10,000, while non-residential customers may borrow up to \$100,000. The loan interest rate is 4% for a term of 5 years or less. To qualify, most on-grid systems must demonstrate at least a 10-year payback period. Recognizing that PV systems are rarely able to achieve this target, grid-tied residential PV systems are exempt from this requirement, while off-grid systems must be demonstrated to be the least cost alternative. Local financial institutions perform credit checks on all successful applicants, and all loans are secured with some form of collateral. Projects must be installed within 90 days of loan approval.

Idaho's program has been surprisingly successful, given that it only meets two of the four criteria outlined above – i.e., low interest rate and (seemingly) no hassle – and that Idaho does not offer other incentives for renewable energy (other than a tax deduction). To date, the program has made roughly 350 renewable energy loans totaling \$1.6 million. Projects have been heavily weighted towards the most cost effective eligible technologies, however. For example, of the 32 PV loans, 31 were for off-grid systems; the program has also funded 151 wood stoves, 141 pellet stoves, 4 small wind systems, 22 geothermal heat pumps, 1 corn stove, and 4 small hydro systems. These results suggest that loan programs may play a useful role in making projects that are inherently economic or near economic more affordable to a wider range of customers. By themselves, however, loan programs appear unlikely to greatly expand markets for grid-tied PV and small wind applications.

New York Energy Smart Loan Fund

This NYSERDA-administered program works with roughly 30 financial institutions (banks, credit unions, etc.) located throughout the state to buy down the loan interest rate by 4.5% for the lesser of 5 years or the duration of the loan. Loan terms (amount, interest rate, duration, etc.) are negotiated between the lender and the borrower; NYSERDA simply buys down the loan interest rate on up to \$500,000 of the loan amount for a maximum term of five years. Both energy efficiency and renewable energy projects are eligible, though for renewables only projects supported through other NYSERDA programs qualify (this is a means of quality control).³

NYSERDA had originally funded the interest rate reductions by foregoing a portion of the interest on certificates of deposit (CDs) purchased from each lender, but soon realized that this process tied up significant amounts of capital (essentially the principal of the loan) for up to 5 years. NYSERDA now simply pays the lender a lump sum equivalent to the interest rate reduction, and is free to allocate its other capital elsewhere.

Although roughly 30 financial institutions are currently participating in the program, consumers have reportedly had difficulty finding a participating lender willing to finance small-scale renewable energy projects (Gouchoe et al. 2002). Perhaps as a result, participation rates among renewable energy projects have been low: in the program's first year, only 4 PV systems were financed through the program (compared to 260 energy efficiency projects). With roughly 30 PV

³ Gouchoe et al. (2002) report that a few PV systems financed through the loan program in its first few months were installed improperly by homeowners. As a result, the loan program administrator made participation in NYSERDA's residential PV program (see separate case study on NYSERDA's PV programs) a necessary condition to qualify for the loan program; systems funded under the residential PV program are installed and monitored by professional contractors.

systems installed during the same period under the residential PV program, it is clear that homeowners are financing their PV systems in alternative ways. In fact, at least one PV installer has reportedly discouraged customers from using NYSERDA's loan program, due to the somewhat cumbersome application process combined with the relatively poor loan approval rate for small PV systems (Gouchoe et al. 2002).

The Long Island Power Authority Solar Pioneer PV Buy-Down and Loan Program

This program combines a \$5/W (originally \$3/W, then raised to \$6/W for a limited time) buy-down with a 25% state tax credit and a subsidized loan for customer-sited PV. To date, 85 PV systems have been installed, and an additional 211 applications have been submitted to LIPA and are pending installation. Loan interest rates are 6%, reportedly a few percentage points below market rates. Secured loans ranging from \$7,500 to \$300,000 are offered through a local lending institution for 5, 10, or 15 years. LIPA coordinates with the local bank to administer the loans and, like NYSERDA, pays the bank a lump sum to fund the interest rate buy-down.

Although it offers long-term, low-interest, no-hassle loans – i.e., three of the four supposed ingredients for success – as well as a generous buy-down and state tax credit, LIPA's loan program has had minimal participation to date. Due to low interest rates in general, homeowners are reportedly pursuing other routes to financing their PV systems. LIPA hopes to attract additional lending institutions to participate in the program, but has found it difficult to generate interest among some banks due to the projected number of program participants not exceeding the banks' minimum profitability threshold.

Ohio Energy Efficiency Revolving Loan Fund

Like NYSERDA and LIPA, the Ohio Department of Development (ODOD) Office of Energy Efficiency is collaborating with private lending institutions to provide low-

interest loans for eligible projects that use clean, renewable energy sources. The Renewable Energy Financial Assistance Program of the Ohio Energy Efficiency Revolving Loan Fund offers reduced interest rates on loans through linked deposits and participation loans (i.e., NYSERDA's original approach). Loan terms are negotiated directly between the borrower and lender, after which ODOD buys down the interest rate by as much as 50% on amounts up to \$25,000 for residential customers and \$500,000 for non-residential customers.

While 260 lending institutions are technically eligible to participate in the program, the current low interest rate environment has made bank recruitment a slow process, and so far ODOD has been able to enlist only a handful of banks to participate in the program. This outcome illustrates one potential hazard of partnering with private lending institutions (rather than administering the program in house) – the fate of the program hinges upon their willingness to participate.⁴

One interesting aspect of ODOD's program is its ability to partner with a financing program offered by the Ohio Air Quality Development Authority (OAQDA) for commercial loans. Projects financed through OAQDA are exempt from real property tax assessment for the life of the loan, Ohio's tangible property tax, and sales and use tax on the purchase of the pollution-reducing equipment (e.g., renewable energy technologies). Projects that partner with both ODOD and OAQDA receive the reduced interest rate (from ODOD) as well as the tax benefits (from OAQDA).

The Sustainable Development Fund (Pennsylvania)

The Sustainable Development Fund (SDF) offers two energy loan programs, one for residential consumers and the other for commercial and industrial customers.

⁴ Of course, the upside is that working with private lending institutions can reduce administrative burdens and lead to a substantial leveraging of program funds.

Managed by The Reinvestment Fund (which is a commercial lender), the SDF administers the commercial loan program in-house, but has partnered with AFC First Financial Corporation (AFC)⁵ to offer residential consumer loans. Each of these programs is described below:

- AFC's home energy loan is available for PV, solar water heating systems, and a variety of energy-efficient home improvements and appliances. This is an unsecured, no-hassle consumer loan ranging from \$1,000 to \$20,000 for up to 10 years at an interest rate of 12%. While this is a high interest rate compared to other loan programs, it is still below the market rate of traditional unsecured consumer credit (e.g., interest on credit card debt is typically in the range of 15%-20%). Applications can be submitted online, and approval usually occurs in 24 hours or less.
- SDF's commercial loan program will fund energy efficiency and renewable energy investments, as well as clean energy companies in startup or expansion mode, with senior or subordinated debt at interest rates of 5% to 6.5% on loans between \$25,000 and \$250,000 for a term of 7 to 10 years. Loans are secured by the asset being financed and additional collateral may be required.

In addition to these defined programs, a separate case study reports on the SDF's successful efforts in managing a subordinated debt offering to a 9 MW wind project.

Wisconsin Renewable Energy Loan Program

In response to an interim evaluation of the first phase of its Demand Side Applications for Renewable Energy (DSARE) pilot program, the Wisconsin Department of Administration (DOA) added a project financing component to the second phase of the program (for more on Wisconsin's use of external program evaluation, see a separate case study on this

topic). This new component included a low-interest loan program offering a 4% interest rate on unsecured loans from \$1,000 to \$20,000 for terms of three, five, or seven years. As with all other DSARE programs, both electrical (i.e., PV and wind) and thermal (i.e., wood stoves, solar thermal, geothermal heat pumps) renewable applications were eligible.

By the end of June 2001, the program had committed its entire \$100,000 budget to 130 loans totaling nearly \$500,000 (DSARE funds were used to buy down the interest rate to 4%). The composition of loans is striking: 95% of the loans were for high-efficiency wood burning heating units, while the other 5% were for geothermal heat pumps. There were no loans for electrical applications such as PV or small wind.

This breakdown illustrates a theme running through several of the loan programs we examined: the underlying value proposition of the technology being financed is the primary determinant of whether or not a loan program will be successful. Simply put, wood stove heating is currently economical in Wisconsin, while grid-connected PV generation generally is not (particularly given the relatively low "cash-back" rewards of less than \$2/W that Wisconsin currently offers), and no financing program can change that reality. Where the underlying application makes economic sense (e.g., wood stoves in Wisconsin and Idaho, off-grid PV in Idaho, PV compensated by attractive feed-in tariffs in Germany), loan programs have proven moderately popular and can play a useful role in reducing up-front capital needs and making renewable energy affordable to more people. With PV costs still quite high, however, current residential adopters tend to be concentrated among those people for whom economics is not the primary consideration (i.e., typically wealthier individuals who may not require financing).

An evaluation of the DSARE-2 low interest loan program found that participants ranked the low interest rate as the most important program feature, followed by the no-hassle,

⁵ AFC is one of six financial institutions in the country participating in Fannie Mae's Energy Loan Program.

quick approval process and the ability to choose the loan term. Most participants had learned about the loan program from either their contractor or another contractor. This may reflect the contractor-friendly features of the loan program: loans can finance up to 100% of project costs (this feature also ranked high among participants surveyed in the evaluation), the lending institution makes payment directly to the contractor (by direct deposit if desired) upon completion of the work, and once on the participating contractor list, the contractor's name is distributed to potential customers who inquire about renewable energy loans.

low-interest loans, at least for PV and small wind.

To make the best use of program funds, the evaluation recommended that the DOA reduce the interest rate for all renewable energy systems that had not yet been financed (e.g., PV and small wind), while increasing the interest rate for wood burning systems and geothermal heat pumps. The DOA implemented this change in the third phase of the pilot program (DSARE-3), lowering the interest rate on the former to 1.99% while increasing it on the latter to 4.99% (still an attractive rate). In addition, a 10-year loan term option was added. As of March 2002, the cumulative number of loans made under the program since inception had risen to 250, with the overwhelming majority still concentrated among wood-burning systems.

As Wisconsin shifts from the regional DSARE pilot program to its new statewide program, thermal applications (e.g., wood stoves and geothermal heat pumps) will no longer be eligible for the renewable energy loan program, but will instead be supported in some other manner through energy efficiency programs. Furthermore, to increase the value proposition of PV and small wind, the statewide renewable energy program administrator has recently doubled the "cash-back" rewards for these technologies. Since customers cannot take advantage of *both* cash-back rewards *and* low-interest loans, but rather must choose one or the other, this relative increase in the attractiveness of cash-back rewards may ultimately suppress demand for

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INFORMATION SOURCES

Bolinger, M., R. Wiser, L. Milford, M. Stoddard, K. Porter. 2001. "Clean Energy Funds: An Overview of State Support for Renewable Energy." LBNL-47705. Berkeley, Calif.: Lawrence Berkeley National Laboratory.

Gouchoe, S., V. Everette, R. Haynes. 2002. "State Financial Incentives for Renewable Energy: Case Studies on Program Effectiveness." North Carolina Solar Center, July 2002 draft.

"Governor's Clean Energy GREEN TEAM Report on Financing Programs for Renewable Energy." California Public Utilities Commission.
www.cpuc.ca.gov/word_pdf/REPORT/3824.pdf

PA Consulting Group. 2001b. "Focus on Energy II Pilot Study: Interim Evaluation of Demand Side Applications of Renewable Energy." Prepared by Opinion Dynamics Corporation.

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Comments provided by: Jeff Keto and Lisa Schwartz (Oregon Office of Energy), Cheryl Wilson (Idaho Energy Division), Judy Jones (Ohio Office of Energy Efficiency), Carolyn Jaskot (LIPA), and Don Wichert (Wisconsin DOA).

Web sites:

Idaho Renewable Energy Loan Program:
www.idwr.state.id.us/energy/Financial/Default.htm

New York Energy Smart Loan Fund Kit:
www.nyserda.org/602borrowerpackage.pdf

Ohio Renewable Energy Loan Program:
www.odod.state.oh.us/cdd/oeenergy_loan_fund.htm

Oregon Energy Loan Program:
www.energy.state.or.us/loan/selphme.htm

Pennsylvania SDF's commercial loan program:
www.trfund.com/sdf/pdf_docs/Energy_Loans.pdf

Pennsylvania SDF's Fannie Mae Energy Loan Program (through AFC First Financial Corp.):
www.energyloan.net/

Wisconsin's loan program:
www.focusonenergy.com/

ABOUT THIS CASE STUDY SERIES

A number of U.S. states have recently established clean energy funds to support renewable and clean forms of electricity production. This represents a new trend towards aggressive state support for clean energy, but few efforts have been made to report and share the early experiences of these funds.

This paper is part of a series of clean energy fund case studies prepared by Lawrence Berkeley National Laboratory and the Clean Energy Group, under the auspices of the Clean Energy Funds Network. The primary purpose of this case study series is to report on the innovative programs and administrative practices of state (and some international) clean energy funds, to highlight additional sources of information, and to identify contacts. Our hope is that these brief case studies will be useful for clean energy funds and other stakeholders that are interested in learning about the pioneering renewable energy efforts of newly established clean energy funds.

Twenty-one total case studies have now been completed. Additional case studies will be distributed in the future. For copies of all of the case studies, see:

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ABOUT THE CLEAN ENERGY FUNDS NETWORK

The Clean Energy Funds Network (CEFN) is a foundation-funded, non-profit initiative to support the state clean energy funds. CEFN collects and disseminates information and analysis, conducts original research, and helps to coordinate activities of the state funds. The main purpose of CEFN is to help states increase the quality and quantity of clean energy investments and to expand the clean energy market. The Clean Energy Group manages CEFN, while Berkeley Lab provides CEFN analytic support.

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