PRODUCTION EFFICIENCY PROGRAM EVALUATION REPORT

Submitted To:

Energy Trust of Oregon

August 14, 2009

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EXECUTIVE SUMMARY

The Energy Trust of Oregon's (Energy Trust) Production Efficiency (PE) program offers energy efficiency services for industrial processes of all kinds – including manufacturing, agricultural, and water/wastewater treatment. The program provides funding for studies to identify energy-saving opportunities and financial incentives to help businesses implement them.

Energy Trust solicited proposals to conduct process and impact evaluations of the PE program. The work will span two program years and will include two reports:

1. The first report will contain results of the impact evaluation of the savings for 2007 program participants and the process evaluation of the experiences of 2008 program planners, implementers, and participants.

2. The second report will contain results of the impact evaluation of the 2008 participants and a less detailed process evaluation of the experiences of 2009 program planners and implementers.

Summit Blue Consulting (Summit Blue) was selected to conduct these evaluations. This volume is the first report and contains results of the impact evaluation for 2007 and the process evaluation for 2008.

The current evaluations follow three previous evaluations of the PE program. The prior studies were a process evaluation conducted at the end of the program's first six months of operation,[1] a second process evaluation and impact evaluability assessment completed at the end of 2005,[2] and a third process and second impact evaluation conducted to assess the 2006 program.[3]

The purpose of these evaluations is to inform Energy Trust and program stakeholders of the effectiveness of the PE program, how the PE program can be improved, energy savings impacts, and market effects of the program. The specific goals of these evaluations will be to:

1. Develop reliable estimates of program and measure specific electric savings for the years 2007 and 2008.
2. Obtain feedback on program design and implementation that can be used to improve the implementation of the current program.

This evaluation employed a number of different methods to achieve its objectives. These methods included in-depth interviews with Energy Trust staff, Program Delivery Contractors (PDCs), Allied Technical Assistance Contractors (ATACs), and regional market actors, reviews of program databases, processes, marketing materials, and program communications, and surveys of participants, non-participants, and program vendors. The team also reviewed various data sources to inform a market

[1] Research Into Action, Production Efficiency Program End-of-First-Year Progress Evaluation, June 22, 2004.

[2] Research Into Action, Production Efficiency Program: Process Evaluation and Impact Evaluability Assessment, December 30, 2005.

[3] Research Into Action, 2006 Production Efficiency Program: Process and Impact Evaluation, August 12, 2008.

assessment and conducted on-site verification and monitoring activities. A free-ridership and spillover assessment was conducted as part of the participant surveys.

E.1 2007 Impact Evaluation

The Energy Trust's 2007 Production Efficiency Program working estimate of savings totaled 121,692,994 kWh across 149 participant sites. Within this participant universe, 27 sites were selected through the evaluation sample and comprised 109,318,571 kWh, or 90% of working savings. The single Mega Project accounted for 54,634,752 kWh, or roughly 45% of the PY 2007 working savings. Although numerous attempts were made to schedule verification activities with this site, participant staff were in the process of making site operating decisions and could not support the impact evaluation effort in time for the release of this report.

Excluding the standalone Mega Project, the impact evaluation yielded an end-use program realization rate of 94% and corresponding gross savings estimate of 63,098,466 kWh.

Table E-1. Impact Summary of the 2007 Production Efficiency Program

Indices of Program Savings Value	Value
Working Estimate of 2007 Savings	67,058,242 kWh
Realization Rate	94%
Gross Savings Estimate	63,098,466 kWh
Demand Savings	7,379 kW

Interview efforts with impact evaluation sample participants yielded a free-ridership estimate of 27% and a net-to-gross ratio of 73%. The final 2007 Production Efficiency Program Net Savings Estimates amounted to 46,061,880 kWh, or 67% of 2007 Program working savings.

E.1.1 Impact Recommendations

Based on discussions with participants, program data and auxiliary reports, and evaluation observations, the Summit Blue evaluation staff has developed the following recommendations to improve future Program and impact evaluation cycles.

Standardize Participant Data Requirements

The accuracy of impact evaluation findings is limited by the availability and quality of relevant participant measure data. Throughout the evaluation, Summit Blue staff encountered numerous challenges in collecting supporting evaluation data from various participants due to:

1. Lack of available project documentation and supporting savings methodologies, and
2. Lack of participant support for the impact evaluation process.

Evaluate the Quality of Project Documentation and Review the Technical Analysis Study (TAS) Guidelines

Summit Blue has found the TAS guidelines to be both informative and comprehensive. In many cases, however, the project level documentation does not clearly identify input assumptions and explain the rationale or resources used to justify them. Although the guidelines do request this level of fidelity, Summit Blue recognizes that it is difficult to enforce.

In order to leverage the guidelines to their full potential, Summit Blue recommends future evaluation efforts to closely monitor the quality of project level documentation provided to support the impact evaluation effort, along with the corresponding realization rates of measures installed. Using this information, measure-specific guidelines may be developed and enforced when low realization rates intersect with high-volume measures.

Incorporate a Plant Closure Study Component to Future Evaluations

Summit Blue technical staff distinguished between reduced consumption achieved through improved controls and efficient measure installations, relative to a decrease in production throughput as a result of economic influencers. Due to a significant number of sites that that had lower than expected post-installation production schedules, and a few that were planning to close completely, Summit Blue recommends adding a Plant Closure Study to future evaluation cycles to more accurately characterize the impact of these changes on realized savings.

Ensure that Participants are Aware of M&V Activities as Early as Possible

As with most evaluations, Summit Blue faced challenges in recruiting participants to support the impact evaluation process – particularly the on-site verification activities. Summit Blue recommends informing Program participants of M&V activities and their value in future Program planning efforts as early as possible in the project cycle. This will help ensure that participants are receptive to, and supportive of, post-installation evaluation efforts. Moreover, it will encourage the participants to improve the quality of project documentation to support future evaluation activities.

E.2 2008 Process Evaluation

In general, satisfaction with the Program was high across the various stakeholder groups and 2008 Program participants.

Program participants rated their satisfaction high across a variety of aspects from timeliness of incentive payments to the quality of work conducted by the vendor. They also experienced low rates of confusion over the program, although there were some exceptions.

PDCs report a positive relationship with the Energy Trust and appreciate the level of communication and openness with PE staff. They believe the change in program administration was a positive one, although pilot initiatives and additional administrative responsibilities take additional time and resources.

ATACs and vendors generally report high levels of understanding of the program requirements, but have experienced difficulties with the program requirements and slow incentive payments.

The economy was mentioned by all parties as a significant barrier to the investment in energy efficiency and program participation.

E.2.1 Process Recommendations

Below is a summary of recommendations on key issues investigated by the process evaluation.

ATACs and Industry Specialists

The Energy Trust should pursue adding more ATACs or other specialists to support the program.

- Industry segments and end uses that span multiple industries should be well represented by the ATAC pool.
- Industries with unique competitive or regulatory challenges may require that industry specialists be brought in to alleviate customer fears that energy efficiency recommendations may adversely affect their operations. It is reasonable for Energy Trust to bring in out of state resources to meet these needs.
- ATACs with experience with gas measure will need to be added as these measures are added to the program.

PDC/ATAC Conflict of Interest

Energy Trust should communicate their policies and processes for assigning ATACs to studies, pointing out instances where the PDC was not also assigned as an ATAC. The Energy Trust administration is fair and lingering perceptions are likely to be dispelled through familiarity with the process.

BETC

Energy Trust should continue regular communications with ODOE. Efforts should be made to better understand BETC measure eligibility and application process and to communicate these to PE PDCs, ATACs, vendors, and participants.

Energy Trust should enhance PE program materials to include the BETC. PE program process descriptions and flow diagrams should include key milestones in the BETC application process, especially emphasizing that equipment cannot be purchased prior to the BETC application. BETC should be an ongoing topic at the quarterly PDC meetings and the annual ATAC forums, possibly with an ODOE staff member in attendance to answer questions and receive feedback.

Energy Trust should develop materials to make participants with no tax liability aware that they can transfer the BETC tax credit. Energy Trust should also support creative solutions for tax-neutral participants to take advantage of BETC.

Application Process, Data Collection, Tracking, and Storage

Key recommendations for streamlining the application and data entry process include developing an online application and data entry system. To facilitate this, existing Energy Trust policies will need to be modified to allow for digital signatures.

Payment Process

Although participants are generally satisfied with the amount of time it takes to receive their incentive payment, ATACs and vendors report instances of payment delays. The following recommendations will not only improve the incentive payment turnaround time, but they will also streamline the process for PE staff:

- Conduct imports more than once a week; and
- Eliminate double review of checks or allow for electronic review.

Marketing and Outreach

Energy Trust marketing department should guide PDC market plan development by:

- Developing a marketing and communications outline for each PDC to follow. This outline should include marketing elements and activities to be addressed in each plan, such as industry trade associations and shows, and industry case studies or other items needed from the Energy Trust; and
- Reviewing and providing feedback to the PDCs to refine and finalize their marketing plans.

Marketing efforts and plans should be customized to each key industry and rely heavily on direct contact. This includes developing a more standardized approach to becoming involved with trade associations, making presentations at industry events, and publishing case studies in industry journals and newsletters.

Communications

Energy Trust should continue quarterly PDC meetings and the annual ATAC Forum. These activities are viewed as meaningful and effective communication channels. They are appreciated by the PDCs and ATACs and considered a good use of their valuable time. During these events, Energy Trust should continue to include time for the parties to share their issues, challenges, and perspectives.

The ATAC Forum should:

- Update the ATACs on the technical study assignment process in order to dispel a lingering perception that the PDCs who are also ATACs are identifying projects to benefit their own organizations;
- Clarify the ATAC and PDC roles in the PE program process and set expectations about communication and collaboration between the two parties;
- Review of the baseline, eligible cost, and TAS requirements;
- Availability and use of PE program forms and calculators including the PE program process flow diagram; and
- BETC measure eligibility and limitations, and the application requirements and process.

Program communication channels should be expanded to include vendors. Although vendors indicate that they understand the program requirements, they also report challenges with moving projects through the program in a timely manner and some difficulties with project documentation.