Unlocking Behavior-Based Energy Savings Through Employer Engagement

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Introduction

Northwest Energy Efficiency Council (NEEC), non-profit trade association of the energy efficiency industry and administrator of Building Operator Certification (BOC®) program since 1997.

* Awards skills certification to eligible building operators
* Provides skills development in energy efficient O&M
* Oversee recertification through continuing education (CE)
* Certified over 10,000 building operator professionals
Presentation Overview

① Background and Rationale
② Interventions
③ Experimental Design and Sampling
④ Data Collection and Analysis
⑤ Conclusions, Lessons Learned
⑥ References
Background & Rationale

* Impact studies attribute energy savings & link persistence of energy savings to CE
* NEEC simplified the re-certification process
* Certificants cited “employer support” as key motivator for CE and maintenance of Certification (MOC)
* Above background led to rationale for this NEEC study:

What effect does direct communication with the certificants’ employers have on MOC rates?

Is the intervention cost effective for BOC to implement?
Behavioral Interventions

* Emailed on-page letter to facility managers / supervisors
  * NOTIFY – employee’s credential is expiring
  * INFORM - benefits and value of CE/MOC
  * ENCOURAGE support
* Followed-on with phone calls
  * CONFIRM receipt / contact info
  * REVIEW benefits & value
  * ASK for their support
Experimental Design and Sampling

Group 1: “control”, standard outreach to certificant via postcards & email reminder

Group 2: “basic intervention”, post card/email to certificant plus email and letter to supervisor

Group 3: “enhanced intervention”, post card/email to certificant, email+letter to supervisor plus follow-up call
Data Analysis Highlights

• 41% supervisors reached / 49% confirmed receipt / 56% didn’t receive
• 25% supervisors intended to help and follow up with certificants
• 15% supervisors cited MOC as certificants’ decision
• 7% supervisors cited barriers to CE associated with MOC
• <1% supervisors cited initial training as more valuable than CE/MOC
Recertification Rate - All Groups

Number of certificants by study group who maintained their certification

<table>
<thead>
<tr>
<th></th>
<th>Total in Study</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total eligible ($n_x$)</td>
<td>1154</td>
<td>379</td>
<td>403</td>
<td>372</td>
</tr>
<tr>
<td>Maintained ($M_x$)</td>
<td>265</td>
<td>83</td>
<td>96</td>
<td>86</td>
</tr>
<tr>
<td>Maint. Rate (%)</td>
<td>23.0%</td>
<td>21.9%</td>
<td>23.8%</td>
<td>23.1%</td>
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</tbody>
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# Development & Implementation Costs

<table>
<thead>
<tr>
<th>Labor and Material Costs</th>
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<tr>
<td>Development</td>
<td>$16,270.00</td>
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<tr>
<td>Implementation</td>
<td>$3,584.93</td>
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<tr>
<td><strong>TOTAL BUDGET</strong></td>
<td><strong>$19,854.93</strong></td>
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Conclusions

• Interventions not effective in improving MOC rates
• Hence, not cost effective
• Sample size too small, increase to 2,000
• Accuracy of employment data can be improved
• Segment of employers don’t see the value in CE or energy efficiency
## Potential Impacts on Electrical and Therms

### ANNUAL GROSS ELECTRICAL IMPACTS

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<td>GROSS IMPACT kWh</td>
<td></td>
<td>455,000</td>
<td>105,000</td>
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<td>Estimated Electrical Cost Savings**</td>
<td>$427,035</td>
<td>$493,920</td>
<td>$442,470</td>
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<tr>
<td>GROSS IMPACT $</td>
<td>$66,885</td>
<td></td>
<td>$15,435</td>
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<td>IMPACT GHG Emissions</td>
<td>314 mt</td>
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*Source: Opinion Dynamics, 2014 Estimates are based annual electric impacts by BOC participant reported 35 MWh

** Source: Bureau of Labor Statistics Average Prices for Electricity Jan - Aug 2014: $0.147/kWh
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Lessons Learned | Further Research

• More effective/timely/regular communication w/ employers
• Opportunities to better understand employer attitudes/ decision making about CE in EE
• How job performance expectations and goals around EE are established for certificants
• Demographic and psychographic profile of certificant
• Determine whether certificants maintain in future years
References


