

A Matter of (Energy) Trust: An Energy Service Provider Looks for Leverage in a Deregulated Market—Program Design and Implementation Issues

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ABSTRACT

Under Oregon's restructuring legislation, SB1149, The Energy Trust of Oregon, Inc. (Energy Trust) was established by the Oregon Public Utility Commission in 2002 to take over implementation of energy conservation programs formerly sponsored by the state's two investor-owned utilities. The Energy Trust hires Program Management Contractors (PMCs) to design, market and implement conservation programs in each sector. The authors of this paper are the PMC team leaders selected to implement the residential retrofit Home Energy Savings program on behalf of the Energy Trust.

This paper explores the organizational and market-related issues that shaped the original RFP, the proposed program and the performance contract. In particular, marketing without brand awareness, having limited access to traditional channels, and starting a new program at the same time an organization was just reaching its full level of maturity presented significant challenges for the first year of the program. The program design is outlined for single family, manufactured housing, and multifamily homes. Successes and challenges along with mid-course program enhancements are also discussed – applicable to all residential program implementers, regardless of their regulation environment.

Introduction

Our purpose in presenting the resulting impacts of electricity deregulation in Oregon, and the conservation program design and implementation approaches which ensued, is to help others learn from our successes and mistakes. Deregulation has been the topic of many papers and much anguish in many states, but those who find insight on the steps Oregon took toward deregulation may well find a path toward effective delivery of customer-centered, contractor-driven energy efficiency services.

History of the Formation of the Energy Trust of Oregon

Legislation

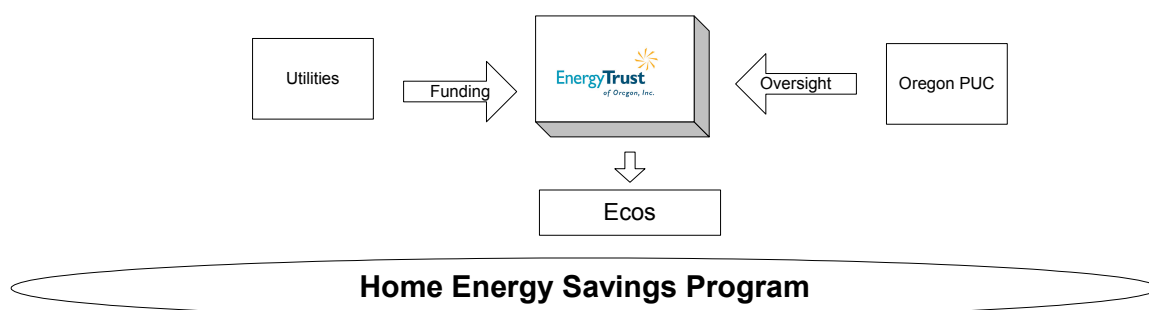
Deregulation in Oregon began under the condition that it might help stimulate economic development in a state with a declining resource-based economy. In the end, SB 1149 resulted in the following scenario that would ultimately create the Energy Trust of Oregon. Key elements of this deal included:

- The Oregon Public Utilities Commission (OPUC) maintained oversight of the legislation and the Energy Trust.
- A 3% public-purposes charge is applied to retail bills of all customers (with the exception of large energy users who have the option to buy power in the open market and self-direct their conservation spending).
- The public purpose funds are allocated to schools, low-income housing and weatherization programs, with the bulk going to renewables and energy efficiency for new and existing residential, commercial and industrial consumers. (Senate Bill 1149 1999).
- The state's public utilities were exempt from the legislation's mandates.
- One of the state's natural gas utilities has voluntarily chosen to provide public purpose funds to the Energy Trust, and is included in the scope of the residential retrofit program.

Formation

The OPUC, which was given custody of the funds under the legislation, made a key decision to direct the funds to a non-profit organization rather than to another state agency or to the investor-owned utilities. This non-profit became the Energy Trust of Oregon, Inc. (Energy Trust). In contrast, deregulation in Montana left administration of energy efficiency programs with Montana Power (later named Northwestern Energy) while in California the California Public Utilities Commission instituted a system in which the existing investor-owned utilities operated their own programs and oversaw programs developed and implemented by independent contractors, non-profits, and state and local government agencies. Figure 1 illustrates how the funding, oversight and program implementation flow.

Figure 1. Funding, Oversight, and Implementation Roles



The OPUC selected the Energy Trust's original board, which then became self-perpetuating. The grant agreement ultimately fashioned between the OPUC and the Energy Trust's board March 1, 2002 emphasized that the funds be utilized in a way that would create infrastructure that would serve the state's residents and businesses well into the future. The OPUC retains a broad and systematic oversight role over the process. The state's long-established Oregon Department of Energy (ODOE) works closely with OPUC in this role.

The Energy Trust then launched efforts to create a world-class demonstration of what deregulation could mean for the development of energy efficiency and renewable resources. When it came time to turn to the business of turning businesses toward efficiency, the Energy

Trust staff and its board had a decision to make: hire more permanent staff or engage contractors to provide management services for the segment programs.

Two primary considerations drove this decision: the ability to launch programs quickly and the long-term effect on meeting long-term goals. Convinced that time was of the essence, the Energy Trust ultimately decided to turn to contractors, and the role of the program management contractor (PMC) was born. The Energy Trust issues a Request for Proposals for a PMC to manage the program's activities, specifying in great detail the amount of savings the contractor is required to acquire, a general outline of the program's scope and components, and the price per megawatt the Energy Trust is willing to pay.

Policies

One of the truisms of modern business planning is that successful organizations engage in niche marketing, finding the precise combination in the market of price, service and product for which their offering is needed and for which there aren't viable alternatives. The Energy Trust developed policies that it hoped would simply but powerfully revolutionize the way energy conservation and renewable energy resources could be developed to the maximum benefit of the state's residents and businesses. Key factors that shape how the Energy Trust operates include:

- Long term goal of achieving 300 average megawatts in 10 years from conservation and another 450 average megawatts from renewables in the industrial, commercial and residential sectors combined (favoring measures with a long life).
- Accountability to the OPUC and state legislators in a time of extremely tight state budgets (including extensive reporting requirements to OPUC, ODOE, the utilities and others).
- Limited access to utility marketing channels and utility customer information.
- Limited overhead budget, and staffing constraints.
- Goal to leverage other resources.
- View that the business of delivering efficiency should strengthen the efficiency businesses of the state in a robust and permanent way, and should contribute to sustainable market transformation.

When it came time to award the contract for delivering savings in the residential retrofit sector (called the Home Energy Savings program), the Energy Trust decided to structure the contract using a pay-for-performance approach. At this point, pay-for-performance contracts were not new in Oregon. A number of energy services companies were active in the Oregon market, had permanent offices in the state and were conducting a number of projects using this delivery model. However, in the residential sector, performance contracts were largely unknown, with one exception. In that case, a large \$5 million contract for services to low-income Pacific Power electric customers had been competitively bid under a pay-for-performance model (Pacific Power 1993). It was not a notable success, perhaps understandably since it resulted from a contentious settlement of a lawsuit concerning a largely unrelated matter.

The original contract has grown in scope significantly. The first year goal of 2.1 average MW of installed savings was attained. The current scope of the contract is roughly \$12 million to deliver 7 average MW and 1.3 million therms. Historically, by Northwest standards, that is a

modest budget for a comprehensive residential retrofit program – especially one conducted on a pay-for-performance basis.

Program Design

The Home Energy Savings program (Program) was designed around several key market conditions. They include:

- The three segments of the residential sector – single family, manufactured homes, and multifamily
- Budget & performance target (a very tight incentive budget per kWh)
- Leverage (availability of other resources such as tax credits)
- Technical potential (past utility programs and effective building code enforcement that limited the remaining achievable savings)
- Geography and varying climate zones (large territory including western and central Oregon)
- Capability of contracting community
- Simplicity of incentive design (for the sake of participants, contractors, and cost savings)
- Marketing (challenges include a gap in time between the old and new programs, limited brand awareness of the Energy Trust, and limited access to utility advertising channels)

The following discussion highlights key program design elements, and lessons learned relating to market and organizational conditions.

Sectors and their Measures

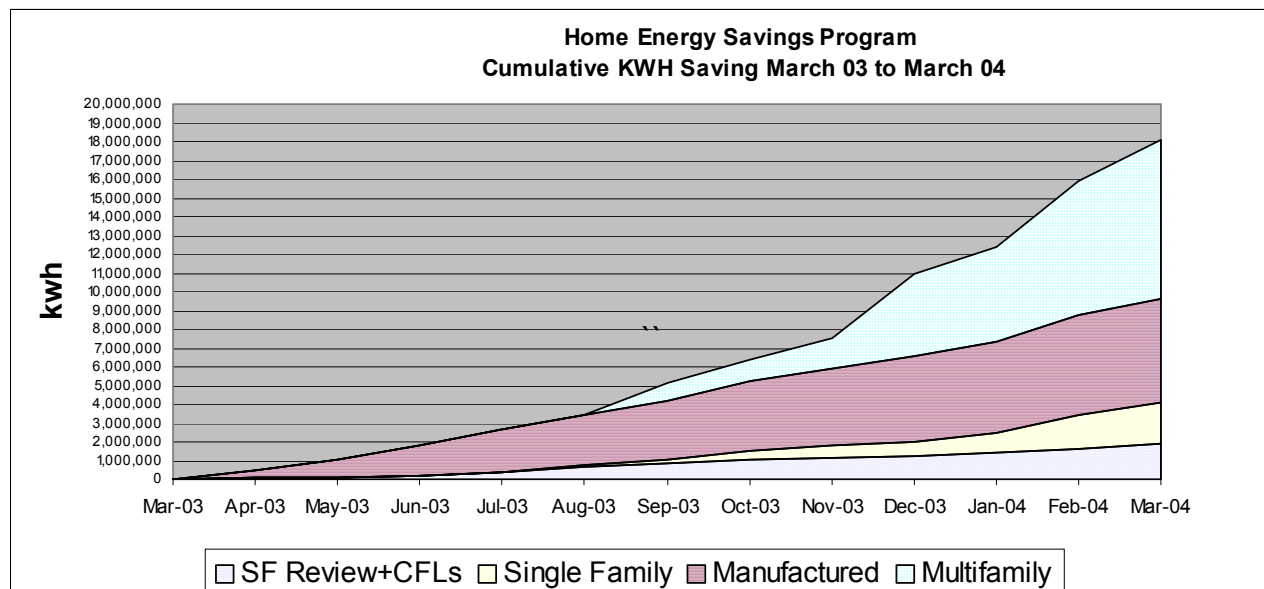
The three segments of the residential sector – single family, manufactured homes, and multifamily – were approached quite differently in the original proposal. A summary of the original program design is represented in Table 1 and includes accomplishments in the start-up year, illustrating that roughly 15,000 utility customers were served.

Table 1. Home Energy Savings Program Sector Measures

Sector	Measures	Participants Served in Start-up Year 2003
Manufactured Homes	Duct sealing with CFLs, floor insulation, heat pump, gas furnace, water heater	3,500
Single Family	Home Energy Review with 10 CFLs, attic insulation, floor insulation, wall insulation, windows, water heaters, duct insulation, duct sealing, heat pump maintenance, heat pump installation, gas furnaces, gas direct vent unit heaters, air sealing	6,400
Multifamily	Attic insulation, floor insulation, wall insulation, windows, doors, CFLs, showerheads, gas boiler tune up, gas boiler pipe insulation	5,000

Figure 2, which examines cumulative savings by sector, reveals that manufactured home duct sealing initially provided the best savings because the Energy Trust had implemented a pilot program the year before, and the contractors were poised and ready to continue their work. However, the cost per first-year kWh savings is higher than the average allowed by the contract goal, so the Program's second-year goals show less emphasis on manufactured homes, and more on multifamily. Single family is the market segment that has been hardest to reach for electrically heated homes, for reasons discussed in the next section.

Figure 2. Program Cumulative Savings



Budget

The current total budget for electric energy savings is \$8.9M to deliver 7 aMW over the initial contract term (23 months), with the possible extension of 1 year (note: by December 2004, 7 aMW must be installed in manufactured or single family homes, or committed in multifamily projects). This amounts to \$.11 per first year kWh saved, and must encompass all program design, implementation, and marketing related administrative costs incurred by the PMC (not counting Energy Trust costs), as well as incentives to participants and contractors. The performance element of the contract stipulates that failure to meet the kWh goal results in significant financial penalties.

As is usually the case, the start up year of a program – especially during the formation of a new organization – presented numerous challenges. Results in recent months reflect significant improvements in implementation efficiency, with systems well established and operating effectively. Compared to past utility programs, the Energy Trust budget is larger, and the Energy Trust kWh goal is significantly higher. In fact, an analysis is currently underway to do a careful comparison of past and current programs.

Leverage

Tax credits. Energy tax credits (credits to Oregon income tax) were assumed to be a critical financial leverage point in the single-family market segment (for heat pumps, furnaces, and duct sealing) and in multifamily (for all measures). ODOE administers these tax credits, which are well conceived but rarely used.¹ The Program's strategy was to increase awareness through various advertising and marketing mechanisms, and simplify the paperwork to claim the tax credits for contractors and participants by offering a streamlined process. This strategy is proving to be successful in the multifamily sector, where investors deduct as much as 35% of the project's cost from their income taxes. This is significant leverage when our incentive budget can only afford to cover approximately 15% of the project's cost.

However, in the single family sector the heat pump efficiency requirements and installation specifications have proved to be too steep for customers and contractors. Today the Program still supports the option that will enable the customer to access the tax credit of approximately \$500, but now also allows models with efficiencies lower than that required by ODOE but higher than standard models (e.g., HSPF 8.1 or greater). Furthermore, the Program was expecting to work with contractors to increase the amount of duct sealing that is done in single-family homes. Although many contractors have received additional training, they have chosen to be more active in manufactured homes due to the cost and complexity of treating single-family homes. All told, while the number of homes getting heat pumps and sealed ducts is increasing, the single family share of program is not as significant as originally anticipated. Consequently, the reliance on the tax credit for the Program's success is reduced.

Financing services. Contractors were offered the opportunity to work with various financial institutions in order to offer financing to their customers. While this option represented easy access for contractors and customers at good rates (primarily through an arrangement established by BPA on behalf of the region's utilities), it has not been heavily used in the single-family sector. In a time when interest rates are at historically low levels, unsecured loans have terms approaching those of conventional mortgages. The multifamily program regularly works with property owners and contractors to make financing available.² In addition, Northwest Natural regularly offers financing to customers as an incentive to buy an efficient gas furnace through their contractor referral network.

Cooperative marketing. While this was not emphasized in the original proposal, the Program has come to focus on cooperative marketing arrangements with contractors, distributors and manufacturers as a cost-effective way to promote the program. The Energy Trust and Program team reasoned that the marketing strategies used by the surviving contractors were at least moderately successful, and would be enhanced by the Program's limited marketing funds. Except for a few introductory general messages, the great majority of ad expenditures were made in cooperative fashion and in very tailored media, rather than in mass-media outlets. Further details on cooperative marketing will be discussed in the Marketing section.

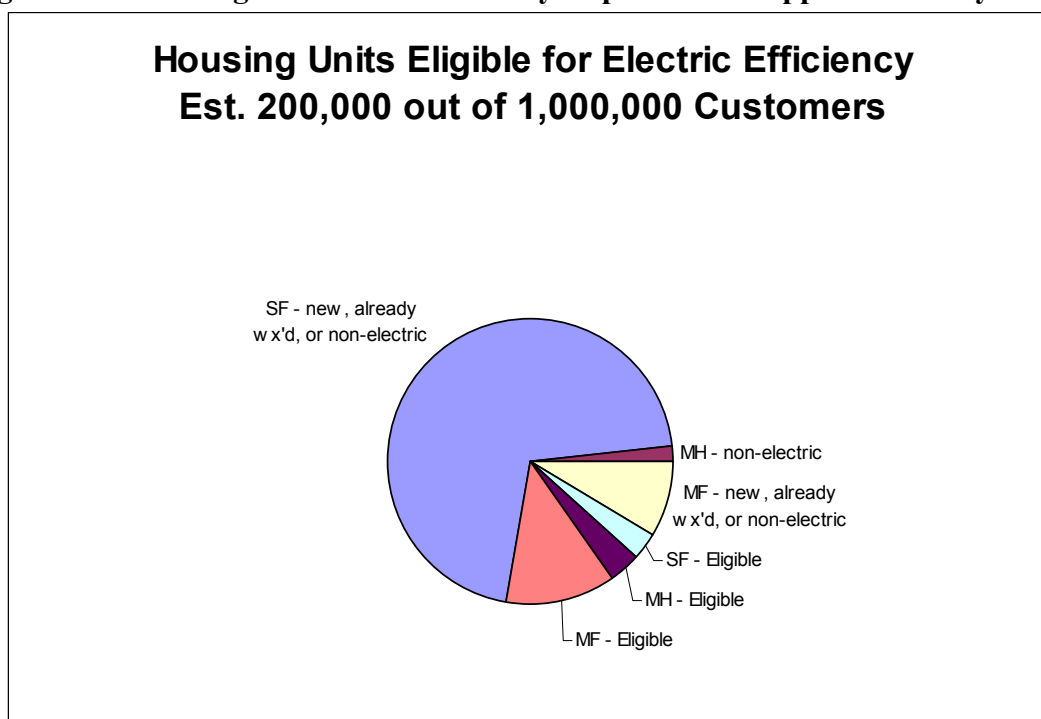
¹ <http://www.energy.state.or.us/bus/tax/taxcdt.htm> is the location of the Oregon Department of Energy's site concerning business energy tax credits.

² The Multifamily Assistance Program provides services around the state related to tax-credit processing and provision of certain services for oil-heat customers, in addition to support of the Home Energy Savings Program.

Technical Potential

The Program team had the benefit of deep and broad analysis of the impact of past utility conservation programs on each sector and the opportunities that remained. Figure 3 demonstrates the opportunities in each residential sector. Data revealed that while multifamily investors were affected by split incentives, the sector is still the most promising of the three. It has the most untreated units (approximately 180,000), which prompted the Energy Trust to augment the budget twice to increase the amount of focus on the multifamily segment. The Program's goals for each market segment for 2004 reflect approximately 10% of the remaining potential for each.

Figure 3. Remaining Residential Efficiency Improvement Opportunities by Sector³



Source: Ecotope, 2003

Diverse Geographic Range and Climate Zones in the Residential Market

The geographic range and climate zones of the Energy Trust's service territory are immense and diverse. The Program had to deliver substantial savings over a large geographic area with low population densities and the presence of a number of public utilities whose customers were ineligible for the services. The northernmost outposts, Astoria and Enterprise, are 425 miles apart by highway, and the separation from Portland on the north to Medford on the south is a distance of 275 or so miles. Within that span, there are about a million residential customers eligible for the Energy Trust's services, and under the Energy Trust's grant agreement, geographic equity is a very important matter. Compare this to a similar expanse, for example, between San Francisco and Los Angeles and between San Francisco and Reno, where

³ In this chart, "weatherized" is abbreviated as "wx'd".

Pacific Gas and Electric and Southern California Electric share approximately 6 million customers, and one quickly sees the magnitude of the challenge.

Capability of Contracting Community

Fortunately for the Energy Trust and the Program team, there were a number of market players who had survived the ups and downs of decades of intermittent and variable utility funding. Approximately 25 such hardy contractors around the state stepped forward when the Home Energy Savings program was launched in March of 2003.⁴ The Program has come to understand that the most critical leverage it has is the reputation, ideas, and support of the contractors.

There are now almost 100 residential Energy Trust Trade Allies, though only approximately 15 of them are very active. The Program works closely with the contractors to provide marketing support, technical and sales training, and referrals to gain their loyalty and commitment to the Program. Many Trade Allies value the access to professional marketing design services, and their insights regarding what marketing mechanisms are effective in producing leads is critical to the Program's success. Others have expressed interest in marketing and sales training to help up-sell efficiency. This is in line with the Energy Trust's mission to have a lasting impact on the marketplace.

Of note, recent feedback provided by the contractors led to the design of a single family spring promotion that provides additional incentives to participants who do more than one measure, and who act quickly. The promotion was underway at the time of this writing, so results are not currently available.

The initial Program proposal envisioned working with contractors to form alliances with one another in order to get more comprehensive work done on each home (for example, heating system, duct sealing and insulation). Only, a few contractors have taken steps in this direction, and more work is planned to support these alliances.

In the multifamily market, the Program team chose to subcontract with a key player, the City of Portland Office of Sustainable Development (OSD). The strategy in the multifamily sector favors comprehensive jobs with long-term savings (e.g., insulation and windows, not just showerhead direct install programs). Because OSD had been an important collaborator with the utilities in the past implementing their multifamily programs, the Program chose to allow the organization to continue its influence through existing relationships with owners and developers. OSD now manages projects throughout the state.

Simplicity of Incentive Design

A key goal of the Program is to lower transaction costs, and was addressed by considering some of the design features of the programs previously operated by the three investor-owned utilities, which implementing contractors found unnecessarily variable.

The Program brought together what had once been two separate electric utility programs, and also later combined them with a previously separate natural gas home efficiency program. Not only is the program serving most of the state's population with a single program, reducing

⁴ The contractors were primarily those approved to provide services under Portland General Electric's programs; Pacific Power had ceased to approve or provide referral services to contractors, according to Jim Gilroy, Residential Program Manager.

confusion and transaction costs, but it also addresses renewable-resource opportunities. Linked together with a common marketing framework, the Program can actually serve customers as they should always be served—in an integrated fashion that makes it easy for their efficiency needs to be met.

In order to push the Program toward a more contractor driven model, incentives were designed to be easy to quote (not requiring a kWh estimate to be calculated) and remember. For example in the single family sector the incentive for wall insulation is \$200, as is floor insulation, attic insulation, a heat pump, a gas furnace, etc. In the multifamily sector, incentives are expressed on a per square foot basis (e.g., \$2.00 per square foot for windows, \$.25 for floor insulation, etc). In manufactured housing, duct-sealing incentives are paid directly to the contractor with no costs charged to the homeowner.

Past utility programs for the single and multifamily sectors were largely focused on upfront audits, requiring customers to wait in order to get bids since the incentives were based on the energy saving calculations in the audit. It was determined early on that for budget and simplicity reasons, the Program would not be based on energy audits as they have been implemented in the past. The audit was replaced with the Home Energy Review, a 45-minute walk through of a home resulting in identification of energy saving opportunities and installation of 10 CFLs – at no cost to the homeowner. The premise was that the value of the energy savings from the CFLs justifies the implementation costs of the audit, and contractors would get qualified leads. Contractors and customers like this service, and they also like to have the option to proceed with work under the program without any sort of Home Energy Review or audit, saving them time and hassle if they are self-directed.

Marketing

Three key factors posed significant challenges in marketing the program:

Gap in time. There was a lag time of approximately three months where the old programs wound down and the new programs ramped up, causing customers and contractors to perceive that any program offering was over. It took time to change this perception.

Limited brand awareness. Although the Energy Trust could assume the utility funds and the programs they had traditionally run, it could not assume the name familiarity the investor-owned utilities had developed over decades of service. In the case of the Program's PMC, the firm's low profile was the result of a very intentional design. It focused on being a utility-support organization, a back-office specialist characterized by a focus on efficiency of consumer transactions with retailers, and branding on behalf of its utility and program clients. However, when the time came to bring about a great deal of residential conservation in a short time, this turned out to be a challenge.

Limited access to utility communication channels. It was expected that the utilities would continue to receive a steady stream of interested participants, but this did not happen, leaving a much bigger marketing challenge than anticipated. Initially, utilities did only minimal marketing of Energy Trust incentives, but this appears to be changing.

The Program developed marketing strategies specific to each market segment that have shown some success in increasing the number of program participants. Though some general brand awareness advertising was done in the first nine months, the Program has chosen to shift our focus to activities that lead to jobs more directly. Our primary approach to each market segment is outlined in Table 2.

Table 2. Residential Sector Program Marketing Strategies

Sector	Strategy
Manufactured Homes	Door-to-door marketing in mobile home parks by select group of contractors offering free duct testing and sealing and installation of CFLs. The compact nature of the developments is served well by an advertising approach that emphasizes yard signs and door hangers to create word-of-mouth demand.
Single Family	Cooperative advertising with contractors, representation at fairs and shows, special promotions (such as extra incentives for more than one measure, or contractor spiffs), and direct mail.
Multifamily	Direct mail to property owners and managers, articles and advertising in apartment periodicals, public records searching and on site scoping to identify eligible properties, and personal outreach to organizations, associations and key market actors, and close coordination with contractors.

Additionally, this spring the Program launched two efforts, which capitalize on the consumer interest in windows.

- In the single family program, participants can get additional incentives for windows if they install two other weatherization measures. Even though the cost-effectiveness of windows is questionable due to common practice being $U=.37$, we have chosen to fund part of this extra window payment from the marketing budget, anticipating that it could result in more non-window measures getting done than other marketing methods. A matching contribution comes from participating contractors (from them or their window vendor).
- In the multifamily program, emphasis on doing comprehensive jobs allows the Program to reap the benefits of windows while also capturing savings in the attic, walls and crawlspaces whenever feasible. The Program has negotiated agreements with window manufacturers who have agreed to dedicate marketing resources and influence through their distributor network in order to help identify projects throughout the Energy Trust territory. Manufacturers spanning the full range of price, efficiency levels and marketing acumen combined their expertise and resources with the Program's to accentuate its features to the benefit of contractors and their customers.

Conclusion

Deregulation in Oregon is on the path to effective delivery of customer centered, contractor driven cost-effective energy efficiency. The Energy Trust is beginning to enjoy the benefits of being a more fully developed organization, and is evaluating its progress closely to ensure that cost efficiencies of running a program for three utilities are realized. The Energy Trust and Program team have learned lessons similar to those noted by other states that have undertaken deregulation:

- The Energy Trust's organizational and political needs and strategies have become much clearer in its third year of operation, leading to important strides in effectiveness and measurable program results.
- Multidimensional teams provide valuable market expertise.
- Though charged with serving residential, commercial and industrial sectors (and not specifically charged with serving low income customers) the Energy Trust nevertheless recognizes the importance of the residential sector in serving not only its resource needs, but its political needs as well. For instance, the manufactured housing and multifamily housing portions of the Program serve the Energy Trust's goal of reaching traditionally underserved and "near-low income" markets.
- The Energy Trust currently is considering the optimal period of performance for the Program Management Contractors, finding (as other organizations experiencing significant change have found) that in order to reap the benefits of a stable, well-developed program, a longer period of performance may be appropriate.

The most significant lessons learned in implementing the Home Energy Savings program include:

- Key leverage came from contractors and manufacturers, not tax credits and financing.
- Installation of CFLs helps justify the cost of a cursory audit, contractors appreciate qualified leads, and contractors and participants value the fact that neither a Home Energy Review nor an audit is absolutely required in order to be eligible for incentives.
- Contractors value the simplicity of the program (consistent, fixed incentive amounts, easy application process) because it enables them to easily understand the program and efficiently quote incentives to potential customers without delay.
- Marketing without the benefit of utility brand and infrastructure is expensive, challenging and requires tailored approaches to each market segment.

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