INDUSTRIAL ENERGY IMPROVEMENT

Cohort 1, Year 2 Report

Prepared for:
Energy Trust of Oregon

Navigant Consulting, Inc.
One Market Street
Spear Street Tower, Suite 1200
San Francisco, CA 94105

415-399-2116
www.navigantconsulting.com

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NAVIGANT CONSULTING

Introduction

Energy Trust of Oregon (Energy Trust) is operating an Industrial Energy Improvement (IEI) pilot program within its Production Efficiency (PE) Program. The IEI is being implemented by Strategic Energy Group (SEG) under Energy Trust oversight. The IEI seeks to reduce participant site energy intensity and production costs by applying continuous improvement practices. Under the IEI, energy is treated as a variable and manageable (as opposed to fixed) cost for industry. It is assumed that energy intensity can be reduced by five to ten percent with little capital investment and that continuous improvement practices applied to energy can have other benefits for productivity, safety, and environmental impact.

The IEI assists participant firms by putting in place a structured energy program which includes establishing accountability for tracking energy and engaging employees to reduce energy use through the "Plan, Do, Check, Act" cycle. The IEI services are delivered to participants in a group environment. Monthly trainings are held over the course of a year in various formats, consisting of six, day-long in person workshops, four, two-hour Webinars, and two individual, on site meetings. The workshops are held at the Energy Trust offices and IEI participant firm locations on a rotating basis.

This report summarizes the findings from interviews with participants conducted approximately one year after completing the IEI workshop series. The intent is to understand the extent to which participants are maintaining the energy savings achieved during the IEI process, indentifying new areas of energy savings, and discuss the challenges and successes they've encountered.

Program Goals and Objectives

The goal of the IEI program is to put into operation a process of continuous energy management improvements which enables energy savings and reductions in energy intensity. Energy savings come from operational and maintenance (O&M) improvements, incremental increases in capital energy efficiency projects (i.e., more lighting efficiency), additional capital projects that would not otherwise have been considered (i.e., process changes, consideration of energy efficiency in all capital efforts), and improved persistence for O&M and capital projects. Through the pilot, Energy Trust will learn the level of commitment it can expect from industrial firms in continuous improvement energy management programs.

Conclusions and Recommendations

Conclusions

The key conclusions from the IEI Cohort 1, one- year interviews are:

- Participants thought their participation in the IEI was valuable and a good use of time and resources.
- Participants maintained energy savings with many firms indicating that they were able to use the tools they'd learned through the IEI to leverage additional savings.
- Most firms continue to track their energy use (through the MT&R or another, similar tool) and maintain their energy teams which positions them well to undertake additional improvement activities in the future.
- Participants continued to undertake additional energy saving measures even after the conclusion of the program. These additional measures were split equally between operations and maintenance activities and capital projects in terms of number of projects.
- Most energy saving projects planned for the future involved repeating successful projects from one facility at additional facilities.
- Much of the low hanging fruit has been picked and firms are hoping for help with identifying additional ways to save energy through the maintenance program.
- Participants continued to work with the Energy Trust mostly for incentives for capital projects.
- The majority of the participants rated their overall satisfaction with the IEI, as well as the support they received from SEG, as very high. All participants would recommend participation in the IEI to other firms in their industry.
- Upper management or corporate support was a key success factor for the IEI. Support should go beyond authorizing participation in and resources for the IEI and extend to holding the energy teams accountable over the course of IEI. Requiring the teams to give regular status updates on activities undertaken and progress towards IEI objectives provides this accountability.

- Some participants thought the MT&R was not convenient to use and used other programs more regularly instead of or in addition to IEI's MT&R.
- Participants with an energy team that continued to meet frequently were more involved in employee awareness campaigns that those whose' energy teams no longer met or met infrequently.

Recommendations

Based on the participant feedback from the IEI Cohort 1, one-year interviews, Navigant Consulting recommends the following:

- Continue the IEI as a regular component of the PE program:
    - Ensure high-level management support and a mix of involvement, including team members from the shop floor.
    - The executive sponsor can support the energy team by freeing up the resources necessary to undertake the IEI activities and requiring that the team show progress at regular status update meetings.
- The format of the trainings should emphasize face to face meetings;
- Have participants begin metering and recording energy consumption prior to the start of the IEI program to establish a baseline and make this a clear expectation in program literature and presentations;
- Leverage participants enthusiasm for the IEI and their plans to continue and expand IEI activities by:
    - Asking past IEI participants to speak at current trainings; and
    - Hosting annual follow up meetings to discuss progress with initiatives.
- SEG should continue enhancements to their MT&R functionoality:
    - Make the MT&R compatible with other software or certification programs participants may be using, such as LEED or Energy Star. Specifically, data input and output formats should be consistent across tools.
    - Enhance graphic and reporting capabilities.
    - Improve usability to make the tool easier for participants who may not be proficient with software tools or data analysis.
- Include training and support for presenting success and achievement to upper management.

It should be noted that, prior to this evaluation report, Energy Trust had already implement several improvements for Cohort 2, including modifying the format of the trainings to emphasize face to face meetings, asking past participants to speak at current trainings and modifying the IEI schedule so that setting up the MT&R is one of the first activities.

Energy Trust of Oregon
851 SW Sixth Avenue, Suite 1200
Portland, Oregon 97204

Telephone: 1.866.368.7878
Facsimile: 503.546.6862
energytrust.org

MEMO

Date: April 20, 2012
To: Board of Directors
From: Philipp Degens, Evaluation Manager
Kim Crossman , Sr. Industrial Sector Manager
Subject: Staff Response to the Process Evaluation of the Industrial Energy Improvement Cohort 1, Year 2 Report

The first participants in the Industrial Energy Improvement (IEI) Pilot continue to maintain their energy efficiency processes and savings a year after the engagement with IEI ended. These findings bode well for the subsequent three cohorts and support the decision to integrate this service offering into the Production Efficiency (PE) program.

Many of the evaluation recommendations have been adopted, or are being addressed by the PE program. IEI Maintenance services have also been added to the PE program to provide additional support to IEI participants after their first year of the engagement has ended. The IEI's marketing of strategic energy management (SEM) and the process of engaging with customers has widened to include Corporate SEM (One-on-one engagement with individual corporations), and is being tested in the Small Industrial SEM Pilot that is being implemented in 2012. The Corporate SEM offering has been taken up by some large customers outside the Willamette Valley, as there has not yet been sufficient demand to warrant launching regionally focused cohorts. SEM offerings have also developed outside the PE program, with SEM services being offered to commercial building owners through the Existing Buildings program and to wastewater treatment plants through the Oregon Association of Clean Water Agencies.