CONSERVATION ADVISORY COUNCIL
Notes from meeting February 17, 2010

Attending from the Council:
Bill Welch, EWEB
Don Jones, Pacific Power
Jim Abrahamson, Cascade Natural Gas
Paul Case, Oregon Remodeler's Association
Robin Straughan, representing Oregon Department of Energy on behalf of Suzanne Dillard
Brent Barclay, Bonneville Power Administration
Roch Naleway, Portland General Electric
Theresa Gibney, Oregon Public Utility Commission
Stan Price, NEEC
Charlie Grist, NW Power and Conservation Council
Bruce Dobbs, BOMA

Attending from Energy Trust:
Brien Sipe
Diane Ferington
Fred Gordon
Jessica Rose
Matt Braman
Peter West
Phil Degens
Sarah Castor
Spencer Moersfelder
Ted Light
Tom Beverly

Attending from the board:
Dan Enloe

Others attending:
Jeremy Anderson, WISE
Kari Greer, Pacific Power

1. Welcome and introductions
At 1:32 p.m., Peter West asked for self-introductions and reviewed the agenda. The agenda was adopted without changes.

2. Multifamily Impact Evaluation
Brien Sipe presented results from the Multifamily Impact Evaluation. The study was motivated by earlier analyses that examined 2003-2007 program data. Studies found consistently low realization rates. Energy Trust could not conduct impact evaluations on the multifamily program earlier than late 2008 due to problems with getting access to utility data. These issues highlight the importance of a utility data sharing agreement to allow earlier detection of deviations between predicted and actual energy savings.

The present study is a review of predicted savings methodology, in addition to estimating realization rates for projects representing the majority of gas and electric savings for the 2008 and early 2009 program years.

The good news was that projects were saving substantial amounts of tenant heating loads, typically 20 to 40 percent.

The bad news was that predicated savings as a percent of space heating loads were typically very high. This factor led to overall realization rates for electric weatherization

measures of 22 percent, and 48 percent for gas. Predicted savings exceeded actual energy use in many cases.

There were no recommended changes for base load related measures (CFLs, showerheads/aerators), but the evaluation contractor did indicate that there is some uncertainty on savings calculations for these measures. The recommendation was not to heavily shift program resources to these measures, as savings yields may be lower than expected.

The evaluation contractor developed a new spreadsheet to estimate weatherization savings, based on changes in Ua (changes in U-Value multiplied by area) in units. The new tool is scalable to any size building and supplants the Sunday modeling tool, which takes considerable staff time to generate savings estimates. It will save time for program staff and yield better predications of savings. The Planning and Evaluations Group will look at cost effectiveness for the overall multifamily program and the individual measures. We may need to emphasize the non-savings benefits of some measures.

Program staff has started to use the spreadsheet and will use it to calculate savings for all 2010 weatherization projects. Dave Robison (the evaluation contractor) derived coefficients for delta Ua values from actual project savings observed in the evaluation.

Questions:

Dan Enloe asked for more explanation about the discrepancy between predicted and actual savings.

Brien Sipe: The multifamily program was originally run by the City of Portland who used simulations of typical buildings to estimate savings at the inception of the program. Those estimates are in use through present day, and are not completely up to date and accurate. Those predictions were much higher than actual savings. Problems accessing the utility bills resulted in savings estimates going un-evaluated for so long.

Fred Gordon: We also did a scan of other similar programs. We found that it was very arduous to pull together collections of individual multifamily utility bills.

Dan Enloe: It makes a difference what your neighbors are doing [in multifamily], and it can help or hurt.

Brien Sipe: Yes. High heat settings in a lower level unit can impact things in units above. The impact evaluation aggregated total usage to the structure level in an attempt to overcome the issue.

Bruce Dobbs: Multifamily buildings in Portland are sometimes old, cruddy buildings with no individual thermostats and controls. People open windows in their individual apartments to control the temperature. That's a huge energy loss, and the flip side is overheating spaces because there aren't any individual thermostats. It's good to do improvements, but the crux of the problem is to control over-heating.

Brien Sipe: I don't know how many in the report were centrally heated.

Charlie Grist: How many units were included with each heat source?

Brien Sipe and Fred Gordon: The evaluation included 32 electric and 17 gas-heated buildings.

Jim Abrahamson: Regarding envelope improvements – will windows save 20 percent on gas for example? Window changes were too expensive and still not cost effective?

Fred Gordon: We need to look at three things: incentive, utility test and societal test. It used to look good to tear out windows, but that doesn't seem to be the case anymore. Non-energy benefits may have to play into it to continue the program. The program needs to find a way to estimate the benefits that aren't energy related.

Bruce Dobbs: We can make sizeable cuts in overall energy costs in large buildings, like savings of $56,000 per year on utility bills, but it can cost over $1 million for the new windows on a large building.

Peter West: The savings projections for Multifamily have been revised downward based on this evaluation. Now we need to evaluate the window part. It's passing the utility test, but societal test may be very close. We may need to revise windows in the future.

Fred Gordon: Need to be more systematic in asking people why they did the measure. We are going to sharpen up what we're asking, in an effort to determine non-energy benefits.

Dan Enloe: The increase in value of the buildings can be obtained from Regional Multiple Listing Service listings on buildings with old vs new windows. Aesthetics also play into it, and the better looking windows are more costly. Property value is important statistically and we could get it.

Theresa Gibney: In Oregon we are allowed to use quantification of non-energy benefits.

Charlie Grist: How did you estimate space heat load? Is there a dramatic difference between all the buildings?

Brien: The study used a Prism-like Normalized Annual Consumption approach. Realization rates did vary by building, and a weighted average was established.

Dan: I know the data set includes before and after actual utility data from the utilities. Thank you utilities.

Brien: After 2008, when we received address information, we were able backfill the utility database with addresses, and we couldn't do that in previous program years. This evaluation should be the only big hit we'll see in this program.

Phil Degens: We will still follow up on these reports with subsequent evaluations to reassess the predicted delta Ua coefficients. This method was a simple way to get at the savings and we needed to get away from the current modeling tool which was inaccurate and slow.

Don Jones: When you forecast the savings ahead, how does this play in?

Fred: We warned the program right away that something was bad in our predictions, and they shifted to new methods. We have built this hit into our forecast.

Peter: Our forecast would have been about 20 percent higher for Multifamily.

Paul Case: How does it factor in whether the landlord or tenant is paying the utility bill?

Brien: About 95 percent are tenant paid five percent master metered.

There were no other questions.

3. Refrigerator and freezer turn-in update

Peter: This has grown quite a bit. A year ago we did 1,600 pickups for fridge and freezer recycling. Last year's final tally was more than 15,000. Sarah Castor did a faster evaluation because of the growth and will walk us through it.

Sarah Castor: Interest in fridge and freezer recycling is scaling up and we hired Innovologie to evaluate it because they have done this type of evaluation before. They interviewed staff here, at PECI, and at JACO, plus they reviewed documentation. They produced a logic model and looked at our processes. They talked to 300 customers. The report will be available on the website soon.

The initiative started in June 2008 and the evaluation looked at June 2008 through June 2009. We saw participant interest take off in May 2009, and volume has been very heavy at about 1,500 units per month.

Innovologie came up with characteristics of each pickup. Most pickups were for single units, although we can do more than one unit at a time. More than half the fridges were more than 20 years old, with a higher percentage for freezers. Based on studies for similar units, electric consumption was estimated between 7.2 and 11 GWH of savings.

About half the units were primary, others include secondary and tertiary. There was a decline in replacement of units in 2009. Three-quarters of the replacements were new.

Don Jones: What does replacement mean? Actually replacing the unit that was picked up?

Sarah: Yes. Participants are mostly homeowners in their homes more than six years, with modest to large homes. That was expected. 60 percent had one or two people in the home. We suspect they are mostly empty nesters and ages match that assumption well. Median income was $60,000. Thirty-five percent still had more than one fridge and 55 percent had more freezers even after recycling one. Fifty percent of units were primary, and 50 percent were secondary.

The process evaluation taught us that customers are suspicious that this is too good to be true. People don't realize how much savings come from fridge recycling. Bill inserts and retailers providing information were the most effective drivers of participation. The top reasons for fridge recycling were convenience and our incentives. Bill savings were only a small portion of the reasons people participated. It is estimated that half of the

units would have been scrapped if we didn't pick them up and the other half would have remained on the grid.

The question about the reasons for participation was a multiple choice question, and gave many options for how they would have disposed of an old fridge. People were given the opportunity to choose and rank three options.

Don Jones: The question is tough to structure when you ask about recycling vs. disposing of the fridge. It's tough to get to the answer of free ridership. It's very easy to find old fridges on Craig's List for $50. When Pacific Power evaluated our fridge turn-in efforts in other areas, we had a higher number of customers than expected who would have recycled.

Sarah: Out of people who participated, 83 percent signed up by phone, even though web signup existed. PECI wants to increase web signups but many people still prefer the phone method. We may not increase web signups. The evaluation found that JACO has an efficient signup system.

A database review with PECI and JACO raised an issue of non-normalized postal addresses, which caused problems for PECI in processing incentives. We are now working to get normalized addresses to JACO for sign-ups. There was extra time spent and several check reversals because of this problem. Utility customer names are not provided with addresses, but new data sharing agreements might help. If the person calling to sign up is not the one on the utility account the names may not help. There was some missing data on fridges, but old ones have bad labels that make it difficult to gather information. 90's era and newer fridges may have barcodes we could use, but it's not a priority to invest in barcode scanners.

Roch Naleway: How many addresses have issues?

Sarah: My sense is that it's more than five percent.

Don Jones: Can you explain "normalized" addresses?

Sarah: Those are postal service approved addresses.

Phil: There are many different ways to abbreviate 'street,' for example.

Sarah: We now have batch processes to normalize addresses and give good address data.

Sarah: We have a partnership with Sears to request pickup through Energy Trust. Nine percent of program fridges were removed through this process. It seems to be smoothly run and Sears participants seem to be more informed about the program.

Theresa Gibney: Is this for Sears statewide?

Sarah: Yes.

Don: Many other Sears districts are participating and work with JACO in other districts or states.

Sarah: With regards to satisfaction, 95 percent of participants gave ratings in the top two boxes. All said they would participate again, and most said all their questions were answered and that scheduling a pickup was easy. Eighty-one percent would have participated without a check.

We found that bill inserts are the best marketing method to reach people for secondary units. We need to stress the convenience of participation over environmental aspects. Providing more info on what we get out of it (savings and environmental impacts) would be helpful. We'll continue working with Sears and looking into other retailers.

A fast feedback survey initiative will be used after the transaction is complete and a check is paid. That will start in May. It may be a good idea for our staff and PECI staff to visit JACO's call center and give a talk about gathering data and why it's important.

Don Jones: JACO's recycling centers are something to see. They are state of the art. Salt Lake City has one. Our local one is on Airport Way.

4. Legislative updates

Peter: All of the legislative updates are from Salem this time around and many of them are cleanup bills. There is a cleanup bill for EAAST which allows multifamily mixed use projects to get loans. It will require IOUs to offer on bill repayment of loans unless excepted by the OPUC. 2011 will be the latest date to implement this on a statewide basis.

Theresa Gibney noted that the amendment to the EAAST bill doesn't require the utilities to have automated on-bill repayment systems. Utilities can still use manual processing and charge a fee for it, and the amendment would make that okay instead of requiring automation.

Peter: We are seeing lots of stories about Business Energy Tax Credit in the paper, but they are only about renewable energy projects. Energy efficiency is not impacted. There are no changes or caps being contemplated for energy efficiency.

Fred Gordon: The sunset got moved from 2012 out for another six months. The 2011 legislature can figure out sunset dates. They want to move them out six months after the next session so they can have a better look at the situation.

Peter: There was a lot of discussion about Business Energy Tax Credits at the RAC meeting, but maybe not as much here. On the RAC side, the discussion was around woody biomass plants, hydro and municipal solid waste.

Peter: There is also a cleanup bill on the feed-in tariff for solar.

Bill Welch: We looked at repayment of loans for energy efficiency vs. other loans for 20 years. Our loan person pulled the data, and in our record of $34 million in efficiency loans there is only a 0.4 percent non-payment rate.

5. 2009 savings unaudited results

Peter presented the unaudited version of our savings results from 2009, highlighting the results based on the following tables.

Net Electric Savings (kWh)				
	Pacific	**PGE**	**Total**	**Stretch Case Share**
Existing Buildings	20,519,134	50,569,320	71,088,454	**80%**
New Buildings	7,220,307	16,698,278	23,918,585	**85%**
Industrial & Agricultural	32,455,947	41,620,221	74,076,168	**78%**
Existing Homes	10,080,392	19,089,885	29,170,277	**106%**
New Homes & Products	15,198,565	28,804,528	44,003,093	**95%**
NEEA	24,243,953	31,851,715	56,095,668	**108%**
Total	109,718,298	188,633,947	298,352,245	
Percent of Stretch Case	**89%**	**88%**		**88%**

Net Gas Savings- without industrial pilot and WA (therms)				
	Cascade	**NW Natural**	**Total**	**Stretch Case Share**
Existing Buildings	58,228	744,363	802,591	**88%**
New Buildings	13,179	525,129	538,308	**124%**
Industrial & Agricultural	45,637	155,933	201,570	**118%**
Existing Homes	113,093	1,120,533	1,233,626	**95%**
New Homes & Products	26,472	142,992	169,464	**98%**
Total	256,609	2,688,950	2,945,559	
Percent of Stretch Case	**93%**	**99%**		**99%**

Peter: Total electric savings were 6.3 percent higher than in 2008, even while the economy shrunk and unemployment was high.

Savings still grew. Existing Buildings reached 88 percent of its stretch case goal. 2010 will include a ramp up with another 30 percent on top of that. A large amount of our savings was expected to be from the public sector, but ARRA funds are delaying some

projects. Funding came late to get projects in by the end of 2009, which is the same around the country.

New Buildings did better but the goal was lower for electrics than in 2008. Savings were down from 2008. PGE was up but Pacific Power was down. In 2010, the new code is 15 percent higher than in 2009, which makes it tougher to get savings, so there will be new emphasis to go deeper.

Wood products facilities have historically been one-third of our Production Efficiency savings, but fell 65 percent from 2008 to 2009. We made a conscious decision to diversify the approach in the program. We did a lot more with food products, electronics and other things, plus the launch of a small industrial initiative.

Existing Homes was similar to 2008. Single-family savings were up, Multifamily and Home Performance with ENERGY STAR® were down. Overall, Home Energy Review activity was 6,400 in 2008, and 9,300 in 2009.

New Homes and Products savings were down 14 percent, with housing starts way down all over the state. Savings didn't fall as much as they could have because of products. Appliances were up past 36,000 in 2009—the majority on the electric side.

On the gas side, the program saved 2.9 million therms, the most ever, and reached 99 percent of our stretch case goal, up 15 percent from 2008.

Existing Buildings in Cascade Natural Gas territory was up 67 percent but in NW Natural territory was down. There were a few large projects that dropped out, causing the decrease in savings. More direct installs, control systems and outreach to contractors are planned.

New Buildings goals were lower because of the huge amount of excess space.

Production Efficiency numbers do not include the NW Natural Industrial DSM pilot for gas. The number of projects forecast to participate in this pilot was correct, but savings were lower than forecast due to the lag time to complete. The pilot launched in June, but we won't see projects finish until 2010.

In Cascade Natural Gas territory, the New Homes and Products program was very hard hit, and only reached 65 percent of goal due to very low housing starts and lack of gas product options.

Jim Abrahamson: We knew that 2009 wouldn't be very good and we haven't seen improvement in the new homes market. Did we forecast for snapback for malaise in 2010?

Peter: In Existing Homes and in Products we expect a snapback. There is also an expected 10-20 percent growth in agriculture predicted over 2009, according to Ted Light.

Dan Davis: In my experience, suppliers are not at full capacity, and they can handle new orders for anything. Capacity can be eaten up briefly for some projects, but when those projects are done, they go back to having more capacity.

Paul Case: How does 2010 compare to 2008? Are we coming back up?

Peter: Overall we grew over 2008. The sum of the programs is higher. The electric side will see a 32 percent increase in goal. It's in the budget information. There is a plan for each program with more marketing and outreach efforts. Existing Buildings grew 78 percent and started the flywheel. Clean Energy Works Portland and Savings Within Reach increases will help.

Diane: There has been a 50 percent increase in Existing Homes application volume, also.

Peter: There is a 20 percent increase in rural goals, and 3,000 more Home Energy Reviews over the year before. Solarize Portland brought in 100 efficiency projects, as well. Renewable projects tend to bring in more energy-efficiency projects. Out of 350 homes signed up for Solarize Portland, 100 homes weren't appropriate for solar energy. 250 were left, and 120 of those signed up. Of the original 350, more than half the people had already done efficiency, and 100 of the 350 did more efficiency.

Jim: We went through an exercise on 2010 funding and budgets. Will there be any modification in therm savings for Cascade Natural Gas based on 2009 results? We need to look at whether it will continue to be flat in Cascade Natural Gas territory. For Cascade Natural Gas, it's not a small amount of money, and they need to look at that money and the 2010 budget.

Peter: We didn't show the carryover in the budget. But the carryover can bring some flexibility. We need also to look at revenues and figure out the priorities.

Diane: Also, a reminder that this time next year Multifamily savings, which are large in numbers, will be on the commercial side. Existing Homes electric savings will go down because of this. It's in the forecast for 2010.

6. Meeting adjournment

The meeting adjourned at 3:00 p.m.