Evaluation Committee Meeting – June 2010

June 18, 2010 10am-1pm

Attendees:

Dan Davis, Board Member
Alan Meyer, Board Member
Dan Enloe, Board Member (by phone)
Ken Keating, Evaluation expert
Tom Eckman, Northwest Power and Conservation Council
Phil Degens, Evaluation Manager
Sarah Castor, Evaluation Project Manager
Fred Gordon, Director of Planning and Evaluation
Jennifer Barnes, Navigant Consulting
Zach Wilson, Evaluation intern
Steve Lacey, Director of Operations
Kim Crossman Industrial/Agriculture lead
Sue Fletcher, Communications and Customer Services Sr. Manager
Amber Cole, Director of Communications and Customer Service
Marshall Johnson, Existing Homes Program Manager
Pete Catching, Planning and Economic Analysis Manager
Matt Braman, Planning Program Manager

Topics:

1. 2008 Production Efficiency (PE) Program Impact Evaluation
2. 2010 Trade Ally Survey Results Overview
3. Clean Energy Works: Portland Evaluation (continued from last meeting)
4. Actual vs. Reported Participation in the 2009 Residential Awareness Survey
5. Emerging Technology Update

The meeting began with a review of projects underway in the Evaluation Schedule.

1. 2008 Production Efficiency (PE) Program Impact Evaluation

Contractor: Navigant Consulting (formerly Summit Blue)

Phil presented the results from the 2008 PE Program Impact Evaluation. Overall the program served 354 sites with 409 projects; there were only 6 gas sites in 2008, although that number grew exponentially in 2009. The majority of savings were from custom measures and lighting.

The overall program gross realization rate was 86%, similar to 2007 (89%). The free-rider rate was 23% (slightly lower than 2007) for a net realization rate of 66% - almost same as 2007 (65%). The realization rate was affected by a few plant shutdowns with zero savings.

The evaluation consisted of 24 site visits representing 52% of savings. There were many smaller projects in 2008, so a small sample was not able to catch as much of program savings. There were also no megaprojects in 2008. Site visits involved end-use metering, visual inspection, billing analysis and logging hours of operation.

Phil reviewed Energy Trust's treatment of permanent and temporary shutdowns:

- Permanent site closure: 0 savings
- Semi-permanent production changes: midpoint of full production and current production savings
- Short term production changes: savings at normal operating conditions

Ken feels "normal operating conditions" is dubious: do you define it as production in "up" years or "down" years? He saw this problem in characterizing "normal" in the California evaluations with business cycles fluctuations, and would like normalization for economic activity be done both when there is a downturn and when there is an upturn. Kim said that we don't just look at one year of production data; we take a longer view of production volume to characterize normal. Phil noted that production patterns differ by industry and may be seasonal; we estimate by talking with plant personnel. Ken said we need to be clear about the distinction between normalizing for weather, seasonality, and partial installation, and normalizing for long term economic conditions. Alan asked whether we have been doing this consistently. Kim reported that we have for years. Phil also noted that we can set bounds on production capacity. Ken said some excess capacity is usually built in to the systems. Alan cautioned that we may never catch facilities in "normal operation".

The study sample was heavy on air abatement and process measures. It was also a little light on lighting (since it is easy to estimate savings there) and compressed air. The evaluators felt the lighting control savings estimates were a little conservative.

Steve asked whether the evaluation looked at cost-effectiveness of the expensive measures. Planning staff will do this rather than the evaluator.

The group reviewed realization rates by end use. The HVAC realization rate was only 16% because one of the projects in the site visit sample was decommissioned. Process measures also had a low realization rate. Phil said the program is trying to figure out how to help projects that need recommissioning or a little extra help to work right. We are also trying to determine how to claim savings when oversized systems are brought up to higher capacity.

In total, the 2008 program year saved 67.7 million kWh.

Alan noted it is nice to see the compressed air realization rate is high, because savings are often greater for facilities where the production fluctuates than for those that run full out.

Ken asked if there were any issues with participants not cooperating with the evaluation, as has happened in the past. Phil said there was only one (a megaproject), and it would be discussed at the next meeting. Kim said we have made evaluation nonnegotiable and set out expectations about this up front with participants. Phil noted we are also getting the evaluator involved earlier in megaprojects to determine the data to be collected. For these projects, we figure evaluation costs into cost of the project. Ken thought this was a good evaluation and report.

Phil reported that because the sample sizes for some measure categories were so small, we should use a rolling average of 3 years of realization rates – this results in increased sample sizes and reliability. This should be valid; there is no reason to believe program conditions have changed much over the past 3 years.

Alan asked how we would deal with the low realization rates in some years because of shutdowns. Phil suggested weighting the projects by their total expected savings and the number

of projects visited in each year. Tom noted there are so few sites, these reports are like case studies. He also noted that using a rolling average would smooth the data and the effect of business cycles. The important thing is to be able to explain to the program why the estimates come up short in any particular year so changes can be made if necessary.

On the small industrial initiative, there were no suggestions for major revisions to savings estimation tools. The only recommendation was to have a copy editor review and edit for ease of use.

Study recommendations:

- Perform a plant closure study to determine how long they usually last – we will start this in September
- Conduct follow-up M&V on projects that weren't fully implemented
- Use consistent end use classifications for various pumping measure applications (we have already implemented this recommendation)

Evaluation's perspective on the report is that the program is doing a good job at estimating savings; removing shutdowns makes the realization rate over 90%. We should consider using a rolling average realization rate. And we will probably need more site visits in future evaluation for the sample to be representative, which will require more evaluation budget.

Alan asked if we have a certain percent of savings we like to visit for evaluations. Phil likes to have at least 50%; it depends on the program and other conditions. Alan also asked how we sample smaller sites. Phil said we use stratified sampling to make sure all measures and facility types are represented.

Alan asked about the methodology for estimating free-rider rates. Phil reported we are using our standard protocol, the same as for last year's evaluation.

Alan asked whether we are estimating program spillover. Phil said we are still not able to estimate, so we are not including spillover. Ken noted it takes a lot of time and money to be accurate with spillover. Phil said that we will be following up with companies who did ATAC studies to see if they followed through with recommendations. Kim noted that we already claim savings if they move forward on our study recommendations without our money as long as it is clear that we were the influence.

Alan asked whether we should do a focused spillover study to get a better idea of its size. Ken said that Research Into Action has done some work on roughly estimating spillover and found it wasn't very large. Phil noted that we ask people how they manage energy and other questions about how they make decisions – we may influence this and the participant will track their own savings. Kim cited the Kaizen Blitz pilot, where we are putting in energy management systems and seeing what savings come out, and the Industrial Energy Improvement pilot, where we are training people to track their own savings. We do not penalize companies as free riders for having an energy policy. Dan noted that companies look at our programs when determining their energy policy, so it would be bad to count an energy policy against a company as free-ridership.

Alan asked why we aren't as willing to count spillover as free-ridership. Phil said that free-ridership estimates are not just used to ding the program; we're also assessing program design. We are also counting market transformation, which is positively affected by spillover.

Ken asked if we estimate free-ridership before programs are evaluated. Matt said yes, we do use the previous 3 program years to estimate and this year our estimate was pretty close to reality. The net realization rate presented here is based on the working savings, not the savings with estimated free-ridership included.

2. 2010 Trade Ally Survey Results Overview

Phil presented results from the 6th annual trade ally survey, which asked questions about the 2009 program year. Our intern, Zach Wilson, has provided most of the analysis, but is leaving at the end of the month, so the rest will be finished later by Evaluation staff. More detail at the program and measure level will be available next time, this is a broad overview.

The survey used the same objectives and methods as previous surveys – it was a web survey used to estimate contractor satisfaction with Energy Trust and to provide recommendations for Energy Trust improvements. This year we included questions on the NW Natural Washington pilot, website redesign, and questions to be used to evaluate Energy Trust's organization redesign.

There were 331 completed responses, up from 110 last year. We aren't sure what caused the increase. The survey was e-mailed to 1,851 trade allies contacts. There were especially large increases in the number of non-residential trade allies responding. Marshall noted that the Home Energy Solutions (HES) program roughly doubled its number of trade allies in the last year or so, which corresponds to the doubling of residential trade ally respondents.

Findings:

- Respondents represented 4,500 employees statewide
- Over half of respondents predict increasing the work they do with Energy Trust
- Energy Trust had high influence on projects moving forward
- Majority of trade allies are completing paperwork most of the time for their customers
- Good familiarity with tax credits; recommended that we keep offering training, sync our forms with BETC and RETC
- Majority of respondents attended training last year and found it valuable; they want more training on our forms, calculation tools and tax credits. We should also consider offering more webinars
- About half have attended a roundtable, and found them somewhat useful

Dan Davis asked whether there is any downside to always offering webinars. Phil said it depends on the topics: if they are specialized, a webinar is not good for general audiences. Fred noted that technology can be difficult and California has been having technical difficulties with their webinars, and they are run and attended by technologically savvy people. Marshall feels we should consider offering on-demand video trainings.

Findings (continued):

- Respondents value almost all types of support – program updates, coop marketing, and trainings; they don't seem to want cross-training in other trades
- Respondents also want us to help increase consumer demand/awareness
- They want info by e-mail or newsletter, monthly or more often (may be biased by the fact that the survey was electronic)
- Majority get the newsletter and like it; they would like more articles on emerging technologies and technical assistance

- Website redesign improved navigation for more than half
- We should consider allowing contractors to update their own contact/service information through a web-form, since many reported their information was incorrect.

Tom noted customers will be able to search for trade allies on the web by distance as of July 1.

Energy efficiency trade ally satisfaction findings:

- Overall satisfaction up slightly (72% from 67%), maybe affected by increased sample size
- Satisfaction with turnaround time for information and incentive processing is only at 50%; we should manage expectations for communications and incentive processing times

Alan said that we should try to figure out why this satisfaction level was so low. Maybe we really are later than we should be with payments. Our average time is 4-6 weeks and Steve noted this is average, and may be better if info is complete from the beginning. Phil noted we are under a lot of scrutiny, and have to be diligent to avoid fraud. There are lots of check-off points in the process. In addition, for almost all measures, the customer gets paid, not the contractor, so it's not really putting them out. We should be paying more attention to the customers' feelings about turnaround time. Fred noted that along with paperwork, turnaround time always has the lowest satisfaction ratings.

Solar trade ally satisfaction findings:

- Higher satisfaction overall than last year (80% from 63%)
- Same concerns as other trade allies with payment processing, turnaround time
- Satisfaction with Energy Trust solar inspectors has fallen somewhat.

Marshall would like to get response from energy efficiency trade allies on quality of Energy Trust QA (quality assurance) inspectors.

Pete suggested checking trade ally respondents for representativeness of the population (type of trade ally, geographic area, years of experience, size of the firm, etc.). In the next report, we will more fully analyze the general increase in response rate, responses from real estate allies, and trade ally responses by program/measure.

3. Clean Energy Works: Portland (continued)

Contractor: Research Into Action

Phil briefly reviewed the concept of the pilot for Ken and Tom before picking up where we left off at the last meeting.

Learnings about projects, process, project costs:

- Pre-screening has reduced the number of project dead ends
- Projects are larger than anticipated
- People are often unfamiliar with their homes
- Additional staff are needed
- Paperwork is seen as repetitive
- Determining drop-out status is still difficult – are they just on hold or have they quit altogether?
- Need to continue to work on improving program transparency
- Participants can be shocked by the cost of comprehensive projects

Alan asked if the intent was for the bill savings to cover the loan payment. Phil said yes, but we are seeing that isn't the case most of the time.

Of projects surveyed, homes averaged 1,600 square feet, 80 years old and household income was slightly higher than Portland average (although Portland average includes multifamily unit households, which are not eligible for this pilot). We are also seeing lots of early replacements of heating equipment, which increases project savings.

As the project has moved into later phases, we are interacting less with participants, which is good for managing program costs and there is no indication this adversely affects participants.

The evaluation did not identify any major process issues to be resolved. Participants report high overall satisfaction and 20 of 21 would recommend the program to others. Participants would like more clarity up front on interest rates, the particulars of financing, and more communication on timelines and the work being done. We should also work to clarify the role of the energy advocate and possibly change the word "advocate" to something else to avoid confusion about their role.

The pilot should also work to clarify the roles of the organizations involved (City of Portland, Energy Trust, Shore Bank). Portland is in charge, since the funding is coming from their federal stimulus money. It would also be a good time to think more about how to scale up; the recent $20M grant is for up to 6000 homes in 3 years, statewide.

We will continue to survey participants and drop-outs.

Tom asked if we have an idea of the savings from the pilot. Phil said they should be substantial, since participants were screened on energy use and the potential for savings. Ken said that cost-effectiveness should not be affected by the use of a financing mechanism. Tom also asked if we are tracking the cost of the energy improvements separately from other home improvements required. Marshall explained the cost caps for both energy and non-energy costs, and said that projects are expected to save about 35% of energy consumption.

Tom said we should consider whether we could have gotten these savings sometime in the near future for a lot less money than is being spent on the pilot. Steve noted that if we find this approach (i.e. an energy advocate) works, we may decide we want to put our money into the advocate, not an incentive.

Dan Davis asked what the total cost of the pilot is so far. Phil said it hasn't been counted up yet, but our average cost in incentives and advocate fees is 5-7% of the project cost (averaging $500-$700 on a $10,000 project). Steve said if costs are high, we will need to ask the OPUC to adjust our levelized cost targets upward; the pilot is state-mandated, so we shouldn't be penalized if it is less cost-effective. Marshall noted that the pilot is not all about energy; there is a large component on living wage jobs, workforce diversity and growing the efficiency contractor market.

Results for the next phase of the pilot will be available in September and a report is due to the OPUC by October 1.

4. Actual vs. Reported Participation in the 2009 Residential Awareness Survey

Contractor: Research Into Action

Sarah presented results from supplemental analysis of the 2009 Residential Awareness and Perceptions Study. The analysis was motivated by findings by Matthew Taylor in working with the survey dataset for a course at PSU. Energy Trust put together the survey data from 2008 and 2009 and corresponding program participation data for valid addresses and Matthew worked to determine which respondent characteristics predicted participation in various programs. In doing so, he found that reports of participation were often inaccurate, so we commissioned Research Into Action to do a thorough analysis for the 2009 sample.

We took all respondents who were served by Energy Trust-funding utilities and that had a valid address and matched to measures from Fast Track. The analysis is based on 586 respondents.

It should be noted that the home is the unit for which we have participation data, but the occupant answered the survey, so it is possible that an inaccurate report results because a person participated at another address or the previous occupant participated. Matthew said that in his analysis, he checked participation date against the respondent report of how long they had been in the home and mismatches accounted for very few of the inaccurate reports.

Overall, reported participation was 9%, while actual participation was 19%. Only 25% of participants correctly reported that they had participated. It is possible that the wording of the question contributed to under-reporting for Home Energy Review (HER) participants.

Additional findings:

- Accuracy of report does not vary much by year of most recent participation
- The most common measures in the tracking data were clothes washers, and HERs; however, clothes washer participants were among the most likely to correctly report their participation
- By region, actual participation is around 20% in the Portland Metro, Willamette Valley/North Coast, and Southern regions, and 14% in Eastern Oregon
- Actual participation is virtually the same for PGE and Pacific Power (20%), higher for NW Natural (26%) and lower for Cascade Natural Gas (6%), where we have been involved for the least amount of time
- By customer segment, participation is more than 20% for our highest priority segments, and there is even some participation among low income renter segments
- Participation among single family homes is 25% and among mobile/manufactures homes is 30%
- Participation among multifamily homes is understated due to difficulty with address matching

Steve suggested respondents may be thinking of our offerings as utility offerings. Marshall also wonders if Pacific Power is getting more of the credit in Southern Oregon, since they have been more involved in Energy Saver Kits and other promotions in that region.

Implications:

- We could improve our survey questions about participation
- We should not measure our success at outreach with survey responses alone

Fred noted that the analysis shows we are doing much better than we thought, especially in regional equity. Phil performed a quick analysis of addresses in Fast Track that confirms 20% participation for the residential sector, including multifamily units.

We will perform this same analysis on the respondents to the 2010 Residential Awareness Survey (currently in the field) and we have already included improved survey questions.

Alan asked if the results mean that the previous surveys were a waste of time. Sarah said no, we asked and learned about much more than participation with Energy Trust; that was just what most people were interested in.

Pete asked if the results of this analysis would change the segmentation. Sarah said that the segmentation was based on lots of factors other than participation. Also, the segments all had roughly the same rate of inaccurate reporting of participation.

5. Emerging Technology update

Fred presented a grid of emerging technology work at Energy Trust, by program. We are following a lot of stuff – not only measures, but ways of screening emerging products. Shaded measures indicate ones we are not taking the lead on, but monitoring the work of others. NEEA has a role in regional emerging tech coordination, but they are electric only and have limited budget, so we also work with others.

Dan said he would look at the grid and provide comments to Fred. The group will take a few minutes to discuss further at the next meeting.

The meeting adjourned at 1pm.

The next Evaluation Committee meeting is scheduled for August 6th, 10am-1pm.