IEI and Kaizen Blitz Pilots Year 2 Evaluations

Conservation Advisory Committee meeting
May 16, 2012

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IEI Process Evaluation

IEI Pilot

- One year continuous improvement process
- Ten customers
- Monthly networking/training workshops
- One-on-one coaching between workshops
- Energy savings measured at the meter
- Incentives of $0.02/kWh first year savings

- First year savings were:
  - 8% of total electric consumption (2% to 16% range)
  - 13 million kWh in total per year

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Methods

Methods:

- Interviews of 2009 Participants: 7
- PDC Interviews: 3

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Results: One Year After

- 6 maintained their savings and one improved upon them
  - 1 increased savings from capital projects
  - 1 increased number of capital projects but O&M savings declined
- Most had no changes in plant operations or production levels
- One had increased production and successfully transferred EE O&M processes to the new department; increasing energy savings
- Only one reported a decrease in production due to the recession

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Results: Projects

- All seven reported completing projects after the conclusion of the IEI
- 5 reported they were engaged in ongoing projects that were started during the IEI training
- 5 reported that they had plans for additional projects

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Post Workshop Activities

O&M activities (6)

- Altering equipment operation
- Promoting behavioral changes
- 6 have additional planned O&M projects

Capital Projects (7)

- Lighting upgrades and controls installations
- Equipment replacements and upgrades
- The number of capital projects involving ETO increased after IEI (2.1 million kWh)
- 4 have additional planned capital projects

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Other Activities

- 2 firms pursuing certification (LEED and Energy Star)
- 5 continue to have Energy Team meet regularly
- All track their energy use: 6 using the MT&R and one using PGE's service.
  - PDC report indicated one of the firms not interviewed had ceased tracking energy usage (though it's Energy Team still met)
- Some IEI energy practices have spread to other plants (in most cases outside ETO territory)

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Suggestions

- Share more success stories and case studies
- Presentations from previous participants
- More field trips
- Assist in developing presentations to management (2)
- Begin tracking energy before participating in IEI (4)
- Need active management support (3)
- Need for employee involvement (4) and education (1)
- Only require participants complete course work relevant to their facility(2)
- Be clear about goals and expectations and participation required resources

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Conclusions

- Participants valued IEI and maintained energy savings
- Most firms continue to track energy use and maintain energy teams
- Participants continued to undertake additional energy saving measures
- 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
- High levels of satisfaction reported and 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.

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Recommendations

- 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 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
- 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.
- Continue enhancements to their MT&R functionality
- Include training and support for presenting success and achievement to upper management

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Energy Trust Take

- Many of the recommendations have been adopted by the program
- IEI service now in its 4th year
- Energy Trust also providing IEI maintenance services
- IEI has spawned a set of other services and is being piloted in the Existing Buildings program

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Kaizen Blitz
Process Evaluation

KB Pilot

- Initial on-site tune up (Kaizen Blitz) identifies low or no-cost opportunities
- A final report: documents energy savings opportunities in an action plan for the following year. Capital upgrade projects are also identified
- 2nd Cohort also received energy tracking software
- Technical support provided for a year to:
  - Track and assist with action items
  - Help develop a energy tracking system
- Final inspection and report documenting energy savings after one year

Interviews

- Cohort 1 Interviews 3
- Cohort 2 Interviews
  - First 3
  - Second 2

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Motivation and Value

Motivating factors:

- Energy and cost savings
- Obtaining an outside opinion
- Getting a better understanding of facility operations

Value

- Energy survey performed by Cascade
- Knowledge and experience shared by Cascade

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Firms receiving the Final report

- 2 of the three were surprised about the level of energy use at their facility or the specific end uses
- All were confident that they could implement all or most of their action items within the given time

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Firms One Year After

- Able to implement the vast majority (80%-100%) of their action items
- Two of the participants were able to implement almost all of their action items
- One able to reach this goal within 90 days
- Some still planned on implementing outstanding action items
- Factors mentioned for not implementing:
  - Areas were “hands off” because of laws, safety, or best practices
  - Skeptical of a given change
  - Some savings opportunities did not apply

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Firms One Year After (cont.)

- Kaizen Blitz required anywhere from 10 to 30 percent of their time. Responses varied based on the amount and complexity of action items each participant had to implement
- Time frame was reasonable to complete action items
- Some were able to implement most of their action items within three to six months

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One Year After : Persistence

- All are maintaining their savings
- Some have implemented new procedures to ensure energy savings are sustained

Factors motivating persistence:

- A company-wide commitment to sustainability
- “It’s the right thing to do”
- Staying competitive – “Reducing operation costs makes us more competitive”
- Less wear and tear on equipment
- Cost reduction and streamlining of energy costs
- Praise from management

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General Feedback

- The Kaizen Blitz was considered a success by all participants interviewed
- All participants seemed very satisfied with the support they received from Cascade throughout the process
- All participants responded that they were more likely to work with the Energy Trust on other initiatives in the future

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Recommendations

- Program should communicate time resources needed to implement actions (10 to 30%) to establish realistic expectations
- Cascade should assist participants with paperwork required to submit for their incentive
- The program should allow for follow-up support to ensure persistence
- Cascade should document participant best practices and participant solutions to issues to share with participants
- Consider commissioning enhancements to the tracking software

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Energy Trust Take

- KB has resulted in highly satisfied customers
- Pilot achieved significant savings that appear to persist over time
  - Cohort 1 had ~ 8 million kWh savings representing 4-10% of total consumption
  - Cohort 2 has ~ 3.6 million kWh savings (so far) representing 3-18% of total consumption
- KB style services are being piloted in the Existing Buildings program

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