



MEMORANDUM

EUGENE WATER & ELECTRIC BOARD
PUBLIC AFFAIRS



TO: Commissioners Brown, Cunningham, Cassidy, Ernst and Farmer
FROM: Jeannine Parisi, Community and Local Gov't Outreach Coordinator
DATE: August 30, 2010
SUBJECT: PACE (Property Assessed Clean Energy) Program Update

Issue

In recent months, there has been growing media coverage and public interest in the use of Property Assessed Clean Energy (PACE) programs to finance home energy conservation measures and renewable energy systems, and the concept of Feed-In-Tariffs to incentivize solar energy systems. This is an information item on the status of these two initiatives, both being studied and/or piloted in Oregon.

Background

The following is a brief summary of the PACE and FIT programs. PACE programs allow municipalities to use their revenue bonding authority to create land-secured financing property districts. People living within the boundaries of the newly-formed financing district can voluntarily elect to make cost-effective investments in their homes to lower utility bills and repay for these investments via their property taxes. PACE seeks to make energy efficiency measures more affordable by lowering up-front costs and lengthening the payback period (typically 20 years).

In June 2009, the Oregon legislature established a pilot Feed in Tariff (FIT) program for solar photovoltaic systems. Under this incentive program, customers are paid a premium for the kilowatt-hours (kWh) their systems generate over a 15 year period. Unlike net-metered systems, all power generated goes to the utility. The FIT pilot program must be offered by the three investor-owned utilities in Oregon (PGE, PP&L, and Idaho Power) and will be administered by those utilities, though the Public Utility Commission will periodically re-evaluate rates.

Discussion

Twenty-three states, including Oregon, have passed PACE legislation. Lane County has stepped forward as one of the first Oregon jurisdictions to pilot the program and has contracted with Renewable Funding, a private California company, to assist with program design and administration. The County hosted an informational session on PACE in the beginning of the summer where representatives from Renewable Funding explained some key steps in program development:

- Legal authority/formation of district
- Program administration/application processing
- Localized design (eligible measures, consumer and lender protections, etc.)

- Marketing

EWEB staff at the meeting voiced general support for the concept and offered assistance in program design and coordination. However, since this meeting, several new developments have essentially stalled PACE initiatives nationwide. The key concern, voiced by large mortgage holders, is around securing repayment in the case of loan defaults. Attachment 1 includes a recent electronic newsletter article explaining these concerns. A second meeting with Lane County staff is expected to discuss next steps.

Regarding the pilot FIT program, staff have been tracking the authorizing legislation and subsequent implementation at the Investor Owned Utilities (IOUs). Anticipating questions from the public regarding the differential in the incentives paid per kWh of solar power generated, we have developed a Question and Answer sheet to explain some of the structural differences in the programs and will be loading that information onto the EWEB website (see Attachment 2).

The main difference is that EWEB's solar incentives are self-sustaining, i.e. they do not rely on across-the-board rate increases to fund the programs. FIT program costs are recoverable in utility rates. The current pilot caps total FIT installations to 25MW, which will provide an upper limit to IOU customer rate impacts. The upcoming IERP should provide a forum for Board discussion on this and other issues related to renewable energy incentives.

Requested Action

None, this is an information update only.

“PACE Setback: Alternate Strategies Could Save U.S. Investment in Residential Clean-Energy and Efficiency Program,” *CleanEdge*, August 2010.

Aaron Berg

The Federal Housing Administration (FHA) recently derailed one of the most popular and important tools for financing energy efficiency and clean-energy job creation. The tool, called Property Assessed Clean Energy (PACE), had attracted interest from communities across the country and millions of dollars in federal funding. Now, PACE programs for residential homes are all on hold, or canceled, while states and municipalities consider different strategies.

The FHA, however, had legitimate reasons for stopping PACE, as PACE would have created tax liens on private property senior to the existing mortgage instruments that it insures. This would have subordinated the FHA's senior position behind that of new investors thus increasing the perceived risk of the transaction through a diminished collateral position for the primary mortgage holder. The benefit of PACE is the proposition of a repayment mechanism for clean-energy financing focused on the foreclosure rights and liquidated value of the entire underlying real-estate asset perfected by the tax-lien (super-lien) it creates. This collateral-based approach is commonly recognized by bond markets as “safe” and could potentially provide the basis for raising significant capital from public-bond investors. But the mortgage industry's current problems highlight the limitations of this strategy.

The U.S. economy has experienced tremendous downward pressure on real-estate asset values, exacerbating the distress of the mortgage industry and the financial sector that floated the bubble. Millions of mortgage loans are currently held in securities that have questionable asset/collateral value securing them. Roughly one quarter of American mortgages are underwater and some homeowners are choosing to walk away from their mortgages because their houses are no longer worth what they owe or what they originally paid. PACE financing instruments could have inadvertently marginalized and deteriorated the collateral value available to mortgage holders on existing loans. This unintended consequence of PACE financing has some real and perceived negative consequences for a fragile mortgage industry whose recent collapse nearly sunk our global economy. In this context, it's no surprise the FHA decided to step in.

So where does this leave us? And where do we go from here? We have a depressed economy in dire need of job creation, more than 100 million homes across the country in need of energy tune ups, efficiency investment potential with real returns to investors, and millions of dollars in funding from the U.S. Department of Energy and the Obama Administration to jumpstart this multi-billion dollar industry. First, it's critically important that we recognize the tremendous support and enthusiasm for clean-energy financing PACE recently created. Something we surely need to capture in our efforts to continue blazing ahead on the path to a more vibrant and restorative economy. Thankfully, other strategies are ready to pick up what PACE has started and deliver on the promise of financing clean-energy improvements.

One approach is to focus on the ability to predict cash flows for clean-energy loans by monitoring and verifying the energy savings/performance of buildings that undergo energy-efficiency upgrades. With reliable, controllable, and verifiable savings from clean-energy improvements, private capital can finance these improvements with support from public funding. McKinsey and Company has [estimated](#) the investment potential for energy efficiency in the United States at \$520 billion with returns of \$1.2 trillion over the next 10 years. Private capital will chase this enormous market, and build an entire industry of clean-energy jobs in the process, when investors are confident in the security of their returns with clearly documented and proven energy savings.

The U.S. Department of Energy recently [awarded](#) \$450 million to 25 different cities and states to undertake innovative and collaborative approaches to financing energy efficiency. The “BetterBuildings” awards lay out a goal of leveraging private capital by ratios of at least 5:1. If successful, that will translate into approximately \$2.75 Billion in energy-efficiency work over the next three years, a substantial boost to this emerging industry. But even with 5:1 leverage, this is still only half of one percent of the \$520 Billion investment potential identified by the private sector.

Another alternative to PACE is to work with utilities like the City of Portland and State of Oregon have done with the [Clean Energy Works Portland](#) program. Portland was recently awarded a \$20MM grant from USDOE's BetterBuildings program. A

new non-profit company, Clean Energy Works Oregon Inc., has been created to serve as the capital aggregation and service delivery platform for roll out of energy efficiency upgrades serving a wide range of customers, communities, and buildings. As the nation's primary energy providers, utilities have an important role to play in attracting this investment. But this role need not be extensive or cumbersome to the utility companies. By serving as a pass-through conduit for on-bill repayment, utilities can offer investors and lenders a reliable repayment mechanism with low historic default rates. Utilities already provide financial and technical incentives for clean-energy initiatives, but the simple service of on-bill repayment may offer even more support for energy investment in the long run. And it's a logical fit; utility companies exist to deliver energy services to their customers. By directly engaging utility companies and financial institutions in a positive dialogue, energy-efficiency programs across the country can still spark the growth in clean-energy investment that PACE had promised to deliver. The result may be stronger and more financially stable for all parties involved.

At a very basic level, financing is a means to an end. If we can agree on the end goals of putting people back to work while achieving greater energy security for our nation and greater ecosystem security for our planet, there is no reason we shouldn't be able to continually dream up innovative and effective ways to finance clean energy. PACE was one innovation. On-bill repayment is another. These tools only scratch the surface of our creative potential. The recent boom and bust of PACE doesn't have to end in anything more than a lesson that we have a long road of innovation ahead for financing clean energy. Getting it right will require agility, patience, and collaboration.

Aaron Berg is President & Founder of [Blue Tree Strategies](#), a Portland-based clean-energy consulting company and is currently serving as CFO of Clean Energy Works Oregon Inc.

Feed in Tariff Questions and Answers

In June 2009, the Oregon legislature established a pilot Feed in Tariff program for solar photovoltaic systems. Under this incentive program, customers are paid for the kilowatt-hours (kWh) their systems generate over a 15 year period, at a rate set at the time a system is initially enrolled in the program. The Oregon Public Utility Commission (PUC) was left with the discretion to establish rates and administrative rules by July 1, 2010. This program must be offered by the three investor-owned utilities in Oregon (PGE, PP&L, and Idaho Power) and will be administered by those utilities, though the PUC will periodically re-evaluate rates. The program costs are recoverable in utility rates and utility-owned systems are not allowed to receive the incentive. The pilot program installation cap is limited to an aggregate cap of 25 megawatts of PV, with a maximum system size cap of 500 kilowatts (kW).

Q. What is a Feed in Tariff (FIT)?

A. A traditional Feed in Tariff model is designed to pay a premium for kilowatt hours (kWh) as they are generated – no energy is used by the consumer, it is all sent back to the grid and sold to the utility. Oregon's PUC pilot differs from a true Feed in Tariff in that the customer does not operate as a mini power producer for the grid. Instead, participants receive an incentive payment for 100% of the kWh produced, up to their monthly onsite usage with any excess kWh produced rolled over for future months. To avoid customer's 'making money' off the program, system sizes are restricted to produce equal or less than the energy consumed on site on an annual basis.

Q. How does the pilot FIT benefit owners?

A. The customer receives either 55 or 65 cents per kWh generated (depending on the utility), which is a substantially higher amount than the rate they pay for electricity. The net "profit" from this varies greatly depending on the customer's energy use, cost to insure the system (required), cost for additional meter and reading services, etc. In addition, the customer is subject to claim any payment through this program as income. Customers who choose to participate in the FIT forfeit their right to an Oregon state tax credit and any utility or Energy Trust of Oregon incentives.

Q. How is the pilot program funded?

A. The program is funded through utility rates. Part of the legislation stipulates that the participating utilities may raise the rates to cover the expenditures for this program. Reviews of rate increases will occur Nov. 1, 2010, 2012, and 2014 and whenever otherwise directed by the PUC. (See section 860-084-0380 of AR 538 HB 3690 for complete cost recovery language.) The utility has the right to retain all Renewable Energy Certificates (REC's) though the PUC pilot programs. In this pilot program, the participating utility actually gets a REC value of 2 for 1 in some instances.

Q. Who can participate in the pilot program?

A. Oregon's three investor-owned utilities, PGE, PPL and Idaho Power, are required to participate in the pilot. Any customers of these three utilities may take advantage of this program on a first come first served basis. The total allocation for this pilot is 25 MW, so each utility allocates a set amount in 6 month periods. The first allocation was fully reserved within 15 minutes of the application process opening on July 1.

Q. Does EWEB have a Feed in Tariff incentive program?

A. Yes. The PV Generation Program is modeled after a traditional feed in tariff. EWEB customers that install PV systems larger than 10KW are eligible to participate in this program. Like FIT, EWEB purchases all of the power generated by the system for ten years at a fixed rate. The rate is reviewed and set annually for future projects, however once a customer “locks in” they keep the same rate for 10 years. The current 10-year rate is 11 cents/kWh generated. Payments are made once annually at the end of each calendar year.

Q. What is the basis for the EWEB solar buyback rates?

A. EWEB takes several different items into consideration when determining the rate in order to pass all the benefits of the PV projects to owners of the projects, including current projected power market pricing, the transmission and distribution losses, inflation, annual output of the system, the price of REC's, depreciation, etc.

Q. How does the pilot FIT for PV systems compare to existing incentives for solar that EWEB customers can access?

A. The “front end costs” for the system are generally the same for both programs. These costs include the PV system equipment, installation, labor, permits, hook up, etc. The significant departure is the over-market payments for power generated for FIT participants, which is intended to shorten the payback time.

Q. Why don't participants in EWEB's PV incentive program get paid more for the solar energy generated like the FIT pilot participants?

A. EWEB's PV incentive programs are designed to be consistent with the Board's policy against cross-subsidizing of rates and relatively self-sustaining; i.e., they do not require rate increases for all customers to help offset the costs of incentive programs. EWEB does offer incentives to help make PV more affordable for customers. The following are other differences between the FIT Pilot and EWEB programs:

- ✓ EWEB customers receive a one-time \$/watt (AC output watts) incentive for installing a net metered system - \$2 for residential net metered up to \$10,000, \$1 for commercial up to \$25,000.
- ✓ EWEB customers are eligible to apply for ALL tax credits, both state - up to \$6000, and federal-up to 30% of project cost.
- ✓ EWEB does not require its customers to purchase additional insurance for their PV system.
- ✓ EWEB does not charge meter reading fees nor do they charge for a new meter when a customer participates in the PV net metering program.
- ✓ EWEB net metered customers retain the RECs for their project.

Q. What other PV incentive programs does EWEB offer?

A. The PV Generation program, where all power produces is sent directly to the grid, is geared towards commercial-sized systems. EWEB also offers a PV net-metering system option. These systems start as small as 0.5 KW and are required to be designed so as not to exceed the building load. Once a net metered PV system is installed and turned on, the customer's electricity bill will reflect the “net” power usage (the energy generated by their PV system will decrease the amount of kWh registered as consumed by the customer resulting in a smaller electric bill).

In instances where a customer has a fairly large PV system, they may actually carry a credit on their account in the sunnier months. The credit is calculated at the tier three rates for electricity – currently that rate is 7 cents/ kWh.

Q. How much does a net metered PV project cost, and what savings can a customer expect?

A. A customer can expect annual generation of approximately 1,100 kWh for every KW of PV installed. Average cost (after the EWEB incentive is subtracted – but before state/federal tax credits) of residential net metered systems installed in the EWEB service territory in 2010 is \$7700/KW.

Q. Is EWEB going to institute a FIT as an option for its customers or otherwise adjust its solar incentives program?

A. To-date, EWEB customers have installed over 2 MW of solar electric generation through our PV programs. There are no current plans to institute a FIT such as the PUC has developed at this time. EWEB and the Board would need to weigh the economic, social, and environmental aspects of such a program. There are social equity issues to consider, specifically the customers who are able to install PV (i.e., own their home, have good solar access, etc.) being subsidized by all EWEB customers under a PUC-type FIT model.

Additionally, while solar electric generation is a viable renewable energy strategy, inflating the incentives to make it more financially attractive diminishes the importance of less expensive, cost effective measures our customers should practice first, such as continuing sustainable conservation practices, weatherizing their homes, and improving outdated heating systems.

It is unclear how the FIT could be expanded statewide without significant rate increases for all utility customers. Even this relatively small FIT pilot is projected to produce noticeable rate increases for all customers of the participating utilities. Staff do not believe the current PUC FIT model would be financially sustainable in the long term for EWEB or its customer base.

Q. Will the PUC FIT or EWEB's PV incentive rate change?

A. The PUC pilot FIT rate is eligible for review and adjustments every six months, however once a contract is signed, the customer “locks in” at the agreed upon rate for 15 years. EWEB's net metered incentives are adjusted any time there is a rate change. The one-time incentive is reviewed annually to ensure it reflects the cost value (to the utility) of PV.