

FINAL REPORT

**Restaurant Energy Efficiency Pilot
Program Process Evaluation**

**Prepared for:
Energy Trust of Oregon, Inc.**

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1. Introduction

The purpose of this process evaluation of the Restaurant Energy Efficiency Pilot Program, sponsored by the Energy Trust of Oregon (Energy Trust), is to document the program history, accomplishments, and lessons learned in a timeframe as close as possible to the end of the pilot (June 2003). In particular, the evaluation considered:

- several other utility restaurant EMS programs,
- market issues,
- reasons for participation or nonparticipation in the program,
- how the program worked, and
- possible program improvements.

Program Description

The Restaurant Energy Efficiency Pilot Program (the Program) targeted a niche market with some of the most energy intensive businesses in the commercial buildings sector: fast food restaurants. The pilot Program was approved by the Energy Trust Board in May 2002. Its goal was to save 0.21 average megawatts of electricity from the installation of 60 energy management systems (30,000 kWh/installation).

The Program offered financial incentives to eligible businesses, in the form of a rebate to the installation contractor, if they would install an energy management system (EMS) that was tailored to restaurants and that offered a full range of HVAC and lighting control and management features. Key elements of the Program as approved by the Energy Trust Board are described below:

- *Target Market.* The Energy Trust's market intelligence suggested that fast food restaurants would make a good target because of potential savings, relative stability, regional or national resources, and similarity of facilities. The rebate offer targeted restaurants with at least 250,000 kWh of annual load. The Energy Trust estimated that there were about 800 fast food restaurants in Oregon.
- *Geographic Coverage.* Restaurants could be located in Portland General Electric and Pacific Power service territories (with 500-600 restaurants).
- *Selection of contractors.* The Program could work with all qualified contractors.
- *Measures.* The EMS had to be similar or equal to the *Centurion Energy Mizer* manufactured by Energy Control Systems. This EMS has been tailored to meet the needs of a quick service restaurant and is a scaled down version of more sophisticated control systems. Since it does not need to be

customized for each application, it can be very cost effective for the target market.

- *Payment.* The Program paid installation contractors \$2,750 for a standard installation, and an additional \$200 where the economizer (outside air) controls had to be replaced. Contractors also helped their customers apply for the Oregon Business Energy Tax Credit. Together these covered approximately 50% of the cost of a system. The contractor had to assure a maximum price (typically around \$14,000) to the customer as a condition of the rebate, and the incentive was paid to the contractor, not the customer, because customer rebates are taxable.
- *Marketing.* Installation contractors directly marketed the systems. The Energy Trust also anticipated that the Oregon Restaurant Association (ORA) would use its website, newsletter, and meetings to publicize the Program.
- *Administration.* Program staff, and staff under contract to the Energy Trust, were expected to confirm that the specified EMS met the Program specification; review rebate applications; and issue checks to contractors.

Section 2 reviews the Program history. A copy of the Program brochure outlining the program requirements and benefits is included in Appendix A.

Evaluation Approach

The approach used to collect information for this evaluation included the following elements:

- Review of program documentation
- Interviews with two Program staff
- Review of three other utility restaurant EMS programs, including interviews with the program managers
- Sixteen interviews with contractors, cooperating organizations, and restaurant owners and corporate staff

Table 1 summarizes completed interviews for the project. The restaurant owners and corporate staff include participants in the Program, others that installed the EMS in their restaurants before the Energy Trust program, and restaurants that have not installed the EMS. These non-participants had either considered the EMS or were familiar with it through involvement with the ORA. Note that just three restaurant owners (representing 13 EMS installations) participated in the pilot Program.

Table 1. Summary of Completed Interviews

Type of Person Interviewed	Number
Program Staff	2
Utility Program Managers	3
Partners/Contractor	4
Program Participants*	3
Other EMS Adopters	4
Non-Participants	5
Total	21

*One of the participants provided a written response instead of being interviewed

We conducted semi-structured interviews generally lasting from 10 to 20 minutes, although a few were longer and shorter. The topics varied some, depending on the person being interviewed, but generally addressed the decision to install (or not) the EMS, the benefits or performance of the EMS, the Program and its features, familiarity or involvement with the Energy Trust, and suggestions for improving the Program. Fairly detailed notes or transcripts for each interview were completed and coded with keywords. This coded text was searched and analyzed to develop the findings that are presented in this evaluation.

The timeframe for this study was relatively short (ten weeks) so that results could be produced as close as possible to the end of the pilot Program. While this somewhat limited the scope of the evaluation and the number of people interviewed, the Program only operated for about nine months and had a small number of participants. Thus, we believe the program documentation and the interview results are robust and provide a sound basis for understanding the results from the pilot and for making decisions about the future of the Program.

We present the results of the evaluation in the following sections:

- *Program History* – chronicles Program delivery and outreach
- *Review of Other Utility Programs* – describes and compares restaurant EMS programs at several other utilities with the Program
- *Key Evaluation Findings* – responds to the research questions for this evaluation, including the performance and benefits of the EMS, reasons for participation or nonparticipation, and program delivery
- *Summary and Recommendations* – summarizes the lessons learned from the pilot Program and makes recommendations for future programs

2. Program History

As part of a strategy to produce fairly rapid energy savings at its inception in the Fall of 2001, the Energy Trust introduced the Restaurant Energy Efficiency Program (the Program) as one of four pilot programs. At this time the Energy Trust had few staff and hired an Oregon Office of Energy employee as a consultant to develop program ideas. This consultant identified the restaurant EMS technology as an intriguing opportunity. A number of McDonald's, mostly in Washington, reported favorable results with the systems, and Puget Sound Energy was offering incentives to restaurants in its service territory to install the technology. McDonald's had installed systems in over 100 restaurants and had reduced electricity consumption by about 10 percent (about \$3,000 per year).

The Energy Trust was also looking for ways to work with businesses. A Portland General Electric employee was on the board for the ORA, and this facilitated a meeting between the Energy Trust and the ORA to explore opportunities. Further meetings, to discuss restaurant operations and opportunities for energy savings, were held with a small group of ORA members representing a set of restaurant chains in Oregon. These meetings focused on the restaurant EMS, but also explored other energy savings options, including upgrading or retiring rooftop HVAC units, developing information or a database on energy efficiency opportunities and resources, and methods for improving the efficiency of reach-in coolers and icemakers. In the end, the Energy Trust decided to pursue the restaurant EMS for its pilot program.

Table 2 shows a chronology of important Program activities. In early 2002 a program proposal was developed for the Energy Trust Board, and the Board approved it in May 2002. The Energy Trust then solicited vendors to install qualified EMS systems, but only one vendor responded: Energy Savings Management Systems (ESMS), the regional distributor for the Centurion Energy Mizer¹. Despite further solicitation efforts, no other vendors responded. Delays in obtaining an Oregon business and contractors license for ESMS and getting the contract with the Energy Trust in place meant the Program did not roll out until October 2002. At that time, the first Program EMS was installed in a McDonald's in Portland.

¹ When we speak of an EMS in this report, we are referring to the Centurion Energy Mizer EMS sold by ESMS. This was the only EMS installed through the Energy Trust and other utility programs considered in this report.

Table 2. Program Chronology

Date	Activity
Early 2002	Concept development
May 2002	Energy Trust Board approval
June 2002	Selection of contractor
October 2002	Program start; initial marketing; first installation
November 2002	BPA begins to offer the program through some PUDs in Oregon
March 2003	ORA magazine article on first EMS installation; booth at ORA convention
May 2003	Energy Trust mailing to Oregon attendees at ORA convention
June 2003	Pilot Program ends
July 2003	Restaurant EMS added to Energy Trust Building Efficiency Program

To help deliver and market the Program, the Energy Trust developed partnerships with the ORA, the Bonneville Power Administration, and the Oregon Office of Energy. The ORA used its magazine (sent to members ten times a year) to announce the Program prior to its start in October 2002. It also ran a feature story on the Program's first EMS installation in the March 2003 issue. The Program had a booth at the annual ORA convention in March 2003, and in May 2003 the Energy Trust mailed information about the Program to all the Oregon attendees at the convention. The Energy Trust also developed an energy resource manual, and a brochure of "first things" a restaurant can do to manage energy use, for the ORA to use when responding to member questions about energy use.

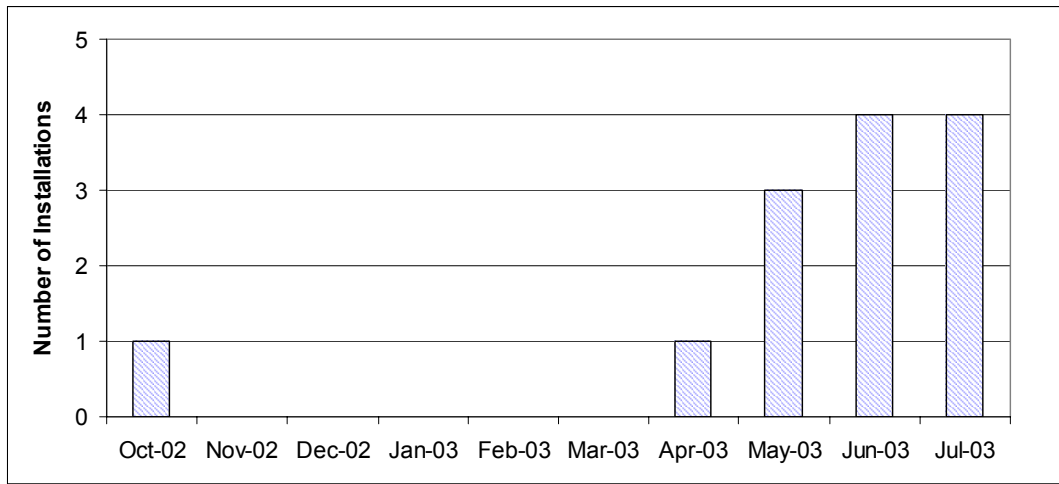
The Bonneville Power Administration contacted the Energy Trust about offering a seamless Restaurant Energy Efficiency Program across Oregon. BPA adopted the Energy Trust's Program and offered it through several PUDs in Oregon (See Section 3 for more detail).

An Oregon Office of Energy employee working as a consultant for the Energy Trust got the Program up and running and provided initial program management. In addition, the Oregon Office of Energy offers Energy Tax Credits to businesses in Oregon that implement eligible energy efficiency measures. Since the restaurant EMS is an eligible technology, it was easy to add this as an incentive for participating in the Program.

ESMS, however, was the primary outreach, marketing, and sales arm for the Program. Two former McDonald's employees, who were instrumental in developing and tailoring the EMS for quick service restaurants, operate ESMS. This background enabled them to network and meet with restaurant owners and corporate staff for different restaurant chains.

Although the first Program EMS was installed in October 2002, the second system was not installed until April 2003 (see Figure 1). In all, nine systems were installed before the pilot Program ended in June 2003, with four more systems being installed in July 2003 (though not part of the pilot Program, they were arranged for during the pilot). Three McDonald's restaurant owners installed the 13 systems, with one owner installing one system, one installing two systems, and the third installing ten systems.

Figure 1 Restaurant EMS Installations*



*Source Data: Energy Trust of Oregon

3. Review of Other Utility Programs

Other utilities have endorsed the Centurion Energy Miser EMS or have offered incentives to install the EMS (or comparable systems) through their commercial building efficiency programs, including Puget Sound Energy, Sacramento Municipal Utility District, Bonneville Power Administration, Avista, Snohomish PUD, PacifiCorp, Seattle City Light, and Tacoma Power. The California Energy Commission also provided incentives during the California energy crisis (2001) and several major California utilities are expected to offer incentives in the near future.

For comparison purposes, and to provide insights about the results of the Energy Trust pilot Program, the Energy Trust suggested we review the following three utility restaurant EMS programs:

- Puget Sound Energy Program – runs the largest and earliest program.
- Sacramento Municipal Utility District – ran a brief program at the end of 2002.
- Bonneville Power Administration – operated a program based on the Energy Trust Program through several PUDs in Oregon.

For each of these programs, we review the program characteristics, program progress and EMS installations, and future plans and lessons learned. A summary of the programs is shown in Table 3.

Table 3. Summary of Select Restaurant EMS Programs

	Energy Trust	PSE	SMUD	BPA
Dates	10/2002-6/2003	1/2001-continuing	9/2001-12/2001	11/2002-9/2003
Participants	9	60	8	1
Eligibility	<ul style="list-style-type: none"> •>250,000 kWh/yr •Approved EMS 	<ul style="list-style-type: none"> •<20,000 sqft •Approved EMS •Pre-approval 	<ul style="list-style-type: none"> •Approved EMS •Pre-approval 	<ul style="list-style-type: none"> •>150,000 kWh/yr •Approved EMS
Incentives	<ul style="list-style-type: none"> •\$2,750 incentive •\$200 for new economizer •\$4,900 Business Energy Tax Credit 	<ul style="list-style-type: none"> •Up to 50% of EMS cost 	<ul style="list-style-type: none"> •\$4,000 - \$5,000 incentive (formula based on savings) 	<ul style="list-style-type: none"> •\$1,900 - \$3,100 incentive depending on energy use •\$4,900 Business Energy Tax Credit

Puget Sound Energy (PSE)

Program Background and Description

ESMS approached PSE in 2000 about their restaurant EMS technology. With some support from PSE, the system was installed in several McDonald's and the performance was monitored and verified. Based on this information, PSE developed their restaurant EMS program.

Through its work with ESMS, PSE recognized that many small commercial customers (<20,000 square feet) have no means of operating facility lighting, heating, air conditioning, refrigeration, and other energy using systems except to rely upon a few employees to manually switch equipment on/off before, during, and after a typical work day. This was especially true in fast-food restaurants whose Energy Use Index (EUI) is one of the highest in PSE's service territory. A proper EMS installation in such facilities could reduce existing energy usage in these businesses by 15% or more.

PSE's current incentive consists of a grant to the customer, delivered after installation and verification of the new EMS system. Candidates for the incentive must be pre-approved for the EMS rebate program by a PSE Energy Management Engineer, who determines the facility's energy saving potential and suitability for the program before any work begins. PSE relied exclusively on the ESMS to market the program and they focused on McDonald's.

The incentive amount can be up to 50% of the installed cost of a qualified/approved system. PSE believed the \$16,000 system and installation costs would discourage owner participation, so they looked at the documented energy savings and determined that it qualified for a 50% rebate, or about \$7,000-\$8,000.

Program Progress

PSE has provided incentives for 60 EMS installations. Most of these installations were completed in McDonald's and a half dozen Burger Kings in 2001 and early 2002. The program is still active, but there have only been about ten installations since mid-2002.

An analysis prepared by ESMS on the initial 41 installations, showed an average of 9% savings per store for electricity and 13% savings for gas. This translates to about a \$3,000 per year reduction in electrical charges per site per year. Additional savings in natural gas charges (approximately \$650 per year) accrued for those sites with PSE natural gas services. PSE's final estimates, based on 60 installations, showed an average demand reduction of about 642 kilowatts per month (approximately 10 kilowatts each), 4,054,501 kilowatt-hours per year and 30,429 therms per year for all units combined.

Lessons Learned and Future Plans

PSE believes the important aspects of the EMS retrofits are good/reliable savings potential, rapid installation with a minimum of disruption to the business (2 days), and relatively inexpensive installation costs (\$16k). The contractor, ESMS, has extensive knowledge and dedication.

PSE may have saturated the available McDonald's targets in their service territory. To expand the program, more vendors would need to be involved and other restaurants targeted. Because ESMS is the only distributor of the EMS in the region, and they may be focusing their marketing elsewhere, no new installations are occurring in PSE's service territory. The incentive from PSE for the restaurant EMS will continue to be available.

Sacramento Municipal Utility District (SMUD)

Program Background and Description

In May, 2001 McDonald's Corporation, in cooperation with ESMS, contacted SMUD's corporate office about the restaurant EMS technology. SMUD management asked staff to develop an incentive program based on the restaurant controls. The program was developed over the course of several months and gained management approval in September 2001.

SMUD's program offered a rebate of \$4-5,000 for qualified EMS installations. The amount of the rebate was based on SMUD incentive formulas that rely on potential energy savings. The program was contractor-driven, with SMUD relying exclusively on ESMS to advertise and market the program. In this case ESMS worked closely with McDonald's Corporation.

Program Progress

The program provided rebates for eight EMS installations, all at McDonald's, and ran for a very short time. The last rebate check was written one month after the start of the program in October, 2001 when the project used all of its budgeted funds. All work on the program was completed by December 12th, 2001. There have been no further programs offering rebates for EMS installations.

The first installation was a success. ESMS provided evidence of energy savings, and information about the incentive traveled by word of mouth among restaurant owners. The program gained a lot of momentum after the first project and interest grew rapidly until the funding ended. SMUD estimates 10 more restaurants may have been interested in installing the system after the money ran out.

Lessons Learned and Future Plans

SMUD conducted an informal follow-up survey of restaurant owners who completed installations. They were overwhelmingly happy with the EMS and the lower bills. The owners loved the automation, found they did not worry about the night crew turning off lights, thought the restaurant temperatures were comfortable.

Overall, SMUD staff believes this was a good program even though it operated for a short time due to budget constraints. They indicated the short time-frame of the program limited the ability to collect energy performance data on the systems after they were installed – data which may have helped the program to continue. They also said that incentives mattered a great deal: when the incentive went away, the interest went away. In addition, they emphasized that it is important to educate customers that it “takes money to save money.” While there are no current plans to renew the program, staff believe there are opportunities in the area of restaurant controls.

Bonneville Power Administration (BPA)

Program Background and Description

In 2001 BPA began looking for new initiatives involving chains and franchises. They learned about the Energy Trust’s restaurant EMS program and wanted to duplicate it; this also provided an opportunity to cooperate with the Energy Trust. BPA initially hoped to create a seamless program across Oregon, and possibly in other states as well, that would serve restaurants as well as other types of commercial chains and franchises. The BPA program was established in November 2002.

The program was initially offered in four PUD territories: Oregon Trail Electric Cooperative, The City of Milton-Freewater, Central Lincoln Public Utility District and Salem Electric. All of the utilities that asked to participate in the pilot project were load-following customers of BPA. BPA has two flagship programs for the utilities they serve: the Conservation Augmentation program (ConAug) and the Conservation and Renewables Discount program (C&RD). The restaurant EMS program was a pilot that, if successful, could fit into ConAug.

Like the Energy Trust’s program, BPA’s original program offered an incentive of \$2,750 (plus \$200 when the economizer controls had to be replaced) per restaurant, where the minimum energy usage was at least 250,000 kWh per year per establishment. Participants were also eligible for the Oregon Business Energy Tax Credit. In addition, BPA offered a \$200 bonus for signing up before November, 2002 (limited to first 8 participants). The program was budgeted to provide incentives for 16 EMS installations. Unlike the Energy Trust’s program, BPA

asked that performance data (before and after) be collected by ESMS and sent to BPA along with the final invoice.

The BPA program cooperated with the Energy Trust on some marketing activities through the ORA. In addition, the participating utilities helped BPA to identify which restaurants would qualify. They also helped to identify local, non-franchise restaurants, which turned out to be a very difficult group to locate.

Program Progress

Only one installation occurred – at a McDonald’s in Milton-Freewater. As a result of the low level of participation, BPA began to investigate barriers to participating in their program. They found the poor economy and a temporary moratorium on facility improvements by corporate McDonald’s contributed to the low participation. They also found that the energy usage threshold of 250,000 kWh per year severely limited the number of eligible restaurants. Finally, three of the participating utilities are relatively rural, again limiting the number of eligible restaurants.

BPA modified their program in May 2003 to increase the number of restaurants that could be eligible for the program. ESMS had identified three times as many small restaurants in the program’s territory than were in more urban areas, but these restaurants tended not to be franchises or chains. BPA decided to lower the minimum eligible energy usage of a restaurant to 150,000 kWh per year and to establish a graduated incentive level based on restaurant energy usage. This raised the maximum incentive to \$3,100 (from \$2,950), as shown in the new incentive schedule below:

250,000 kWh per year and more --	\$3,100
225,000 - 250,000 kWh per year --	\$2,800
200,000 - 225,000 kWh per year --	\$2,500
175,000 - 200,000 kWh per year --	\$2,200
150,000 - 175,000 kWh per year --	\$1,900

Two more utilities, the City of Ashland and Emerald Peoples Utility District (near Eugene), were added to the list of participating utilities. These utilities were interested in promoting the program to their customer’s restaurants and appreciated the program change that increased the number of eligible restaurants. Through July 2003, however, these changes had not led to any additional EMS installations.

Lessons Learned and Future Plans

BPA specifically chose to work with utilities known to be proactive on conservation programs, and they felt the marketing was very good. Despite having a good contractor, a good program, and good utility support, however, the program did not succeed.

BPA believes a fundamental barrier to the success of this program is that energy is perhaps 10 percent of the operational cost of these restaurants, making the potential savings only one percent of overall costs – not enough to motivate most owners. BPA also felt new marketing tools were needed, including new methods to reach owners, and that an increased emphasis should be placed on maintenance and environmental benefits.

Even though energy savings were less than anticipated, BPA believes it benefited from being able to work with the Energy Trust and with some of its utility customers. Taking advantage of the Energy Trust's development work allowed BPA to get a program up and running more quickly. It was also an opportunity to learn about a new technology that may be applicable to other kinds of businesses.

The BPA program was scheduled to end on September 30, 2003, but has been extended 120 days due to interest from a few restaurant owners. BPA will continue to review their program to determine what should happen next. They could terminate the program, extend it as is, or extend it in modified form.

4. Key Evaluation Findings

Through the Restaurant Energy Efficiency Pilot Program, the Energy Trust hoped to install 60 systems and to quickly generate savings, based on the experiences in the Puget Sound area. The Program fell short of these goals, with only three restaurant owners installing 13 EMS systems (nine during the course of the pilot). In this section we consider why this was the case. We examine the reasons why restaurant owners chose to install the EMS or not, restaurant owner satisfaction with the EMS and the Program, and program delivery. In the next section we discuss lessons learned and recommendations for program improvements.

The Decision to Install an EMS

To examine the decision to install a qualifying EMS, we spoke with the Program participants, restaurant owners who had installed the EMS prior to the Energy Trust program (all McDonald's restaurant owners and most in Washington), members of the restaurant industry, and restaurant owners who were aware of the EMS, but had not installed it. In this section we consider the motivations to install an EMS, the importance of utility incentives in the decision, reasons for not installing an EMS, and why most systems are being installed at McDonald's.

What motivated restaurant owners to install an EMS?

A set of factors were important in the decisions of restaurant owners to install an EMS, including:

- Significant increases in electricity and natural gas energy costs in the region in 2001 and 2002
- A desire to reduce and control energy costs
- Peers in the industry with successful EMS installations
- Program incentives
- Other management benefits of the EMS

Beginning in late 2000, natural gas prices in the Northwest began to rise, followed by electricity price increases in 2001 and 2002. Prices continued to rise throughout this period with natural gas prices in many cases more than doubling and electricity prices increasing by 30 to 50 percent for some utilities. Although electricity increases at PSE were lower than for most utilities, most participants in the PSE program installed their systems during this time. Rising prices made many restaurant owners more aware of energy costs and increased their desire to reduce and control these costs to maintain profits, as noted by this member of the restaurant industry.

“This industry is a low margin industry. Anytime you can cut your overhead by a significant amount, [it is valuable]. Cost of power is a significant operating cost. If you cut that and maintain everything else you

are increasing your profit. At that time energy prices spiked and had gone through the roof. That made it a little more urgent in their minds. It went from a not significant to a significant cost. So they were interested in saving a significant portion of their power cost.” Restaurant Industry Member

The experience of their peers in the restaurant industry also strongly influenced many owners to install an EMS. For example, PSE did no advertising; owners who installed the system either heard about it from other restaurant owners or ESMS contacted them directly. The owners of ESMS had worked for a McDonald’s owner in Bremerton, who was the first to install the system. A restaurant owner who has installed the EMS in several restaurants comments on how this influenced his decision.

“Well I knew who they worked for over there. The operator in Bremerton's name is Brian Beaulaurier. I have known him for a lot of years and have a lot of confidence in what he has done. And he was happy and it was working for him. And they had a good story. So I went for it.” Restaurant Owner

Financial incentives played an important role in encouraging restaurant owners to install an EMS, and tipped the balance in favor of installing an EMS. As one owner explained, they reduce the upfront investment required, and minimize some of the risk.

“Right off the bat with the financial incentive. ESMS was able to tap some of that right upfront. So it reduced the size of the check I had to write to that company. And then the tax credit at the end of the year was obviously very important too... In these tough economic times, it took some of the risk out of it.” Restaurant Owner

In addition to saving on energy bills and financial incentives, restaurant owners mentioned several benefits of the EMS that both improved management and had financial rewards. Although maintenance savings are difficult to quantify, one restaurant owner believes he saves several thousand dollars a year because the EMS identifies problems sooner, which allows him to address problems before they get worse. Other benefits include improved safety and ease of management, such as being able to program when lights turn on and off, and having alarms to make sure refrigeration units and other systems are operating. One owner put it this way.

“It is also a safety factor for my refrigerators and freezers. Twenty-four hours a day it will alarm if something is wrong. Also if one of my HVAC units is not functioning. It is also a safety factor as far as my employees because I know my lights will always be turned on and they will be turned

off when the sun comes up. So the parking lights are not left on if someone forgets to turn them off and I save money there too.” Restaurant Owner

Fundamentally, the business case for the restaurant owner has to be compelling. This decision is largely a balancing act between the investment and the savings that can be achieved, as described by a restaurant owner.

“It is really just a matter of looking at it and seeing if you can do enough savings for the investment that you have to make. So you are just constantly balancing that. The spend you have to make versus the savings you can get. Because if it is a break even it does not make sense. Or if it is a big gamble because you have projected savings, but you are spending real dollars.” Restaurant Owner

What are some of the reasons restaurant owners gave for not participating in the Program and installing an EMS?

The primary reason more restaurant owners did not participate in the Program was that the business case for installing the EMS, as described above, was not compelling enough. Larger financial incentives may have compelled more restaurant owners to participate (see the Program Delivery subsection below for more discussion on this).

Timing and time issues, in various forms, also seemed to be a key factor in the decision not to participate, including:

- An economic downturn that limited available resources
- Lack of time and competing priorities
- Need to budget or plan for the capital investment
- Uncertainty about corporate plans
- Lack of understanding and expertise about the EMS

A number of people in the restaurant industry indicated that money was tight because of the weak Northwest economy, as illustrated by the following comment.

“As an industry, sales have been pretty flat over the last four or five years. Both corporately and for our licensees. So they are going to hang on to their dollars more than when times are good.” Restaurant Corporate Management

For some decision-makers, the EMS is an unfamiliar technology and they felt the need to conduct “due diligence” on both the technology and the Program. Those who did not install the EMS often indicated they lacked the time to really consider it. One restaurant owner explained this situation.

“I don’t have time. It is sad for me to say I don’t have time to go out and try to find ways to save money. But right now I don’t have time to look at something that is a new product and find out where the incentives are and how I have to get them and how much paperwork is involved for myself and my bookkeeper to fill out and track.” Restaurant Owner

While a few restaurant owners may be financially able to decide to participate fairly quickly, others may need to spend more time planning for the investment, balancing the cost of the EMS with other capital needs, or incorporating the capital cost into future capital budgets. Even before an EMS is put into the corporate budget, the decision has to be made to move forward. Making this decision might involve collecting information or even doing some testing in the restaurants to demonstrate that this is a good investment for their restaurant chain. A corporate manager explained the lead-time needed in his large restaurant chain.

“These things take quite a while to put in place. For instance in our company we develop a budget in September or October for the entire following year. So if something comes up in February or March it is too late. We are not going to look at it until the following year. It is nice to say we got [this program], let’s jump on it. That gives them a lot of quick results. But that is not going to do me any good. Because I got to know a year ahead of time so I can build it into programs a year and a half away.”
Restaurant Corporate Management

An individual restaurant owner may be less limited by corporate budgets, but they usually do not have money readily available, so planning and timing can be important for them as well. As this restaurant owner describes, he had already planned carefully for his EMS investment.

“When I did my deal I had already budgeted for this as I was putting together my investment and purchase plan. It wasn't a new layer. When you get these kinds of investments that you got to do, sometimes the timing is important. Whether you've got money in your pocket. Even if it looks like something that saves you money, you still have to put the money out first. That is cash out today and benefit over time.” Restaurant Owner

Corporate plans can also influence the decisions of individual restaurant owners and corporate decision-makers. Corporate McDonald’s underwent some reorganizing and downsizing during this period. Apparently there was some uncertainty about its restaurant rebuilding program and this delayed capital improvements. McDonald’s restaurant owners did not mention this, so it likely affected only corporately owned restaurants. Also, in 2003 McDonald’s sold its corporate stores in Portland to a franchisee. ESMS identified the corporate

McDonald's stores in Oregon as an initial target for installation of the EMS and spent some time trying to make this sale.

In addition to timing and time issues, a lack of understanding and expertise about the EMS, how it works, and how it delivers benefits, contributed to the lack of participation in the program. Restaurant owners may not have much (or any) expertise and they really do not want to acquire it. They tend to stick to doing what they understand. Some restaurant owners may view these systems as complex, which discourages them from investing in one. These concerns are reflected in the following comments.

"While this might look really good, they [restaurant owners] do not have the wherewithal or technical expertise to appreciate it. All they're worried about is keeping the doors open another day. Not putting in some high tech energy management system that is going to cost them seven grand that they don't have anyway." Member of the Restaurant Industry

"They are very, very focused on customers and cost control of things they understand. When you start to get to this level of complexity of cost control - it is still cost control, but engineering works on it and it is sort of complicated. It is kind of like the equivalent of power windows. If you take the average person, he goes 'yah, I love power windows.' But in the back of their head there is that sort of 1950's thing that says 'gee what happens if it breaks I can't roll it back up.' I think there's that kind of perception that energy management is one more uncontrollable thing that is going to happen in my restaurant that I don't like." Restaurant Corporate Management

All of these findings suggest that a restaurant EMS program may not be able to move as quickly as sponsors hope, because many decision-makers in the market need time to investigate and plan on the investment. Lack of expertise and comfort with the technology may combine with lack of time to create another barrier.

Why only McDonald's?

The vast majority of restaurant EMS systems have been installed in McDonald's. This raises the question of "Why?" Based on our interviews, the following factors contributed to this result.

- The owners of ESMS are former employees of McDonald's. They are familiar with the McDonald's system and how McDonald's work and they are connected to the network of McDonald's restaurant owners. This is where they targeted their initial marketing efforts.

- The EMS has been successful in a large number of McDonald's, which provides valuable information for McDonald's owners. There are few examples in other chains.
- McDonald's has more resources than other restaurant chains. They have a much larger corporate structure to support restaurant owners, and they have the resources to test and try out these technologies, which they have done with the restaurant EMS.
- McDonald's tends to have a little more corporate influence and control over franchise owners than some chains. This can encourage the widespread adoption of a technology like the EMS.
- McDonald's restaurants tend to be in a stronger financial position than many other restaurant chains.

Since McDonald's is viewed as a market leader, some respondents believe that as McDonald's restaurants adopt the EMS technology and demonstrate its success, others will follow. Thus the potential exists for the EMS to spread to other restaurant chains, but so far few have been installed outside of McDonald's.

Restaurant Owner Satisfaction

In this section we consider the performance of the systems and owner satisfaction with the EMS and the Program.

How have the EMS systems performed?

The owner of the first EMS installed through the Program indicated he is experiencing up to 10 percent electricity savings in the summer months. The other two participating owners just recently installed their systems, but in the first few summer months of operation, one reported savings ranged from 7 to 14 percent at his restaurants.

PSE has consumption data for 41 of the restaurants that participated in their program. The data compare consumption after installation of the EMS to the prior year period. There are no adjustments in energy use for restaurant production or weather. On average, electricity use decreased 9 percent or 42,032 kWh/year, with results ranging from a 1 percent increase in use to a 19 percent decrease in use. Only two restaurants had an increase; 34 decreased their use by more than 5 percent; and 15 decreased their use by more than a 10 percent. Electric demand reduction ranged from an increase of 1 percent to a decrease of 21 percent. Only four had less than a 5 percent decrease while 16 had more than a 10 percent decrease, with an average decrease of 9.5 percent.

The average reduction for natural gas was 12.8 percent or 1,178 therms/year. The changes ranged from an increase of 10 percent to a decrease of 41 percent. Of the

30 restaurants with natural gas, four showed an increase in consumption while 18 had more than a 10 percent reduction.

How satisfied are owners with the EMS?

Those who installed an EMS in their restaurants reported high satisfaction with the systems. Two Energy Trust program participants are extremely satisfied, as one of them enthusiastically described.

“It surpassed my expectations so much that I have already added a second restaurant.” Restaurant Owner

When asked if the system is easy to operate, one restaurant owner strongly agreed.

“Yah. They are very intuitive. They are constantly monitoring. They send out alarms if there are issues. I have some supervisory folks who monitor that. We can also go in and administer the systems via modem. They have appeared to be trouble free so far. They are brand new, they are supposed to work. But the guys that have had them a long period of time still continue to be happy with them. It is just an all around great system as far as I am concerned. Of course I do not know any better. Maybe there is something better out there. But this is working pretty seamlessly for me.”
Restaurant Owner

Restaurant owners that we interviewed with the systems universally shared these sentiments. Although this was a small sample, the assessments were overwhelmingly positive. A corporate manager with McDonald’s confirmed that the system seems to be working well for owners of McDonald’s restaurants.

“I am not aware of any unit that has actually failed mechanically. I have received no calls or complaints. When I do bring the subject up - ‘ya it is working great, no problems.’ That is my barometer if you will. If something is failing I hear about it. If something is working fine you generally hear nothing.” Restaurant Corporate Management

In addition to utility savings and management benefits, restaurant owners also reported that the installation of the systems went smoothly and that ESMS services are very good.

“They really know what they are doing. I am fully satisfied. I might go three months without talking to them, but I will call them up and need to adjust something and it is done. For a business person to have a provider that is like that is really unusual. I can't say enough about how easy it is.”
Restaurant Owner

ESMS provides follow up help desk service to customers for the first three months of system operation (this was recently changed from six months). During this period customers can call ESMS with questions about their system and to make adjustments in system settings. After this initial period, ESMS offers these services for a monthly fee. Basic help desk service and limited monitoring costs \$25/month. Most of the restaurant owners we spoke to prefer to rely on ESMS to respond to their questions and make adjustments to their systems rather than operating the systems themselves.

The owners of ESMS, as former McDonald's employees, have in-house expertise about restaurant operations which allows them to more easily respond to the needs of restaurant owners. Perhaps the strongest endorsement of ESMS service is that many restaurant owners have installed the EMS in all the restaurants they own.

What did owners think of the Energy Trust Program?

We contacted all three participating owners in the Program. These owners heard about the Program through ESMS and said the Program incentives were important in their decision to install the EMS. ESMS incorporated the financial benefits from participating in the Program into the analysis for each owner, and these benefits made the business case for installing the EMS more compelling and less risky.

The owners also thought the program was easy to participate in. The first participant noted that it was a *"little cumbersome passing things back and forth"* for the first installation, but the second one went very smoothly. ESMS generally handled all the paperwork. As one participant noted, *"All I had to do was read the fine print and sign."* The participants were aware of the Energy Trust and the Program incentives, but the Energy Trust involvement was largely invisible. The restaurant owners dealt with ESMS.

However, there was some uncertainty about the Program from some of the restaurant owners we spoke to who did not participate in the program. They were not very familiar with the incentives being offered and they had concerns about the hassle involved in participating or the hoops that needed to be jumped through. One even mentioned that another McDonald's owner told him the incentives were no longer available.

Program Delivery

The Energy Trust outsourced development and initial program management of the Restaurant Energy Efficiency Program to a consultant, and then contracted with ESMS to handle most of the program marketing and delivery. The Energy Trust also developed a relationship with ORA to help market the program and hoped this partnership would be valuable to generating interest. The key elements of the Program were the financial incentive to the contractor for each system installed and

the Oregon Business Energy Tax Credit for each participating restaurant. In this subsection we consider how well each of these aspects of the program worked.

How well did outsourcing program development and initial delivery work?

Using a consultant to develop the Program was an effective way to get a program up and running at a time when the Energy Trust had few staff. It did take longer than hoped to get the program started, although this does not appear to be due to outsourcing of the program development. During initial program delivery the consultant had contact with a manager at the Energy Trust and with ESMS, and worked on developing the partnerships with ORA and BPA.

During most of the pilot Program, the Energy Trust was undergoing significant changes – adding staff and developing more programs. This certainly limited the ability of both the consultant and Energy Trust to monitor and support the Program. Management of the Program began to transition to a manager at the Energy Trust in late 2002. This was a positive step because it brought some energy and attention to the Program. Energy Trust staff were able to work with the contractor and other partners to consider ways to respond to lower than expected participation in the Program. This is reflected in some of the outreach activities that occurred in 2003.

How did marketing and outreach work?

The marketing approaches used for the Program included an article in the ORA magazine, a booth at the ORA convention and a direct mailing to Oregon attendees, a program brochure, information on the Energy Trust website, and personal marketing by ESMS. The participants in the Program all reported that they learned about the EMS and the Program through personal marketing from ESMS.

Personal marketing was also the key approach for reaching those interviewed who installed the EMS prior to the Energy Trust Program. Various respondents noted that buying an EMS is not like buying an icemaker; rather, it is a complicated and unfamiliar technology. A system like an EMS is best sold using a personal marketing approach, as a member of the restaurant industry observes.

“And I sense this is something that is probably better sold one-on-one, not just sending them a paper, but explaining it and telling them what they do. Giving it a more personal approach.” Restaurant Industry Member

ESMS identified a small number of restaurant owners and corporate staff at several chains to target for initial marketing efforts. ESMS hoped these initial personal contacts would result in EMS installations, but restaurant owners and corporate staff were slow to respond. ESMS continued to contact and meet with restaurant owners during the pilot Program and some of these marketing efforts led to EMS installations.

ESMS is the distributor for much of the Western Region of the U.S. for the EMS they sell, so they are marketing their product in a large area. This potentially limited their ability to do more marketing in Oregon to respond to the low level of Program participation. Although ESMS was committed to this Program, they naturally would focus their marketing efforts in areas where they can make sales.

ORA made an announcement about the start of the Program in their magazine. Much of the marketing through ORA, however, did not occur until March 2003 with an article in the ORA magazine and a booth at the ORA convention. Then, in May, the Energy Trust sent information about the Program to the Oregon attendees at the convention. There was very little marketing at the start of the program to generate leads for personal contact. By the time more marketing did occur, it was too late to generate potential participants for the pilot Program. Some leads were generated from this marketing, but it is too early to tell if these will result in future EMS installations. It is unclear how effective these brief marketing activities were in raising awareness of the Program and increasing the potential for adoption of the EMS.

We did not conduct any research of restaurant owners in general to see if they have heard of the Energy Trust and/or the Program. But evidence from some of the people we spoke with in the industry suggests that awareness is low. The program participants indicated they had not heard of the Program or the Energy Trust until ESMS brought it up. Others we spoke with said they would not have known about the Energy Trust if they had not been invited to meetings to provide input on the Program. They felt that understanding of the Energy Trust and what it does is low among restaurant owners. Those we interviewed who did not participate in the Program confirmed this lack of familiarity with the Energy Trust and with the Program and what it offered. While this is not surprising, given the newness of the Energy Trust, it needs to be considered in marketing and outreach efforts. The Energy Trust may not yet be viewed as a trusted, third party.

How well did the partnership with ORA work?

ORA members provided input for program development and the ORA helped market the EMS Program to its members. The Energy Trust developed a resource manual with energy efficiency information that the ORA could use to respond to questions from their members, but this did not get much use since energy was not an important issue for their members. But the ORA appreciated this resource and their ability to respond if someone called. The ORA is interested in continuing their relationship with the Energy Trust, and welcomes anything that helps their members to be more successful.

One of the issues the Energy Trust wanted to explore with the pilot Program was the potential for a trade organization like the ORA to be a mechanism not only for marketing, but also for helping to deliver energy efficiency programs and services to their members. The partnership with ORA was limited to general marketing to

its members through a few one-time activities. The ORA has a small staff and they do not have the resources to accommodate a more significant program delivery role. Their organization provides information and resources to their members primarily focusing on educational programs, membership services, legislative and government relations, and promotion of the industry. While it is possible that ORA support of Energy Trust programs in the future could include more than just marketing, it would need to fit within their scope of member services and recognize their resource constraints.

How well did the Energy Trust Program incentives work?

The Program used a combination of a tax credit to the restaurant owner and a direct incentive to the EMS contractor. Given the lower than expected participation in the program, the sufficiency of the incentives needs to be explored. Did restaurant owners value the tax credit? Does the direct incentive need to be larger?

The tax credit was important to Program participant decisions, but it does not have the same value as an upfront incentive, as this corporate manager describes.

“They want to make the application, get the money, get the system installed and wash their hands of it. They like the immediacy of the impact. If the incentives come later in the form of tax credits they are just as real. [But], it does not have the same wow factor as getting the money upfront.”

Restaurant Corporate Management

Some restaurant owners may discount the value of the tax credit, since some may not be able to easily use the tax credit due to a lack of taxable Oregon income. One of the participants in the Program was able to immediately use the tax credit, but the other thought it could be a few years before he could fully use the credit. Taking advantage of the tax credit can become more complicated at the corporate level if a restaurant chain is installing the EMS in corporate stores.

Only one of the three Program participants mentioned the direct incentive as a Program benefit without being prompted. ESMS directly applied the incentive to reducing the system cost, so the participants did not handle this transaction with the Energy Trust. But the direct incentive was important for encouraging them to install the EMS because it reduced their capital cost. None of the participants used the \$200 direct incentive to replace the economizer controls.

Clearly a larger direct incentive would encourage more restaurant owners to install an EMS. The direct incentive for the successful PSE program was much larger - \$7-8,000. The \$4-5,000 incentive for the SMUD program was also larger than the Energy Trust incentive. In addition, higher electricity costs in California contribute to a faster payback for participants in SMUD’s program.

But other factors can influence the size of incentive needed to encourage participation. For example, one could argue that given the timing of the Program, a larger incentive may not have made much difference. Factors such as increasing energy costs, energy costs as a percentage of operation costs, the economic climate, and comfort with the technology can all be factors in how large an incentive is needed to induce a restaurant owner to take action.

5. Summary and Recommendations

This section summarizes the lessons learned from the evaluation of the Energy Trust's Restaurant Energy Efficiency Program and recommends how future programs in this area might be improved.

Lessons Learned

Puget Sound Energy Experience

The Energy Trust's Program and its goals were based on the belief that PSE's successful EMS program in Washington had proven the technology and that its success would carry over to Oregon. This did not happen, because the market in Oregon differed from the one in Washington in critical ways, including:

- most PSE installations occurred in 2001 when the economy was stronger,
- the West Coast experienced an energy crisis in 2001 but this did not extend to late 2002,
- the customer incentive was larger and covered half the system cost,
- restaurant owners knew and trusted PSE and valued their endorsement, and
- the contractor for the EMS had worked for a respected McDonald's owner in the Puget Sound region and had connections with McDonald's owners in that region.

Timing

As one interview respondent said, *"There is no plug and play. It is always more difficult than you think."* The evidence is that it takes time for these programs to develop and reach the target market, and the pilot Program only operated for nine months, a very short window. Factors such as the economic downturn, time to consider a complex technology and incorporate it into budgets, corporate uncertainty, the inability of energy efficiency to attract owners' attention and concern, and the unique circumstances of a particular restaurant owner all contribute to whether the timing is right for an owner to decide to participate in the program. As one corporate restaurant manager explained, *"The right time, right place, and somebody that is willing to write a check."* However, getting to this point is clearly not easy.

Marketing

The initial plan for marketing was that installation contractors would personally market the systems and the ORA would use its website, newsletter, and meetings to publicize the rebates. There was no coordinated marketing strategy at the beginning of the Program to raise awareness about the Program and identify contacts for further direct marketing. In addition, there was only one contractor marketing the EMS, which may have limited the personal marketing that occurred. When Program participation was much less than expected, the Program increased marketing and outreach efforts through the ORA, but much of this took place in the

last several months of the pilot Program. This was too late to generate good leads that could be pursued while the pilot Program was still running. Sales of the EMS are best achieved through personal contact with the restaurant owner, and can take months, given the time needed for decision-making. Marketing efforts need to generate interest. Then, enough time needs to be allowed for initial personal contacts with interested restaurant owners and the follow-ups needed to make the sale.

Partnerships

The partnership with the ORA helped Program marketing efforts and the ORA is interested in continuing this relationship. But the partnership with the ORA was largely limited to a few one-time marketing and outreach activities. Given that the ORA has a small staff whose first priority is to serve its members, it is unlikely the ORA can take a much more active role in delivering Energy Trust programs. But it certainly can contribute to program efforts and, within the scope of its member services, it likely can do more than just limited marketing support. In addition, the short duration of the pilot Program, coupled with the Energy Trust being in a start-up mode, were not the best conditions under which to build a long term relationship with the ORA. This also applies to the partnership with BPA to deliver the Program in other parts of Oregon.

Outsourcing

Using a consultant to develop the Program was an effective way to get the Program up and running quickly. If the level of interest in the Program had been what was expected, outsourcing Program management would likely have worked fine. But there was a need to address the lack of Program participation that may have been beyond what an outside consultant could do. As the Energy Trust added staff, the Program transitioned to internal management. This was a positive step and allowed for more attention by the Energy Trust to address the low participation rates.

The Program also had some important partnerships to develop with the ORA, with BPA, and with the EMS contractor. The consultant could coordinate with these entities for Program delivery, but was not in a position to create relationships between them and the Energy Trust. These relationships are best developed directly and if the Energy Trust values these partnerships in the long-term, Energy Trust staff must be engaged and communicating with these organizations. The Energy Trust also needs to develop a more credible relationship between itself and the target market.

Conclusions and Recommendations

Restaurant owners who have installed the restaurant EMS are very satisfied. The EMS provides value to restaurant owners. There clearly is market potential for this product. Even though the Program did not meet its goals, we believe that over time

there is potential for this market to continue to develop. This could lead to a critical mass of installations in Oregon that will support more widespread adoption of this technology. The Program ended on June 30, but the restaurant EMS has been added as a prescriptive energy efficiency measure in the Energy Trust's Building Efficiency Program.

Currently, the restaurant EMS is a very small part of the Building Efficiency Program that is eligible for a standard incentive along with lighting, HVAC systems, and motors. These lighting, HVAC, and motor efficiency measures are well established in the marketplace and there are a variety of vendors that offer efficient lighting, HVAC, and motor products. The Building Efficiency Program relies on these trade allies to take advantage of the incentives offered by the Energy Trust to market these efficient products.

The restaurant EMS is a niche product offered by one vendor that does not clearly fit with the other prescriptive measures in the Building Efficiency Program. Including the restaurant EMS in the Building Efficiency Program in this manner does allow it to continue to be eligible for incentives and it means that marketing for the restaurant EMS will continue to depend mostly on the EMS contractor. This essentially maintains the status quo and does not address the reasons for less than expected participation in the pilot Program. This may be appropriate for the restaurant EMS given the high level of satisfaction among users of the systems and the amount of resources and attention the Energy Trust may want to devote to this energy efficiency measure and this small market segment.

However, there are opportunities to encourage more rapid adoption of the EMS and energy efficiency in restaurants. Based on the input we received, we offer the following recommendations to the Energy Trust.

Develop Testimonials and Participant Recognition

A number of people we spoke with suggested that one of the most effective ways to market the restaurant EMS would be through testimonials from participating restaurant owners. These testimonials would need to describe the value of the EMS (both energy savings and other benefits), the ease of installing the system, and the benefits of participating in the Energy Trust program. Written testimonials could be used as part of case studies or other program materials, but word-of-mouth could also be fostered through sponsorship of peer exchanges or forums where restaurant owners could share their experiences. Some of this peer exchange will naturally occur as a critical mass of EMS installations develops. Examples in addition to McDonald's should be developed to help expand the potential market to other restaurant chains.

Participant recognition may be another way to generate interest in Energy Trust programs and raise awareness of the Energy Trust. For example, the Energy Trust

could develop an in-store display recognizing the participant as an Energy Trust Conservation Partner. The display might show how many salmon were saved or how much pollution was reduced from their energy efficiency efforts.

Develop the Relationship with the ORA

The ORA is an important partner. Opportunities should be explored for developing a long-term, mutually beneficial relationship if the Energy Trust is interested in pursuing energy efficiency in restaurants. These opportunities should go beyond one-time outreach and marketing activities. They might include ways for making energy more visible to restaurant owners on a regular basis through periodic columns in magazines or newsletters, booths at conferences, ongoing education opportunities, or participation in forums. These efforts should have an educational focus with the intent of showing how energy efficiency can help meet restaurant owner business needs.

Create Leads and Targets

Generating leads is an important part of increasing sales of the EMS. A strategy should be developed that coordinates marketing efforts between the Energy Trust and partners like the ORA and the EMS contractor that effectively targets potential participants and leads to direct sales. The strategy should include education and outreach activities that raise awareness and generate interest, peer exchanges and other methods of personal contact, and follow up activities to interested parties to make the sale. Each of the partners has a different level of credibility with the target market that needs to be accounted for in the outreach strategy.

Consideration should be given to whether certain restaurant chains or groups should be targeted, and whether some restaurants are more likely to have the money to invest in the EMS. Some restaurant chains own most of their restaurants corporately and many chains have at least some corporate restaurants. Marketing at the corporate level may be an effective way to reach a large number of restaurants. But different marketing techniques may need to be used at the corporate level compared to marketing to individual restaurant owners, since the sales cycle may be longer.

Expand Beyond McDonald's and Restaurants

In the near term, McDonald's are a good target for the restaurant EMS. In the long-term, the Energy Trust should consider what is needed to expand beyond McDonald's to other restaurant chains or other commercial businesses and chains. Each chain is a little different in how it is structured and how it operates, so time must be taken to develop a relationship with these chains and gain an understanding of their corporate structure (what it takes to get to a decision) and operating needs. It may be helpful to offer some special incentives to demonstrate the EMS at some test sites for a particular chain, since this could support a corporate decision to install the system at many stores in the chain.

This Program focused on a specific technology, aimed at fast food restaurants, that was offered by one vendor in the region. This seems like a narrower focus than the other measure specific Building Efficiency Program offerings. The Energy Trust should consider if there are opportunities to expand their program offerings for energy management control systems. The restaurant EMS or similar control systems might be applicable to other small and medium commercial businesses. More vendors will need to be involved to expand beyond a fast food restaurant market niche.

Increase Recognition of the Energy Trust

The feedback from the people we interviewed suggests that recognition of the Energy Trust is fairly low. In addition, respondents noted the importance of having a trusted source or independent third party to confirm what they are hearing from the contractor. The local utility has played this role with many energy efficiency programs. While this is not the model the Energy Trust is using, it does raise the question of how the Energy Trust can develop a reputation as a recognized, trusted third party with its target audiences.

Follow-up with BPA

Working with BPA on a statewide program was an important opportunity and the lessons learned should be considered. The Energy Trust should review this experience with BPA and discuss its plans for continuing the program. Opportunities for future statewide efforts with BPA should be explored.

Increase the Incentive

Increasing the direct incentive to at least \$4,000 would improve the business case for the restaurant EMS. This might be important for developing a critical mass of EMS installations that will help spur more widespread adoption of the EMS.

Transfer Program Lessons to Other Energy Trust Programs

Many of these recommendations involve broad issues like developing relationships with key market actors, increasing the recognition and credibility of the Energy Trust, and developing marketing strategies for proven measures that are targeted to a particular niche market. These lessons and issues go beyond the Restaurant Energy Efficiency Program, and are issues the Energy Trust needs to consider as it rolls out its full menu of programs.

Appendix A. Restaurant Energy Efficiency Program Factsheet



Restaurant Energy Efficiency Program *Bringing energy efficiency to your bottom line.*

For a limited time the Energy Trust of Oregon Restaurant Energy Efficiency program is offering incentives for restaurant energy management systems (EMS). An EMS acts like a brain controlling all of the restaurant's interior and exterior lighting, freezer, hot water, heating, cooling, fans, menu boards, fryers, ovens, roads signs and other large electrical equipment.

Eligibility

Restaurants with average annual usage of 250,000 kWh/yr or greater
Restaurants located in Oregon with electricity supplied by Portland General Electric or Pacific Power

Offerings

\$2,750 incentive for each installed restaurant energy management system
\$200 incentive for an HVAC replacement economizer or replacement parts with each installed restaurant energy management system
\$4,900 Business Energy Tax Credit (BETC) from the Oregon Office of Energy for each installed restaurant energy management system

Typical Benefits

\$2,000 - \$3,000/yr in lower electricity costs
\$750 - \$1,000/yr from fewer maintenance, equipment and HVAC calls
CO₂ output reduced by 32 tons/yr; equivalent to taking 6 cars off the road

Typical Economics for a Restaurant Using 250,000 kWh/yr

Monthly lower electric & gas bill	\$1900 per year savings
Financing lease cost (5 years)	\$1500 per year cost
Positive cash flow from system	\$400 per year

After 60 months, system on average yields \$2,000 per year cash flow.

References in Oregon and Washington

Loy Taylor	503-314-8023	McDonald's Corporation
Brad Baker	425-827-9700	McDonald's Corporation
Matt Hadwin	503-656-7307	McDonald's restaurant owner
Greg Luring	509-248-2176	McDonald's restaurant owner
Swend Willadsen	541-963-9015	McDonald's restaurant owner

Nearly 160 McDonald's already use the system in Oregon, Washington, California, and Texas. The energy management system is designed by former McDonald's facilities and operations personnel.

For More Information on Incentives, Savings and System Installation Details

Contact Larry Barich or Bill Hickner at 1-800-783-0383 or write ESMSLarry@aol.com or visit www.esmsystems.com. Barich and Hickner, of ESMS L.L.C., are contractors administering the Restaurant Energy Efficiency program on behalf of the Energy Trust of Oregon.