# **Coast-to-Coast: An Update on On-Bill Financing Program Strategies**

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# ABSTRACT

First-cost has been an ongoing barrier to the installation of energy efficiency measures since the advent of energy efficiency programs in the early 1980s. As a result, energy efficiency programs have developed multiple strategies to reduce the first cost, or premium, associated with making investments in energy efficient measures. These strategies have ranged from simple rebates to more complex financing mechanisms including leases, loans, and bonds.

Recently, energy efficiency organizations have developed different types of financing strategies to appeal to residential customers as a way to encourage them to make "deep" retrofits to their homes. These strategies include on-bill financing (OBF) as well as off-bill financing, e.g., using a line of credit, a home equity loan, or a similar type of credit arrangement. There has even been resurgence in Property Assessed Clean Energy (PACE) financing model as well as new models involving a mix of home energy audits and personal "concierge services" such as the program offerings in Clean Energy Works Oregon.

This paper summarizes successful practices and lessons learned from financing programs around the country from two separate process evaluations focusing on emerging strategies and "best practices." It draws on the findings from a literature review of successful practices for Efficiency Maine Trust's PowerSaver Program and a comprehensive process evaluation conducted for Clean Energy Works of Oregon.

# INTRODUCTION

Energy organizations continue to experiment with different program designs and methodologies as a way to reduce first costs and encourage customers to make cost-effective energy efficiency improvements. This paper summarizes the successful practices and lessons learned from financing programs around the country from two separate process evaluations focusing on emerging strategies and "best practices." It is based on the findings from two separate process evaluation activities completed in 2012: a literature review and in-depth interviews regarding successful practices for Efficiency Maine Trust's PowerSaver Program and a comprehensive process evaluation conducted for Clean Energy Works of Oregon.

# **OVERVIEW OF FINANCING PROGRAMS**

A variety of energy efficiency financing programs have been offered to U.S. customers in the past two decades, including programs offering traditional secured and unsecured retail installment contracts (RIC), energy efficiency mortgages, and home equity lines of credit (Fuller 2009). While these programs differ in many design details, most share the following key characteristics (Fuller, 2009; Hayes, Nadel & Granda, 2011):

- The target market for almost all programs is single-family owner-occupied homes, with a few programs open to multifamily homes and rental properties.
- Marketing channels are mostly through contractors and direct marketing from utilities.

- Loan amounts typically range from \$4,000 to \$10,000.
- Interest rates vary from 0% to 12%, with most programs offering interest rates of 4% to 8%.
- Terms tend to be for five to eight years, with a few programs offering longer terms.
- Most programs serve less than 0.1% of the customer base.
- Annual default rates range from near 0% to around 3%. (Johnson et al 2012)

Given these statistics, the energy-efficiency related home improvement market is potentially worth hundreds of billions of dollars. But despite its promise, energy efficiency financing programs only capture a small fraction of this activity, and continually face hurdles to drive demand, develop a scalable program, and withstand economic challenges

This paper summarizes the current strategies used by energy organizations coast-to-coast to overcome these obstacles and offer cost-effective and appealing financing programs to residential customers.

### **Overview Of PACE**

Property Assessed Clean Energy (PACE) programs were developed as a way to overcome some of the challenges to implementing a successful financing program, such as requiring a FICO credit score above 640. The PACE program also received significant funding through the American Recovery and Reinvestment Act (ARRA).

From 2008 through 2010, 24 states and the District of Columbia passed legislation enabling PACE programs. In many cases, this legislation established special energy improvement districts that gave municipal authorities the ability to engage in contractual assessments by which loans are provided to home and property owners. These loans are subsequently repaid through the property tax bill and typically have senior lien position.<sup>1</sup>

However, many of these state statutes explicitly declare that PACE assessments create senior property liens. Several states may require legislative amendments to existing PACE authority to allow subordinate-lien PACE special assessment districts, as a way to mitigate potential risk (PACE Policy Brief, 2012).

Although the DOE and current administration support pilot PACE financing programs, its future is still unclear in the current regulatory environment (Zimring & Fuller 2010), especially due to the increasing scrutiny these programs have been facing from the lending community as well as the federal government (Options for Clean Energy 2010).

### **Energy Trust of Oregon-Clean Energy Works**

The Clean Energy Works model was developed in early 2009 as collaboration between Energy Trust of Oregon and City of Portland. The intent was to explore how to generate deep residential energy savings through the Home Performance with Energy Star program and was designated as the first EEAST pilot, serving the residential owner-occupied segment of the energy efficiency building market targeted through the EEAST legislation.

Energy Trust of Oregon, Inc. (Energy Trust) worked diligently with Clean Energy Works Oregon (CEWO) to develop and offer an innovative on-bill financing program in accordance with the Energy Efficiency and Sustainable Technology Act of 2009 (EEAST). The purpose of EEAST is to provide easy-to-use financing for residential and commercial energy-efficiency and renewable energy projects in Oregon.

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<sup>&</sup>lt;sup>1</sup> It should be noted that PACE loans in Maine are different from those in other states because Maine's PACE law dictates that the loans do *not* have a senior priority over a primary home mortgage, original or new. In addition, loan assessments (payments) are *not* added to or treated like a property tax.

Running a statewide energy efficiency-financing program is a daunting process. CEWO has to serve many masters and meet many goals, which is a difficult task. It has to focus on recruiting customers to complete "deep retrofits" that lead to cost-effective energy savings, while also operating in a free market environment. Furthermore, it is committed to creating jobs, paying a "living wage" and reaching out to under-served customers across the entire state. Moreover, the biggest focus is to develop a self-sustainable model that will continue to be successful well past the American Recovery and Reinvestment Act (ARRA) funding cycle.

### SUMMARY OF PROCESS EVALUATION METHODOLOGIES

The findings summarized in this paper were drawn from two process evaluations conducted of onbill financing programs.

The first process evaluation was completed for Efficiency Maine Trust in 2012. The scope was to identify successful "best practices" and lessons learned as a way to help inform the development of Efficiency Maine's PACE program. The process evaluation activities consisted of conducting a literature review regarding current on-bill financing programs and strategies, supplemented by in-depth interviews with program administrators currently involved in implementing four innovative financing programs. These programs were: the Pennsylvania Keystone HELP program, the Midwest Energy How\$mart Program, the HECO Solar Saver Pilot Program, and the Berkeley FIRST Pilot Program.<sup>2</sup>

The second source for the findings summarized in this paper is a comprehensive process evaluation conducted of CEWO in January-August 31, 2012. The evaluation activities included the following:

- A review of the previous process evaluation conducted for the pilot program: Clean Energy Works Portland, including reviewing previous reports, surveys, and educational and outreach activities;
- A review of the current program materials, including the new educational and outreach activities, documenting changes in program operations from the pilot to statewide implementation;
- Comparison of key metrics to measure program success including conversion rates, loan default rates, and average project costs for programs across the country through a careful review of key metrics tracked in the program database, supplemented by a literature review;
- In-depth interviews throughout the process evaluation period with program staff, stakeholders, lenders, contractors, Energy Advisors, and customers; and
- Analysis of customer surveys of on-bill customers at the seven critical stages of the financing program decision for Clean Energy Works Oregon, including program dropouts.

# KEY FINDINGS/LESSONS LEARNED FROM THE PROCESS EVALUATION ACTIVITIES

These process evaluations, although different in scope, identified the critical success factors required to make an on-bill financing program successful and appealing to residential customers. The key findings are summarized next, followed by the recommendations that were developed after a careful review of these critical findings.

# Finding # 1. These programs are complicated — for everyone.

Perhaps one of the biggest barriers to developing an effective on-bill financing program is the sheer complexity of this type of endeavor. Unlike a standard rebate program, on-bill financing programs require interaction with a variety of different market actors—many of whom may be unfamiliar with the

<sup>&</sup>lt;sup>2</sup> Midwest Energy implements its How\$mart Program utilizing funds from the Efficiency Kansas Loan Program.

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energy efficiency market. In addition, since these programs involve financial transactions, a variety of legal issues must also be addressed in these programs.

Figure 1 illustrates the sheer complexity of these types of programs by diagraming the information flows required among the various players in order to get a financing program up and running. All of the information exchanges involved are subject to delays, confusion, and can generate significant documentation requirements. While some program functions may be performed by a single organization – including program implementation, lending, or assessment consultations – other stakeholders, including end-use customers and contractors, constitute large and fragmented populations that present significant challenges to consistent communication and smooth process flow among these various players (Brown, 2011).



Source: Brown 2011

#### **Figure 1: Communication Flows within Financing Program**

Figure 2 illustrates the complicated participation process required for CEWO. However, other financing programs are also complicated. For example, the SolarSaver Program (SSP) for Hawaiian Electric required program participants to have their paperwork notarized at several points during the process, in addition to creating a "cloud" on the title (Johnson, Willoughby & Shimoda 2009).<sup>3</sup>

<sup>&</sup>lt;sup>3</sup> A cloud is an apparent claim or encumbrance, such as a lien, that, if true, impairs the right of the owner to transfer his or her property free and clear of the interests of any other party.



### Figure 2: CEWO Customer Contact Map

The process evaluation for CEWO found that it took an average of 78 days for a customer to navigate this process from the first step of test-in to the final loan disbursement and project inspection. Not surprisingly, these relatively long project timelines led to program dropouts or attrition. As Figure 4 shows, most drop offs occur after significant up-front investment by both the program administrators and contractors.



Figure 3: Comparison of the Number of Applications for Each Critical CEWO Milestone

More than 1,200 customers exited the CEWO and its pilot program during the first two years of operation. While the reasons for program attrition varied from customers' becoming impatient to customers not qualifying for the loan, this attrition rate did contribute to significant overhead costs that CEWO had to absorb. One of the highest costs was the use of Energy Advisors, energy experts who

acted as "concierges" to help customers navigate through this complex program and complete energy projects. But even this high-cost, hands-on approach did not prevent participants from dropping out of the program.

# Finding #2. Defining success — depends on what you measure.

The literature review identified that the most common yardstick to measure program success for these types of programs is the conversion rate – which is the percentage of customers who participate in the program from the initial audit through project completion. However, the process evaluation for CEWO found that this organization was more focused on measuring success based on a more contractor-focused metric of the number of audits completed to the number of bids accepted. By using different metrics, CEWO management had a different definition of program success and a different perception of program challenges.

Based on these issues, the CEWO evaluation was expanded to include a literature review of the industry-defined "conversion rates" across all types of "Whole House" programs. Table 1 summarizes these findings.

Program	Conversion Rate (Audit to Project Completion)	Source
Long Island Green Homes	72%	NERI 2012
Midwest Energy How\$mart Program	70%	Midwest Energy 2012
Progress Energy (FL)	50%	Energy Savvy Report 2012
MidAmerican Energy	50%	Energy Savvy Report 2012
Focus on Energy	50%	Energy Savvy Report 2012
National Grid (RI)	40%	Energy Savvy Report 2012
Clean Energy Works Oregon	<u>39%</u>	CEWO Database 2012
New Jersey HPwES	38%	NERI 2012
APS (AZ)	35%	Energy Savvy Report
Energy Trust (OR)	35%	NERI 2012
SustainableWorks	32%	NERI 2012
NYSERDA	30%	NYSERDA Press Release 2012
Industry Average	25%	NERI 2012

Table 1: Comparison of Conversion Rates to Other Types of "Whole House" Programs

By using a commonly accepted industry metric regarding program success, CEWO learned that it still ranked favorably compared to its home performance peers.

# Finding #3. Don't date contractors, pursue them!

Contractors are often the "program ambassadors" and therefore they are critical to developing a successful long-term program. NYSERDA found that more than half of their customers learned about the program from contractors (Fuller 2009). Leveraging contractors' existing relationships to deliver program messages can be a cost-effective way to increase demand for comprehensive energy upgrades.

The programs with the highest volume of loans all have strong contractor networks and regular program communication with those contractors. Manitoba Hydro has 1,100 contractors and 200 retailers in their program; AFC First has 700 approved contractors in Pennsylvania; SMUD has 180 contractors in the Sacramento region; and NYSERDA has 147 contractors in New York (Fuller 2009).

# Finding #4. Energy efficiency is not the primary motivator — and never has been.

Even though the energy efficiency community is sold on the benefits of these programs, the research indicates that most homeowners are simply not interested in making energy efficiency improvements. Rather, they are much more focused on making "home improvements"—a distinction that is still not well understood in our community.

According to a research study conducted by Lawrence Berkeley National Laboratory (LBNL), slightly more than one-quarter (28%) of U.S. homeowners completed home improvements in 2009, with an average project size of approximately \$9,000.

However, energy efficiency-related projects, such as including HVAC equipment upgrades, major appliance installations, insulation improvements, and window and door replacements – represented a smaller percentage of the larger home-improvement market (Brown 2011).

More than 3.3 million homeowners completed projects involving HVAC equipment upgrades with an average project cost of over \$3,300. Nine percent of all homeowners also purchased major appliances such as water heaters and dishwashers, and approximately 2% of all homeowners made improvements to home insulation

Both the literature review and the CEWO process evaluation identified the importance of offering financing for "qualifying measures" rather than just home improvement projects. While the CEWO evaluation did find that many customers prefer to bundle in non-energy efficient improvements into the overall project, (Johnson et al 2012), it is critical to ensure that these programs still make "economic sense." Both the process evaluation and in-depth interviews emphasized the importance of making sure these projects are able to generate long term positive cash flow so the term of the loan should not exceed the useful life of the improvements.

For example, Midwest Energy creates a "conservation plan" as part of the audit, which is essentially the work scope that contractors must follow in order for participants to receive funding. This approach ensures that only the most cost-effective measures are completed, while also simplifying the decision-making process for customers. (Fuller 2009; Johnson et al 2012)

#### **RECOMMENDATIONS**

The findings from these process evaluation activities led to the following recommendations about ways to structure these types of on-bill financing programs.

# **Recommendation #1.** Make it simple and easy — but not too easy

Both process evaluations identified the emerging "best practice" of offering a "one-stop-shop" approach as a strategy to make it easier for customers to participate. Several on-bill financing programs are following this model including the Green Financing Initiative in New York City, the Cook County Energy Savers program in Chicago, and the Enterprise Multifamily Green Retrofit Program have designed their programs so that customers can complete all application steps online to streamline the process. Energy Upgrade California is using a "one-stop clearinghouse" approach for its web portal that is similar to the Lending Tree consumer loan search site, giving customers visibility to a full menu of options and allowing them to find the most attractive solution (Brown 2011).

Perhaps Clean Energy Works Oregon (CEWO) has developed the best-known one-stop-shopping model. This program offers no-money-down, no-fee financing, and a simple qualification process. This program bundles multiple energy upgrades into a one-time, one-stop Home Energy Remodel and equips homeowners with expert guidance from start to finish (Going Beyond Green: Spring 2011 Newsletter).

CEWO's approach of emphasizing "easy" resonated well with customers, as illustrated by the strong customer satisfaction scores on all CEWO program elements from the customer surveys (Johnson 2012).

A critical element of this "easy" aspect is to develop a streamline application process for both the customer and contractor. Successful program models such as Manitoba, SMUD, AFC First, Viewtech, and Clean Energy Works Oregon offer quick application processing, often with approval over the phone for unsecured loans, and several programs deposit loan funds directly into contractors' accounts as soon as customers sign off (Fuller 2009; Johnson 2009).

But the application process should not be too easy, as the earlier evaluation for the pilot program, Clean Energy Works Portland (CEWP) process evaluation discovered. A critical finding from that evaluation was to also suggest that CEWO should develop some type of pre-screening checklist for customers to help identify viable candidates while reducing the "tire-kickers" who just want a free testin. This will also help to set customer expectations, and may enhance program closure rates by focusing in on those customers who are truly interested in completing a home energy retrofit (Johnson 2012).

#### **Recommendation #2.** Invest in and engage contractors.

Home performance programs depend on contractor engagement, but the most successful programs actually invest in contractor training to ensure that contractors are true allies in program delivery.

The first step these organizations take is to invest wisely in successful and experienced contractors. All of these programs contractors must have proper industry training and qualifications such as certification by Building Performance Institute (BPI) (Fuller 2009).

CEWO has one of the more stringent "closed network" programs. Not only does the program require contractors to meet licensing and training requirements, but they also have to meet financial criteria and agree to pay a "living wage" to their employees (Johnson 2012).

But in return for these requirements, CEWO also invests heavily in contractor training and supporting the Home Performance Contractors Guild, a local trade association, by offering both training and support to strengthen the home performance contracting community in the state. CEWO has also provided contractors with Executive Coaching, mentoring, and business management classes to ensure that their contractors are equipped to deal with the anticipated program volume. (Johnson et al 2012). AFC First, for example, dedicates staff to travel around Pennsylvania offering contractors training in marketing techniques and in the mechanics of the financing product.

Many programs also provide marketing support to contractors. This ensures consistency in message among contractors and provides contractors with valuable tools to explain the program and benefits of home energy improvements to potential participants.

For example, the Keystone HELP program provides marketing materials free of charge to their participating contractors. This reduces the burden of developing marketing materials for contractors as well as promotes a consistent a uniform message to customers, thus increasing brand recognition (Johnson et al 2012).

### **Recommendation #3.** Financing is the key driver — not energy efficiency.

A major finding from the LBNL Study (2011) was that energy efficiency improvements are simply not viewed as "high-value transactions" by homeowners. Frankly, energy improvement projects are just not as appealing as other types of home remodeling projects, and they compete for homeowner's limited home improvement budgets with other projects both discretionary (e.g., kitchen/bath remodels) and emergency (e.g., roof replacements) (Brown 2011).

The literature review also revealed that there are two distinct types of program participants: proactive and reactive. The reactive customer is focusing on purchasing a \$5,000 emergency furnace replacement on his/her credit card with the thoughtful *proactive* consumer looking to maximize economic returns from a major home performance investment. As a result of this finding, the Keystone

HELP program's developed a tiered interest rate structure, secured and unsecured options, and incentive bundles geared to appeal in different ways to these two different motivations.

New York State developed a tiered approach that matches the loan options to the borrowers' credit history. This approach, illustrated in Figure 4 led to a wider pool of potential applicants, thus ensuring that middle-income households have access to loan options to encourage energy efficiency improvements. With this approach, the loans are available to a wider group of potential participants, depending on whether they qualify for either a Tier 1 or Tier 2 approach (Johnson et al 2012), as the following excerpt explains:

"Tier 1" loans are funded through capital markets and are issued to highly creditworthy customers (credit score over 640, debt to income ratio less than 50%, no bankruptcy, etc.). "Tier 2" loans are funded through a revolving loan fund, and credit worthiness is assessed through utility bill and mortgage payment history (Bell, Nadel & Hayes 2012)



Source: NYSERDA 2011

Figure 4. NYSERDA's Tiered Approval Process

# **Recommendation #4.** Speak English not energy to customers.

Another critical recommendation from both the literature review and the CEWO process evaluation was the ongoing emphasis on the importance of marketing these programs in plain English. The literature review identified several marketing "best practices" including the following (Johnson et al 2012):

• Sell Something People Want

It sounds simple enough- give people something they actually want. But too often the energy efficiency community muddles this straightforward message by focusing on energy savings, when it is actually the non-energy benefits that are driving many purchase decisions. So, the marketing messages should focus on crafting specific messages designed to appeal to both proactive and reactive customers executed by skilled marketing professionals (Zimring et al 2011; Brown 2011).

CEWO's marketing strategy includes a mix of traditional advertising, direct mail, as well as public relations activities. So far, the staff believes these activities have been effective in raising awareness, especially events that generated some local news coverage (Johnson 2012).

• Avoid Energy Jargon

The marketing materials should use language that is constructive to earn trust and avoid turnoffs with customers. Program administrators should carefully consider that the language used to describe the

program affects how participants react to the program offering. The language used should be easy to understand and carry positive connotations. The suggested terms include the following:

- "*Improvements,*" "*home improvements,*" and "*home efficiency improvements*" are recommended while "*retrofit*" and "*remodel*" are discouraged because of their suggestion of a more extensive project consuming significant time and money.
- *"Home energy assessment"* suggests opportunity while *"audit"* foreshadows scrutiny of one's worth as a homeowner.
- *"Home"* is warmer than *"residence"* (Johnson et al 2012)

# **Recommendation #5.** Minimize "lost opportunities" by offering customers choices.

Another emerging best program practice is to offer alternative loan products to those customers who may not qualify for PACE loan because they do not have sufficient equity in their home. Several financing programs are offering a menu of loan options, including smaller and unsecured loans to complement secured loans (Freehling 2011 in Johnson et al 2012). This approach, often called bridging, lowers the program's overall customer acquisition cost while providing attractive options to a wider pool of applicants.

The CEWO process evaluation illustrated the importance of this recommendation as a way to still capitalize on energy efficiency opportunities among program dropouts. A critical recommendation from the CEWO evaluation was to offer other solutions to program dropouts and thus "bridge them" from CEWO to another Energy Trust program. By identifying program dropouts earlier in the process and redirecting them to more appropriate program offerings, this will lower the acquisition costs required to enroll customers (Johnson 2012).

Other successful financing programs are using similar approaches, such as offering alternative or complementary loans, rebates or other financing options for those customers who do not want to continue in an on-bill financing program.

For example, CEWO continues to leverage Energy Trust incentives and instant rebates, which combined with financing, are the primary drivers of customer interest in the program (Johnson 2012)

The most successful programs use the rebates to reduce the first-cost of the equipment, or to offset the costs associated with an in-home assessment. When possible, and depending on the context, offering combinations of financing and rebates can be valuable, both to improve customer attraction and to allow the financing component to be cash flow positive for homeowners. If rebates are offered as part of a financing program, they should be deducted from the cost of the retrofit for purposes of financing as indicated in the Policy Framework for PACE Financing Programs (White House 2009).

# **Recommendation #6.** Metrics matter.

The CEWO process evaluation illustrated the importance of tracking key program benchmarks in a consistent and transparent manner. As the evaluation found, CEWO collects massive amounts of data from a variety of sources, but the data reporting could be improved. But in the avalanche of data, many critical ratios are not used on the CEWO dashboard which is used to inform program staff. This makes it difficult to track trends in important metrics such as close rates (Johnson 2012).

A critical recommendation from this process evaluation emphasized the importance of tracking key metrics, such as the close rate, in a transparent and consistent manner. This approach would help to minimize program dropouts. The most important metrics, such as the number of test-ins, test-outs, close rates, loan disqualification rates, and average length of projects should be posted on the CEWO dashboard. This will provide immediate and ongoing feedback regarding program operations throughout the State and highlight which areas CEWO staff should address going forward (Johnson 2012).

### CONCLUSION

Drawing on a wealth of information from two process evaluation activities, this paper summarized successful practices and lessons learned from financing programs around the country from two separate process evaluations focusing on emerging strategies and "best practices." It also provided recommendations for program success based on the "real world" experiences from program administrators, contractors, and customers.

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