Meeting Notes
Evaluation Committee Meeting

May 1, 2009, 1-4 pm

Attendees

- Debbie Kitchin, board member and committee chair
- Alan Meyer, board member
- Ken Keating, evaluation expert
- Phil Degens, evaluation manager
- Fred Gordon, director of planning and evaluation
- Peter West, director of efficiency and renewable programs
- Steve Lacey, director of operations
- Pete Catching, manager of planning and economic analysis
- Brien Sipe, evaluation project manager
- Sarah Castor, evaluation project manager
- Nick O'Neil, senior planning engineer
- Spencer Moersfelder, business sector manager*
- Greg Stiles, senior business sector manager*
- Diane Ferington, senior residential sector manager*

*Joined for his/her respective agenda item

1. True-up 2009

Matt Braman, Planning Program Manager, presented the results of the 2009 true-up.

Final results were:

- Electricity savings decreased by 2.9%
- Gas savings decreased by 1.3%
- Renewable savings were not changed

Matt covered the major finding that resulted in changes to program savings, highlighting high free-rider rates in the existing buildings program. Lighting in particular was singled out as a major contributor to the decrease in savings. The question was raised if trued up savings are "locked-in." Fred indicated this is not the case, noting that reportable savings can be adjusted for any year. In the case of the multifamily program, when defensible savings estimates come in, savings for all program years will be adjusted.

Matt noted that Energy Trust's FastTrack database currently does not separate realization rates and market effects, which can create difficulties analyzing the source of savings adjustments (poor realization vs. free ridership). True-up savings stemming from NEEA programs increased by .3 AMW. Alan asked about the cost of support for NEEA

relative to the savings home vs. business programs. Fred indicated low industrial savings may stem from NEEA's focus on the pulp and paper industry, where their progress is limited, along with the more-successful food processing initiative. It was also noted that NEEA savings are reaching a point at which a full-scale evaluation could be beneficial.

Other notable changes driving true-up numbers were:

- Tankless water heater: savings estimates reduced to 65 from 102, resulted in 50,000 therm reduction in 07-08
- Heat pump commissioning: Evaluation found no savings, with engineering estimates accounting for 280,000 kWh

Matt also indicated that most changes in the true up stemmed from evaluation findings rather than errors in data entry.

2. New Building Efficiency 2006-2007 impact and process evaluation

Contractor: ADM

Phil presented the results of the NBE evaluation. Impact methods used short term metering, site visits, and billing-data-calibrated energy simulations. Realization rates were broken down by broad measure categories. Lighting savings were lower than expected, with a marked decline in realization rates across the program years. Evaluation findings for lighting served as one driver of a C&I lighting evaluation to examine trends in the lighting market and provide recommendations on the direction Energy Trust programs should take. Given the small sample sizes, Peter asked if the evaluation calculated confidence intervals on savings estimates by measure category. Phil and Fred indicated that when large variances are observed evaluation staff asks consultants to expand on findings.

Energy Use Intensity (EUI) comparison:
As Energy Trust programs do more buildings, comparing Energy Use Intensity (EUI) to NEEA and code buildings can help assess how well a program is working, as well as help calculate accurate baselines. Phil presented the free rider rates using a methodology that can result in a range. For all NBE measures, the ranges were quite narrow. More sophisticated measures tended to have lower free rider rates. Ken noted the LEED track includes participants who are on a prescriptive path, which is associated with higher free rider levels. Staff indicated that outside of the ET program, the LEED track tends to focus less on energy efficiency, creating the potential for lost opportunities.

Phil indicated the adoption of new commercial building codes may be an indicator of market transformation, as code follows practice. Ken raised the issue of how, in 2010, to design a program that will operate over and above the possible 15% hike in the energy code.

Gas measures were a much smaller portion of the program activity. Free rider rates across program years varied widely, with the caveat that the sample sizes were quite small. Net to gross ratios have been relatively stable across all program years. Spencer asked how free-ridership can remain stable while program savings have increased year

after year. Fred indicated that the C&I Lighting Market Assessment study will help inform sector efforts to impact markets.

Phil highlighted the decision to solicit feedback on free rider rates from participants at the time of the project closing, rather than up to two years later as happens under the current evaluation process. Committee members agreed that programs benefit from timely feedback. In-depth interviews will continue to be conducted at the time of the full evaluation.

Spencer raised the issue of incremental participation, in which initial measures may lead to subsequent additional actions. Given that the survey will be presented to participants only once a year, he asked if there a way to separately identify free rider rates associated with subsequent program contacts.

Fred indicated that despite the free rider rates, the program looks good. Evaluation results have helped identify some measures that may be subsumed by code. He concluded that the program is moving the market.

3. Existing Buildings Process Update and 2006 Impact

Contractor: Research into Action, The Cadmus Group

Phil covered the highlights of the final draft of the EB 2006/2007 impact and process evaluation. Final results are expected in time for the June committee meeting. Debbie indicated that it would be helpful to have the results finalized sooner, in order to get them in the board packet and allow committee members to have a shorter lag between committee draft presentations and wider discussions with the entire board.

Study used a variety of techniques to ascertain savings, including site visits and billing analysis. Fred asked if the food service realization rates (focusing on pre-rinse spray values) will be applied across the entire sector, given that the realization rates were for a homogenous type of store operating for long hours. Ken indicated the Regional Technical Forum savings from sprayer valves varied widely depending on the type of establishment; RTF decided to use median savings across a wide range of operations. Evaluation will check the applicability of these savings findings for a wider range of building types.

Phil highlighted the discrepancy in the savings estimates from site visits and the billing analysis (99% compared to 44%). Staff indicated that estimates need to be reconciled. Possible explanations for these results involve changes in use and hours of operation. Recommendation was to review files of lighting-only projects, or a small set of site visits. Billing analysis may not be applicable for all measure types. Ken described pitfalls of billing analysis in commercial buildings due to the difficulty in identifying all the applicable meters.

Debbie asked how we assess the influence of studies on decisions to install measures, noting that 30% of sites receiving studies have gone on to perform projects. Recommendation was to find ways to consolidate site identifiers among sites owned by one firm to obtain accurate estimates of market participation. Several issues apply given that building types can change as well as building management.

4. Home Energy Solutions Existing homes process update

Contractor: ODC and HMG

Sarah presented the interim 2007-2008 existing homes evaluation feedback memo. The 2009 HES evaluation contract stipulated interim memos to improve timeliness of feedback to programs. ODC is performing the process evaluation; HMG is the subcontractor performing the billing analysis. Interviews have been completed with staff of Energy Trust, CSG, utilities and other collaborators (EWEB or other public utility districts). Participant and non-participant surveys should start fielding within a month.

Highlights:

- Participation rates across geographic sub-regions appeared to equalize in the 2008 program years. Equity across regions in 2008 was largely due to the Energy Saver Kits. 2009 appears similar to prior years, when Portland metro customers represented a disproportionately large number of participants. Alan questioned if the kits should really count as participation.
- Home Performance with ENERGY STAR (HP) program – evaluation found the program suffers from a lack of leave-behind materials. Memo indicated home performance programs across the country have been very successful with other documentation. This lack of documentation led to some confusion among participants who did not differentiate between the free HER and the cost of the Home Performance audit.
- Another highlight was the need for contractors to collaborate to provide the range of services. Currently many contractors do not have the skill base to provide all measures that may be recommended in a HP audit.

Debbie questioned the wisdom of encouraging more contractors to enter the Home Performance program in the absence of increased participation. Diane indicated that these contractors can deliver prescriptive measures in the HES track while developing familiarity and comfort with the HP comprehensive tracks. Contractors have the technical details down, and the program is examining avenues to provide sales and marketing training. It was also noted that Energy Trust is considering moving away from free Home Energy Reviews.

Utilities asked for closer collaboration on marketing materials as well as more lead-time. Peter West noted that an examination of our lead times on marketing materials would be helpful, and that utility timelines may not be consistent with what they ask of Energy Trust. Sarah emphasized the need to manage expectations on Energy Trust's side. Six month or longer timelines would impair Energy Trust's ability to adapt to changes in the market and modify program offerings.

Peter mentioned Amber Cole's proposal to re-institute regular meetings with individual utilities to improve collaboration. Some utilities are reluctant to share marketing information in all-utility meetings. Another key finding was the need for formalization of the pilot and initiative start-up process. This has begun to be addressed as a part of the organizational re-design. Using the marketing job-start tool as a model was recommended. ODC also recommended shortening the marketing review process and utilizing one reviewer.

The final suggestions were that the CSG monthly report be shorter and less labor intensive, while marketing plans should be more actionable.

Similar interim memos will be required in all program evaluations on an ongoing basis.

5. Multifamily billing analysis

Contractor: KEMA, The Cadmus Group, Stellar Processes, Demand Research

Phil presented results from the multifamily billing analyses conducted as part of the series of billing analysis workshops. Four contractors estimated results, with no consensus on savings. Two contractors found modest gas savings, but almost no electric savings; one contractor found modest electric savings, but no gas savings; and one contractor was not able to find a statistical model that yielded stable results. Significant obstacles to the billing analysis were related to utility and tracking data: missing accounts, incorrect number of units at the site, unexpectedly high or low readings.

In the future, Energy Trust may request alternative savings estimation techniques, such as billing simulations (using software such as EZSim) or site visits to verify hours of use and location of measure installations. It was suggested by several people that Fast Track be modified so that all buildings or unit addresses can be accurately collected and tracked. Ken noted that multifamily sites are complex and very different from one another, making the process of estimating savings more challenging than for single family homes. CSG is open to using different modeling software to calculate more accurate initial savings estimates. In the meantime, Fred suggested reducing the working savings another 10 percentage points in anticipation of more low savings estimates. The committee agreed that the multifamily program is critical to Energy Trust efforts and the need to accurately estimate savings is high.

6. Duct Insulation and Duct Sealing Billing Analysis

Contractor: Stellar Processes, Michael Blasnik

Phil also presented the results of billing analyses for duct sealing and insulation savings conducted by two contractors. It was noted that in the early years of the measures, most homes received additional measures along with duct sealing or duct insulation, complicating efforts to estimated savings. The contractors found estimated savings for gas heated homes of between 73 and 99 therms, but electric savings varied greatly, with one contractor finding about 625 kWh saved and the other finding more than 2,300 kWh saved. One contractor also noted that there were electric savings for gas heated homes, possibly resulting from a reduction in the use of space heaters. The other contractor noted that the few homes with only duct insulation or sealing had savings close to deemed estimates. This will be explored with further billing analysis on more recent participants that only had duct insulation or duct sealing performed.

7. Home Energy Monitor impact study

Brien reviewed early impact results from the home energy monitor pilot. The pilot began in the spring of 2008, testing two delivery methods: installation during a Home Energy Review (HER) by the auditor, and self-installation by customers who ordered the monitor from our website at a discounted price. Participants were surveyed 3 weeks after

receiving the monitor and 6 months later, and comparison groups (who did not receive a monitor) were also identified and surveyed. A large majority of participants were satisfied with the monitor and reported that it helped them save energy, but statistical analysis of 6 months of post-installation utility data revealed no savings from the monitor for either group of participants, although both participants and nonparticipants showed reduced energy use starting in the fall of 2008, likely due to electricity rate increases and other economic factors. The evaluation team may attempt further analysis when a full year of post-installation billing data is available, although Peter suggested this may not be necessary given the interim findings. Alan felt that electricity rates are not sufficiently high to motivate people to save energy through household behavior. Brien will present the findings at the International Energy Program Evaluation Conference held in Portland this year in August.

Phil presented updates on other evaluation projects underway or planned.

Next Meeting

The next Evaluation Committee meeting is scheduled for June 26, 2009, from 10 am -1 pm.