CONSERVATION ADVISORY COUNCIL
Notes from meeting on September 14, 2011

Attending from the Council:
Anne Snyder-Grassman, PGE
Andrea Jacob, City of Portland
Don MacOdrum, Home Performance Guild
Juliet Johnson, OPUC
Bruce Dobbs, BOMA
Kari Greer, Pacific Power
Scott Inman, ORA
Brent Barclay, BPA
Holly Meyer, NW Natural
Wendy Gerlitz, NWEC

Attending from Energy Trust:
Peter West
Diane Ferington
Tom Beverly
Oliver Kesting
Spencer Moersfelder
Sarah Castor
Amber Cole
Adam Bartini
Marshall Johnson
Pete Catching
Lakin Garth
Eric Wilson
Steve Lacey
Kathleen Ortbal
Susan Jamison
Fred Gordon
Matt Braman
Nick O'Neil

Others attending:
Jeremy Anderson, WISE
Theresa Gibney, Energize Corvallis
Dan Enloe, Energy Trust board
Kendall Youngblood, PECI
Tim Davis, CSG
Terry Miller, CSG
Emily Moore, PECI
John Reynolds, Energy Trust board
Don Jones, Pacific Power
Jason Hanley Brown, Fast Water Heater Company
David Dickson, OSU/Corvallis
Murali V, Lockheed Martin
Carollyn Farrar, NW Natural
Tim Abshire, NW Natural
Marilyn Williamson, NW Natural
Phil Damiano, PECI
D.G. Graham, NW Natural
Tom Hendrix, NW Natural
Gary Heikkinen, NW Natural
Jack Hruska, Energy Trust quality assurance contractor
Alexis Allan, NEEA
Whit Hall, Rinnai
Kevin York, Rinnai
Wendy Koelfgen, CEWO
Jerry Page, Total Comfort Weatherization
Mary Mann, Goose Hollow Window
Joe Brewer, Columbia Contractor Services
Ran Munson, Western Outdoor

1. Welcome and introductions

Peter called the meeting to order at 1:35 p.m., and asked everyone to introduce themselves. He indicated that presentation materials would be posted to the website, along with notes from the meeting.

The agenda, notes and presentation materials are available here.

2. Budget themes for 2012

Peter covered 2012 budget themes, and indicated that it would be a broad overview of what we plan for 2012.

Peter: We are calling it a "discovery year" and will need feedback on missing pieces, suggestions and any other comments. Drafts will be presented here on October 26 and to the

board in November. Then the budget becomes official. It will be finalized for board approval on December 14 or 17, 2011.

In 2010, we grew 38 percent for electric and 67 percent for gas. Before tax credit changes we were on track for this year; probably at least 20 to 25 percent above 2010. We are still on track for residential, but in the business sector there are variable effects. The mitigation measures were well received, but it's too early to tell about their success. The outcome remains uncertain, and the best information is what we gave you in August. The 2012 IRP is still our assumed target, and we will require additional revenues to get there. We're moving up the tree and needing to go after more expensive savings. The challenge of doing that is uncertain. The economy, customer responses, higher standards, new codes and new appliance and lighting standards make things uncertain. The T12 to T8 standard changes and their acceptance will cause changes. Again, we'll be in a discovery year.

We've had 30 years of the Business Energy Tax Credit, and now that's over. The new tax credit for conservation projects may be called "Connie", and the new rules are being written now, they will at first be temporary; they can last 180 days under the state law. So, we'll have two sets of rules next year for commercial and industrial credits. Residential credits may be decreased next year. The new residential rules do mean that tax credits for appliances will no longer be eligible.

We also see more market actors, and we need to (and want to) work with them and leverage their efforts.

We have identified six themes for energy efficiency next year. The budget plan looks at addressing a slow economic recovery, the transition to new tax credits, managing costs and cost effectiveness, supporting trade ally contractors and customers (expanding non-lighting trade allies in rural areas and small commercial efforts), continuing our customer service theme and emphasis, further diversifying our portfolio by including more tracks and channels, and responding to new codes and standards.

The economic recovery is slow. In response, we'll continue no- and low-cost measures. We did these in 2009 during the early part of the slowdown. We expanded more in 2010, and even more this year. They will still be dominant next year, particularly in industrial.

We'll grow Savings Within Reach, have direct installs for renters and add limited-time bonus incentives in lagging markets. Those have worked well before. We'll provide more customer support in commercial and industrial to sell projects, and we'll support financing options. We'll also expand strategic energy management efforts.

For theme two, tax credit changes, we'll engage in rulemaking and revisions, and support customer understanding of new rules, how they apply and things they can do. The Oregon Department of Energy will have to address things that have unintended consequences, and we'll support their efforts to fix those things. We'll need to manage expectations; we have always promised 15 percent bandwidth between stretch and conservative goals, and it will be challenging to stay within that band and deliver. We're responding to what happens with our own program designs and specifications and need to be more willing to change faster than we have had to do in the past. That's the contractor dilemma: if you don't respond, you have trouble with customers. If you respond and change too often, there's a customer problem. We will have to find the balance together.

We'll do all of this through the revenue caps we have as the case warrants. If we're too additive, we'll back off. We'll do this without cutting residential programs; they are successful, and we don't want to borrow from them to support mitigation actions in other sectors.

We'll manage costs and cost effectiveness through efficiencies. We will revise approaches for new homes, such as how we construct, calculate and put out EPS. We'll attempt to lower per unit delivery costs for appliances. We'll enhance employment of ATACs, the contractors who do the studies for commercial and industrial. About 80 percent of the business goes through a small segment of ATACs. We have been focusing more on those ATACs and will continue to do so in 2012. We used to have a 19 percent close rate on their studies; we wanted to get to 30 this year, and want higher next year.

We'll rebid two program contracts, which is always part of our normal process.

For our measure costs, and we will continue to address utility cost/benefit measures and societal tests. Everything should pass the utility tests, which are calculated as savings divided by incentives. It's most often the societal test where we face challenges. We face some of that later this afternoon and could see more in 2012.

We'll monitor project pipelines more tightly, which have a lot to do with Business Energy Tax Credit impacts, and whether we over or under promote.

Holly Meyer: Are you required to meet the societal test?

Peter: Yes, but there is a nuanced answer we'll get to later, which deals with market transformation.

Peter continued. We'll have strategies to aid competitive prices and high quality. We're challenged in some programs where the comparative costs are a little high. We have customers get several bids, which makes economic sense and good consumer sense, but we also need to focus on the other side of equation, which is quality.

We'll continue to have pilots. They are a very orderly way of testing, and have served us well, such as through NEEA or on our own. They get us out sooner with a better product. Fred's Planning and Evaluation shop is leading a project to get earlier indications of market reactions. Fast Feedback evaluations allow us to learn things sooner, instead of waiting for formal evaluations.

We'll have more forms online and enhanced phone and web engagement for customers. That includes effective directing of customers, and revising customer information and trade ally referral processes. Customer communications will have a greater emphasis on key actions and their benefits; more of a sales-pitch showing the benefits of actions in a comparative way. There will be more on five-year savings from their efforts. We'll do quicker market tests and surveys, to help us guide customers.

Based on commercial studies, we're revising how we say things. It won't just be the economic case where we talk about payback period. We'll try different things like internal rate of return, profit and graphs.

We need more emphasis on benefits of the Trade Ally Network to support trade allies, and also more focus on how we portray the network to customers. The non-trade ally quality control pass rate is low; about 60 percent. We need to remain open to non-trade allies, but keep in mind that

it's a cost to us for QC'ing a second time. One way to address the problem is to better promote the network since they have agreed to higher standards, and work the network into our promotions to distinguish them.

Instead of Energy Trust doing all the training, we are going to leverage more market-based training. We don't have to deliver all of it. We've added a trade ally development fund as part of the co-op marketing fund. It can be used for market-based training.

For diversifying our portfolio, we have 32 key segments across five major programs. We'll continue those. As we always do, we'll move back and forth between them as demand shifts to drive toward IRP success. We need to expand our channels and the offerings we provide customers in those segments.

Strategic energy management means more comprehensive solutions and deeper savings. In key markets for Home Performance with ENERGY STAR® and Clean Energy Works Oregon, customers are motivated by non-energy benefits. We need to tap into this more, and there is more to mine there. That set of customers is looking beyond just energy savings. Home comfort may be an avenue.

We will expand our offerings for LEDs, lighting design, new small commercial building approaches, EPS and more work with small commercial design/build customers who may have less interest in the green strategies or LEED® specifications.

We'll look to more capital projects for multifamily; probably with boilers. We'll also look at more post-occupancy analysis: are we getting the savings expected over time, and are we driving changes in tenants?

McMinnville and Canby helped us deliver instant savings measures through Home Energy Reviews in their areas, which was very successful. Funding was cut off, but Bonneville Power is also back in the game in 2012, we believe. We're looking at more of these cooperative opportunities.

We need to expand the number of non-lighting trade allies in rural areas, and will also look for community led initiatives to leverage. Also, we can work with Clean Energy Works Oregon as they expand into rural areas.

We're planning more upstream support; like stocking incentives to make sure that the right equipment is in the warehouse and on the truck.

We'll continue the behavioral pilot through OPOWER.

We'll work to leverage other market actors like NEEA, Clean Energy Works Oregon, contractor groups and more.

We need to respond to new codes and standards, meaning we need to go further upstream to get savings above code. With the 2010 code in New Buildings, we are still dealing with people under 2007 code, but next year will be 2010 code, which is 15 percent higher than 2007 code. We'll continue to promote reach code for small commercial projects. We're also learning from New Buildings Path to Net Zero with server farms and the like, and we're diffusing through that and seeing success.

We are successfully accelerating the end of the T12 market. There is a new ballast standard in 2014 and we want to be out ahead of that as well. NEEA is working on lighting design standards, and we are assisting with that.

Please ask any immediate questions now, but for anything else, please leave feedback on my voicemail and email over the next two weeks. It will be very helpful before we take the next draft forward.

There was no additional discussion.

3. Trade ally referral process

Marshall Johnson and Terry Miller presented the new process, which resumed a conversation from the May council meeting about enhanced customer engagement and methods to help motivate and assist customers in taking action.

Marshall: We'll discuss the new customer engagement methodology today, and the trade ally referral process is part of it. This is just for Existing Homes trade allies.

The context is that the majority of projects for Existing Homes come from contractors. Using our resources and their own, they build customers up. 80 percent of the projects don't have a Home Energy Review, HER, so the referral process is related to the 20 percent of projects connected to HERs. We talked about relevant changes on May 18, 2011. We've always referred customers to trade allies and in particular those close by region. We tailored referrals by relevant trades. We know that customers are confused about how to take action if they have a long list of trade allies to pick from. The intent of the referral is to improve the service provided during the HER and it does not address the 80 percent of projects that come in through other channels such as Trade ally or program marketing efforts.

We'll help these customers take action more quickly, expand technical resources for trade allies and build up the relationships with customers to have confidence contacting trade allies. We're a third-party resource and oversee the trade allies, and those on our referral list meet our criteria. We plan to emphasize that trade allies are really the experts that customers should contact for more in-depth information about installing improvements in their home.

We want customers to act more quickly, and these direct referrals will simplify things. We'll be making a better connection, which should move things more quickly. We've done phone consultations since May, and determined that a given trade ally may get about one referral in this way every two to three weeks. This process promotes equity and targets information to connect customers to the right trade allies.

A process flow chart is in the slides. The process starts with an online audit or phone consultation, leading to a report and referral based on the information collected and customer preference. Then there is a possible follow-up call to the customer and a project. Using the online forum will help us tailor things to meet the needs of the home, and we will call the customer if they opt in online. We walk through the report and their preferences on the phone. The next step is a custom home energy report. Since May, we've had the reports with in-home Home Energy Reviews as part of the Existing Homes EPS pilot. Since September 1, we are now offering them from phone-based consultations. This will supplement the report and provide a short list of trade allies related to the report. About 10 days after the referral, we will follow up by phone and see if they still need additional help or if they followed up with the trade allies.

Trade allies are eligible for this process if they are rated by Energy Trust with 2 or 3 stars. The criteria follow quality control history, customer concerns and their volume of participation with Energy Trust. The second piece is geography based: How close are they to the customer? We'll be synching the relevant needs of the customer with the other criteria. The goal is to refer them to the trade allies who can best address the technical needs of the house. We have about 140 3-star trade allies and about 200 2-star trade allies. Almost 97 percent of our projects come from that group.

Holly Meyer: If 97 percent come from these trade allies, how are we streamlining things for the customers? Are we only taking out 3 percent of the trade allies?

Marshall: We'll pull from this group, which accounts for nearly 97 percent of project submissions to the program, but not the others who are less active in submitting projects to the program.

Terry: The referral process only refers to customers who do a review and excludes non-trade allies.

Holly: I thought only trade allies could offer incentives.

Marshall: No, any CCB licensed contractor can offer incentives, right now.

Marshall: Contractors who are within a radius of 25 miles who fit the criteria are selected. A pool of contractors gets pulled from that. Within that group, they are randomly assigned to the list based on who can do the measures needed by the customer. Most measures are completed by trade allies within 25 miles of their own shops.

Terry: There are a small number of trade allies in some rural areas, and we don't have enough to reach the required minimum of 20 trade allies to create the pool. We'll expand the distance in this case until we hit a minimum of six trade allies for the pool.

Holly: If this is to streamline things, how does a list of 20 streamline anything?

Terry: They have to meet the criteria to get into the initial pool of 20, and then we narrow it down to three trade allies from the ones meeting the criteria.

Jason: What if you have multiple locations as a trade ally? You're in Salem, Portland and Eugene, for example? Does that mean you don't get the work if the customer is close to one of the other offices?

Tim: Right now it's based on the main office location, but we'll be adding satellite offices soon.

Terry: Based on the numbers of trade ally referrals, we're forecasting one referral to a trade ally every two weeks. It won't be a major business driver for the contractors.

Jerry Page: I've been working in this business for 40 years, I've seen several attempts at this, and I admire you for tackling this process again. Every one of them has been designed to be "fair and equitable". So what if one contractor does 10 jobs and one does one job for Energy Trust? Are they weighed equally for selection into the pool?

Terry: Activity is one thing that leads to the star rating. If both contractors have a 3-star rating, they are on an even playing field. They would need the right number of projects already to get a

3-star rating. Once we get the eligible pool of trade allies, and do a referral, the ones on the referral list are moved out of line based on the date of their last referral.

Terry: Beyond the rating system, there isn't a priority in the referral process to give more work to more active contractors.

Jerry: How many jobs does it take for a 3-star rating?

Marshall: 15.

Carollyn Farrar: Is this selection done by humans or an automated process? The phone discussion will determine if a referral is needed, then it's an automated process to select contractors?

Marshall: We're not doing a hot referral system at this time. The list of trade allies will come from the system.

Carollyn: So a staff member can't continue to refer to his favorite contractors over and over, right?

Terry: No, it's partially automated.

Marshall: The contractor in the pool has to have installed relevant projects in the last year.

Jeremy Anderson: If someone wants both floor insulation and windows, as an example, how do you select the contractors?

Marshall: We give them three contractors who have done both measures.

Scott Inman: So a window company would get no referrals? They had to have done everything the customer needs to get the referral?

Terry: The customer's needs and interest override what the contractor does.

Scott: Since May, windows-only incentives have gone way up, and we've done hundreds of qualified jobs since the change. Is anything being done to market to those customers for windows only?

Marshall: We are aware of that, and have tried to market to those people by offering bonuses to people to do windows and another measure.

Scott: If they've done windows and you're sending a check, but they still have duct sealing and insulation to do, they are a good lead. You should market to them.

Marshall: We track this data, but direct marketing like that poses some problems.

Susan Jamison: We do send a flyer with the check that says there are other services available.

Scott: You could do even a coupon with, "Did you know, by the way, that we offer this?"

Discussion ensued on how Energy Trust markets to past participants. It was clarified that Energy Trust does send communications material with the incentive check to inform the

participant of other energy-saving opportunities. Energy Trust may re-contact participants and is careful to not over-communicate with them.

Marshall: There's a randomized pool, we'll tag the referral date, position trade allies in the queue, take note of which measures are in the referral and enter the customer into the Fast Feedback queue for a call with a short list of questions to a percentage of customers to understand how well the referral worked. We'll use that for the referral process. After 10 days we follow up with the customer, and offer to help if needed. At that point we can also generate a new list of trade allies if needed, but it's probably unneeded.

Jerry: When a reviewer is sitting down with a homeowner, when do they offer to give them three trade ally names?

Marshall: We are strengthening our tools to support a customer interested in finding a trade ally, and we had input from industry groups like the Home Performance Guild, Wise and ORACCA. One of the top two items asked to the customer is if friends and family did work and if they can check with them.

Jerry: When does the reviewer have the conversation about trade ally referrals, or is it part of a packet of information left with the customer?

Terry: There is consultation with the customer covering the things that are in that packet. They talk about the Trade Ally Network and promote trade allies. We're kind of taking ourselves out of the technical resource role, and trying to get customers over to trade allies as the technical resource and work resource. That's the context of the referral. The trade allies can help with questions, details, costs and more.

Jerry: They really don't ask the customer?

Terry: We empower the customer to guide the conversation. We're not forcing them toward referrals. We want to take them there, but we won't force them. If they have someone in mind, we welcome that, and will check in with the customer later to see if they took action.

Wendy Gerlitz: What are you doing with that information from the follow up calls? If you hear about consistent problems with a trade ally, what do you do with that?

Marshall: We have that in the terms and conditions in the Trade Ally Agreement, and we follow through based on that. It would fall under the customer concerns part of the rating system.

Jason: I work with some East Coast programs and one that drives the most business is based on performance criteria rather than making everyone equal on leads. They look at who is converting the most leads into projects, and that's who gets more leads. Equity, as you say it, sounds more like indifference.

Marshall: That's business logic you're talking about, and it promotes having the highest rate of conversion and savings. We also have a commitment to building a competitive marketplace that promotes variety among businesses and services. It's part of our core principles to build the market and not just stick with business logic. We are committed to a level playing field in the marketplace.

Holly: I'm still not clear on the first criteria. If 97 percent of trade ally jobs are in two or three stars, you're getting rid of only 3 percent of contractors?

Peter: That's 97 percent of projects, not 97 percent of trade allies.

Holly: That makes more sense. In the ratings, you could also include how much savings a trade ally drives. Are you looking at that?

Marshall: We looked at that, but there were several reasons we didn't include it in the 2010 rating system. Some of the criteria we chose are set in such a way that brings savings to the program.

Terry: When our trade ally team isn't doing communications, it's monitoring who's working well with customers and who's not.

Jeremy: Be very careful in your presentation of the three contractor names to customers. Don't make it sound like these are the only ones. Make sure they know that out of the universe of contractors, these are three possible choices.

Peter: That's a good part of the script, and we should make it clear that people have options to choose others.

Terry: That will be on a supplemental sheet with their energy report, and it will explain they can work with others beyond the three we provide.

Brent Barclay: In the consultation step, is the question posed about how many contractor names they want? It's common knowledge to get three bids, but what if I happen to want six? You might let the customer elect how many names they want.

Marshall: We do give information on our Find a Contractor web page that allows the customer to plug in their own information to find their own leads. That's an alternative.

4. Proposed incentive changes

Matt Braman and Marshall Johnson presented residential incentive changes.

Matt started with Products: These are the planned appliance incentive changes for 2012. We currently have two tiers under appliances for fridges and clothes washers. Dishwashers are the highest tier and the incentive is at $25 for the first time. In 2012, we are looking at dropping the first tiers and dishwashers. The appliance market moves fast and we have to make changes quickly. Fridges have high freerider rates, and this change may help reduce them. Volumes may go down, but people will go to higher tiers. Dishwashers are efficient already, and anything less than what we offer now is the minimum for a retail rebate. They have moved slowly, and administrative costs are high. We propose to drop them for next year.

Marshall covered Existing Homes: We currently have incentives for solar water heating and solar pool heating figured on kilowatt hour savings. We plan to change that on the gas side. Ductless heat pump incentives will go up, and windows will have a specification change. Heat pump water heaters are an emerging technology that we plan to encourage, and 0.67 gas water heater incentives will go up and 0.62 gas water heaters will be removed.

Solar water heating has been based on kWh, and with a change to therms on the gas side they will increase to $8 per therm with the cap remaining in place. The current incentive is about $2.25 per square foot of collector size, and it increases to about $3 per square foot. This change creates parity between gas and electric water heating with solar energy. The change goes into

effect October 1, 2011. The solar incentive changes go along with processing changes. PowerClerk will be available to solar water heating trade allies at that time.

For ductless heat pumps, the current incentive is $600, and was established January 1, 2011. It used to be $400, and the technical specification was aligned with NEEA for two years. They were conducting the NW Ductless Heat Pump Project, and we weren't actively promoting them outside NEEA's efforts. This year we increased the incentive to emphasize ductless heat pumps and the savings. We are increasing the incentives even further to $800 to drive this emerging technology and attract more of NEEA's installers into our territory, instead of just BPA territory where there are higher incentives. This is especially important as lighting continues to recede as a savings tool.

Holly Meyer: Is this less about the customer and more about the contractor?

Marshall: It's both. From a trade ally standpoint, contractors are following the incentives and use them to promote the product. It's an emerging technology, and because they have higher incentives somewhere else, they are less interested in coming to our territory. It's to motivate the consumer, but it pulls contractors.

Scott Inman: Is there a minimum standard?

Marshall: It has to be inverter driven and reach a certain coefficient of performance; which would be available on our website and NEEA's website.

Fred Gordon: When do these things kick in?

Marshall: Other than solar water heating, all the incentives I'll review are set to start January 1, 2012. This will be aired in a few places, including roundtables, newsletters and separate messaging to trade allies.

Marshall: Windows will remain unchanged in dollar amounts, but we are increasing the spec for the high-performance windows tier. We are aligned with the national R5 Window program right now, but based on activity in our program and recent research on product availability we felt we were too aggressive in the specifications. We are moving the spec down a little to be consistent with a market transformation approach and to get manufacturers to build to the lower specs.

Jeremy Anderson: What's the quick way you arrived at these levels?

Diane Ferington: NEEA talked to manufacturers to find out if they could make a whole suite of windows that meet the specs. Also, a new glazing product will allow more full suites of windows series that fall in line with U-Value 0.25. We would have to defer to NEEA staff for the specific glazing process.

Jeremy: Just a note that most of that technology won't be adopted in the Willamette Valley because of condensation issues.

Scott Inman: The U 0.30 requirements did a lot for the industry.
Marshall: It's fair to say that we helped get most windows down to 0.30, but at some point we will move out of the 0.30 market because of freerider rates and market transformation indications.

Marshall: For water heating, we will offer a new incentive pilot for heat pump water heaters that meet NEEA specs. One product currently meets it and two others are close. Lab tests confirmed savings estimates, and we derived a $500 incentive consistent with other utilities for tier 2 specs. We chose not to do tier one because of performance issues. NEEA is going to hire a contractor like they did for the Northwest Ductless Heat Pump Project. We plan to walk just behind them and align with them and leverage the work they're doing. The contactors must be Energy Trust trade allies and meet NEEA requirements to participate. The units must replace existing electric resistance water heating. We need to be able to test them and see if they bring in the expected savings.

Holly: How do you test the performance? How can you isolate what's used on water heating?

Fred: It's the same technique we use in utility programs. We can adjust load data for weather. Sometimes we can take out space heat, which leaves appliances and water heating. We compare bills before and after the installation. We're fairly close with those estimates. We've got better lab data on this than on any other water heater. We'll learn more about how they operate, and we'll look at a large sample.

Holly: On a pilot scale it can be controlled. It makes sense replacing resistance heat. It's concerning to us that we don't know about water heating costs with any reliability. Maybe it will lead contractors or customers to fudge data.

Marshall: We're going to rely on contractors trained to NEEA standards and quality controlled by NEEA. We see a ton of potential to reduce electric load, but it has to be launched in a very measured environment, and we have to be sure the savings are what we planned before we can go beyond a pilot. It's probably 18-24 months out, and there will be a lot of potential for discussion down the road.

Holly: Training doesn't keep people from being dishonest, and you don't want a system set up where people are encouraged to be dishonest. You need to be sure there are internal controls to keep it accurate.

Marshall: There is a way of identifying and ensuring a percentage of early installs by a contractor are inspected and they receive less quality control as they become more established. The QC helps us ensure the requirements are met. Manufacturers are very concerned about returns because of improperly installed products. The one meeting specs right now is not a major brand, but the major ones are in the works. This less known manufacturer has a keen interest in making sure this is done properly. We'll have a field test that shows the data we will use to monitor savings, and we're going to watch what needs to be done.

Holly: Would QCs tell you what equipment was taken out of the house?

Fred: If you didn't have a big electric load before and it suddenly shows up, we'll know something is wrong.

Jason: What are the installed costs and incentives? What's the cost for customers?

Marshall: We take an incremental cost assumption of about $1,650 then we take off $500 for incentives and $700 for tax credits and it's a quick payback.

Dan Enloe: I reviewed the NEEA specs, which are very comprehensive and well written. This is much more sophisticated than a regular water heater specification. Good training instructions

and guidance are very important, as with a high-efficiency furnace or air conditioner with condensate drains.

Bruce Dobbs: These have a COP of around 2? They are roughly twice as good as a standard electric water heater. Are you going to monitor them to see if there is any degradation?

Diane: NEEA has aligned with other programs to promote the northern tier spec, and one manufacturer has developed a product meeting the spec, but the goal is to get the higher performance into the codes and standards. They will follow protocol to do that.

Bruce: Is there any consideration for the carbon footprint of site vs. source? We focus more on site here, but is it considered?

Marshall: We're following NEEA's lead, doing the research and doing the evaluations.

Fred: We are also following the OPUC's lead, and NW Natural has a proposal about these things. We're looking forward to what they have to say.

Jason: How long is the pilot? 1 year? 2 years?

Marshall: We'll follow the pilot procedures and guidelines and evaluation plans. It's probably a minimum of 18 months.

Fred: It will be strongly influenced by NEEA, and it will be coordinated to minimize the cost to each utility.

Jason: Are you intending to use current channels to promote this product, or is there a selected way?

Marshall: We haven't totally defined our plan, but it's not going to focus on emergency replacement for the pilot. We want to build infrastructure to install them, and reach out to customers who are likely to install them. We will likely follow up with electric homes that have electric water heat, in coordination with NEEA, as they select an implementation contractor and develop their program.

Tim Abshire: From NW Natural's perspective, please be sensitive to reaching out to gas heating customers. There is significant overlap of customers who have gas space heat but electric water heat.

Marshall: We won't target homes that have gas heat, based on what we know of heat sources.

John Frankel: Will there be restrictions on where they are installed? They would have to be outside normal conditioned space.

Marshall: The northern tier spec includes a ducting kit that allows them to go inside conditioned space. The spec shows how it should occur, and NEEA has worked on it since 2009, but it has just landed with us. We don't want to be out in front of NEEA because they have the most experience.

Tim: What Energy Factor number are they showing for that northern tier?

Marshall: There's an Energy Factor for Northern Climate and it's very specific for measuring energy factor in this climate zone.

Tim: The tier 2 requirement USDOE factor is higher than that.

Alexis Allan: The classification for the tiers will likely be live on the NEEA website soon. What's up there now isn't the most current. There's a webinar today to share it out with a broader audience. In the next couple of weeks we'll add comments and post it on our site and at www.smartwaterheater.com.

Fred: There is a lot of research pointing to the fact that the standard measures used with water heaters are not valid for heat pump water heaters or tankless.

Jason: Most of these will be installed outside because they are very expensive to install in conditioned space.

Marshall: We don't necessarily believe that assumption, and the ducting kit doesn't need a plumber to install. It could be installed by someone else. We'll learn more through NEEA's roll-out efforts. It's important that manufacturers offer training for both basements and garages.

Marshall: For other water heaters, 0.67 gas water heater customer incentives will increase to $150 from $100 and we're ceasing 0.62 water heaters. We have worked with gas water heater manufacturers for four years to bring this product to a place where it conforms to requirements. We've had six distributors participate this year, and we've seen great uptake. We believe that manufacturers now have connections with distributors along with installers. We're at a point where we have a maturing product, and in order to bolster demand, we are eliminating the 0.62 incentive and adding money from stocking incentives to the customer incentive. We withheld some funds to promote midstream efforts to move the water heaters.

5. Tankless water heaters

Peter: We periodically do evaluations on our programs, and we take the results seriously. We just finished evaluations on several fronts, and tankless water heaters were one of the things that stood out. Lakin Garth will give us facts from the latest evaluation. This latest evaluation is on top of two other looks at these units with similar results.

Lakin: We've offered incentives in the Existing Homes and New Homes programs since 2007, and required that they have an Efficiency Factor (EF) of 0.80. There have also been $340 in tax credits through the Residential Energy Tax Credit, and since 2006 there have been federal tax credits for 0.82 units. Those credits are expiring this year. Our analysis applies only to tankless water heaters for Existing Homes.

Holly Meyer: Can you say why only Existing Homes? Is it that we don't have analysis for New Homes yet?

Lakin: In Existing Homes this is a stand-alone install, while it's part of a suite of measures in New Homes.

So far, we've claimed 185,000 therms and paid $860,000 in incentives for these units. 4,300 incentives have been paid since 2007. The original savings estimate was an annual 102 therms saved per unit. The most recent evaluation through billing analysis of our customers actually shows 65 therms per year, on average. That a difference of 35 percent between the original and actual. These studies are generally based on full calendar years with the program, and we've done about three years now. We've had lots of review from independent contractors.

On the graph in the presentation we show the average installer cost. As we have done more, we haven't seen the installed cost go down, and actually have seen it go up quite a bit. The data is through August 31, 2011.

Sometimes after an evaluation we see savings that don't match original estimates. We have to pass two cost/benefit tests for all of our measures. Both have to show a ratio of 1 or higher. There's a utility cost-effectiveness test and a societal test, which is the cost to the consumer. These units don't pass the societal test.

Holly: Isn't 2.91 kind of high? Does that make sense vs. other measures?

Lakin: It's pretty typical for residential. Sometimes we have a little room to work with.

Holly: Since 2.91 seems high; it's basically 3 times what it needs to be. The societal test is low, but that's just what a customer is willing to pony up, right? If the utility one is very strong, maybe it can offset the societal test being low. It shows how much the consumer is willing to pay, and they aren't hurting anything with that choice.

Fred: The societal test factors in value to the utility plus any quantifiable non-energy benefits. It looks at the whole picture. The consumer test would be the payback.

Holly: So the equipment was getting more expensive and that was hurting the consumer?

Fred: The increase in cost is going into the societal test. You are correct that it would also factor into a consumer payback, but that's not the purpose of the societal test.

Peter: In this case, savings went down 36 percent, and cost went up by 32 percent.

Holly: What was the baseline for comparison?

Lakin: About 0.50, which is a standard water heater. This presentation is based on the average of what we see.

Jason: Have you looked at hybrid tankless? They have 0.98 efficiency and no startup heat loss. It's a very small draw. They have small tanks and less startup. Today what's sold is condensing or hybrid condensing, which is much more efficient.

Lakin: Even at 150 therms, the cost will have to come down substantially to pass the test. The average installed cost we're seeing is $2,363+700 higher. Using a minimum, baseline efficiency unit of $700, the average is about $3,000 over time.

John Frankel: In 2005 you did a study, and I looked at the methodology. The standard have a 0.8 or 0.81, and showed some savings, but what explains the drop of half or more on the recent study?

Lakin: The original study was done for PG&E, and showed much higher savings, and our findings on actual savings simply don't match what they showed.

Fred: Davis Energy in California, who did the 2005 study, later did end-use metering and found much lower savings than expected. We are watching evaluations of hybrids, and we may get there eventually.

Jason: The cost increase you mentioned, is that weighted against installations of 98 percent efficient water heaters? The graph showed exactly what we should expect as equipment increases. Did you weight the study?

Lakin: We looked at strictly all the water heaters that exceed 0.80, the average costs vs. installed costs and incentives paid. We also looked at the costs for the 0.80 units alone, and the cost was still far too high to pass the test. We are recommending, based on our three evaluations and four years of experience, that we should remove the incentive. We did show 65 therms of stable savings. They are good savings, but are quite expensive to the customer and don't meet the OPUC societal benefit test. The costs have gone up and remained stable at a higher level. Consumer payback period is probably around 35 years. The cost efficiency would have to decline by a factor of four.

John Frankel: Can you make the methodology available to us?

Sarah Castor: We have it on the web.

Jason: Why are you not taking the same approach with tankless as the 0.62 and 0.67 water heaters? You're paying $150 for the savings there, which are less than the savings you're paying $200 for.

Peter: Fred mentioned that we're looking at a third-party evaluation of the 0.98s and we're interested in them. We have a real issue here. There are two tests under state law, and utility and societal have to be greater than one unless we do market transformation and want to drive up the society benefit number. You can launch a project at less than 1 if you intend to drive that number higher. In that case, you are starting a new market and costs are higher for training, promotion and standards. As long as you are driving it higher, you've done the job. After four years, this one has gone the other way. We've dropped in therms saved and increased in costs for installation. Under the regulations we have to adhere to, it's going in the wrong direction.

Jason: Your data is fundamentally right. The 0.8s are not efficient, and you can't throw them into the mix with the newer technology.

Fred: We thought we had the correct savings for the tankless units, but we were wrong. We began researching the condensing and hybrid units, but discovered that other organizations are already doing the load research, so we are waiting for their findings. We'd like to have something for condensing tankless units, and have looked at condensing ones, but don't have much hope. Hybrids may have a shot, but the research hasn't been very forthcoming.

Holly: There are many objectives around the table. I know you don't like to put incentives out and pull them back, due to all the training and startup costs. If there is this other technology that looks promising, it seems a little incongruent to pull this one back and wait for the 0.98. The savings of 65 therms is solid, so why not keep momentum going so you don't have to start things up again when the 0.98s come out? This start-stop thing doesn't fit with how you approach incentives.

Tim Abshire: How did you segment the demographic data of the buyers? Maybe they were well to do smaller families at first. As you broke down data and found savings were less, did you break them down further to how many people were in each household?

Lakin: We may be able to look at that from an evaluation standpoint. Income data proxies exist. Occupants may be available. Number of bedrooms may help. Square footage may also help.

Tim: In homes of five or larger, the savings could be higher, and the number of bedrooms could be an indicator, for example. This is a premier product, and is expensive, unless you have four or five kids. Then it might pay for itself.

Fred: We worked with you to promote this for larger families, but that didn't seem to change the savings. We did not get just this type of customer.

Tim: BCR is what you paid in incentives under savings. The issue was on the societal test, where people would pay more on their own for the product, rather than you having to pay for it. They are willing to pay for it, but you're going to pull it anyway?

Lakin: There are savings there, and it may be a great product, but it doesn't pass the test that we have to pass according to the law and rules we have to follow.

Jason: That's the test that all these things have to pass?

Peter: with the exceptions noted, yes

Kevin York: I work for the biggest distributor of this equipment, and can say that we are concerned about the 39-year-payback being thrown around. We would like to see the testing criteria. That's the highest number we've ever seen in all of our North American operations.

Lakin: The numbers are easy: it's the average install cost to the consumer, minus the incentive, divided by retail rate for energy, times the amount of time in which we'll see savings.

Kevin: You were able to look at actual savings for everyone you installed for?

John Frankel: The 65 therms in savings is from gas to gas? If they are converting from electric to gas tankless, some of the manufacturers could have different measures. Electric is an expensive way to heat water. We have a pile of anecdotal information because we've installed over 1,000 of these, and we've seen savings from employees and consumers who have tracked these things. They show anywhere from about $250 per year, which would be 215 therms per year. How did you gather the data and who did you talk to?

Holly: Aren't you all starting with gas as your base?

John Frankel: The delta for the condensing tankless is about $400 so it's not all that expensive. It has been adopted more and is more available. The growth in sales for condensing units is very high over the 0.8 units. You may want to look at these ones that have 20 percent better efficiency and a better adoption rate.

Fred: We did a threshold test based on what the mix of units we're seeing cost and save, and the manufacturers group couldn't show that they were going to come up.

Wendy Gerlitz: As an early adopter of tankless, I would guess that the majority of customers are putting in tankless gas to replace electric. Why would you use gas as the base when the norm is replacing things that way?

Don Jones: Isn't there a fuel switching policy?

Fred: Our current logic is that we work with both gas and electric, so we don't incent people to switch fuels. We don't cover costs of switching fuel. We assume that people are going from gas to better gas, for example.

Don: You compare standard, better and best against each other.

Fred: We are currently working under the rules we have, and can't put money out to encourage a switch.

Don: The market seems to be making decisions to switch to gas for water heating.

Holly: It's one thing to take away tankless, but not at the same time as adding a heat pump water heater. If we do both of these, it sends a message that we need to carefully consider, and contractors will follow the incentive. What message are you sending them? Wendy and John are both getting to this. What's standard gas vs. efficient gas, and standard electric vs. efficient electric? Because gas is already so efficient at heating water, you should be looking at which is the most efficient. You can pay a big incentive for a heat pump because it is so inefficient. It's frustrating to have this wildly efficient fuel source and get dinged by having smaller incentives because it's so efficient.

Peter: What I think you asked us to do, by consequence, is promote fuel switching, and we can't do this.

Wendy: To be clear, I'm not advocating anything at this point.

Holly: We need to look at all the options, instead of promoting across fuels and paying across fuels. You need to look at this concept of fuel neutrality and whether it makes sense.

Peter: This comes back to the site vs. source arguments. We've been clear with the OPUC that we need more direction from them, and they need to help us understand where our application of fuel neutrality. They need to look at the standards that Oregon has used for 2 to 2 ½ decades. We are eager to hear what the staff has to say, and what comes out of the site and source discussions. In the meantime, we're cognizant of the evaluations and the unfavorable societal cost/benefit ratio. We're proposing a transition: continue with what we have through the end of the year, budget permitting. January 1, we decrease the incentive by half, and maintain that through May 1. We get through the heating season and step it down. After that, we end it. Maybe we'll have more information on hybrid units at that point. We'll also step back on web promotions, beginning this fall. Promotions are really the first step.

Peter: 0.67 is the alternative, and we can increase the incentive on the customer side. We have partnered with NW Natural on the launch. Through Clean Energy Works Oregon and Home Performance with ENERGY STAR, we would like to further promote the 0.67 and work with contractors and trade organizations, plus use mid-stream incentives proposed earlier. We'll have greater reliance on these, and phase out tankless.

Marilyn Williamson: It would appear that the decision is already made, and now it's a matter of bridging the compromises. I want to counter the assumptions. Water heaters are a lot of the remodel market and I hate to have that pulled from the remodel environment. Those decisions are made between March and August. You'd be pulling the plug mid-season. Reconsider ending the web promotion and presence beginning this fall. We have a high-efficiency furnace and tankless promotion in the fall through end of year. It would run counter to what we're promoting

to our gas customers. If you're going to do a bridge, anticipate a way that it doesn't fall off the map until something else is seamlessly brought on.

Peter: The decision has not been made in final. But part of keeping the $200 through the end of the year is to address the pipeline.

Carolyn: This tells customers it's not worth considering, and it shouldn't come off the web.

Peter: Some of what we considered in the furnace discussion was that our promotion was endorsement. We decided that a 39-year payback was a tough thing to promote. It was tough to balance that against "are we telling people the right thing to do?"

Carolyn: We recommend a partnership approach.

Peter: We don't expect this to be decided today, and we plan to come back to this discussion.

Bruce: To summarize some of this, I'm thinking about the Prius. It's a hybrid that still uses gas and is more efficient, and has also gotten more expensive. People are willing to pay for it, and that's why it's gotten more expensive. Natural gas is not as sexy as electricity, and fewer new products are available. Tankless doesn't seem like a transformational product, but it does work that way and moves people to higher efficiency. There haven't been a lot of cost effective products in the gas market lately. Tankless water heaters are one of the very few transformational products we have really seen. That's why there's such a strong response.

Peter: This is because of a standard we've inherited. It is no fun being the bearer of bad news. But we remain with a fundamental issue of finding that savings, through 3rd party evaluation are significantly lower and seeing prices that have not come down as the market expanded.

Tom Henry: Why isn't Energy Trust looking at fuel switching as an effective way of saving energy and taking it to those who govern your standards? We have a proposal before the OPUC about it. In the marketplace you are accepting electricity as the efficient technology, and it's hard for the gas companies to overcome that. With ending this promotion and adding heat pump water heaters and ductless promotions, we need to see about having an opportunity to consider the good arguments made around networks invested in tankless and the momentum they have.

Peter: You've shared some of your data for furnaces and heat pumps and we've reviewed it in a collegial role. I believe you are now sharing this with OPUC staff. It's at a state policy level now. It remains that we grew the effectiveness of our gas program by 67 percent and it's growing much faster than the electrics. We are doing substantial things for gas savings.

Joe Brewer: Do you forecast that tankless water heaters will continue upward when your incentive ends? The federal tax credit goes away and your incentives go away toward the end of the year.

Peter: We don't know what the market will do.

Joe: I can assure you they won't continue going up in this economy. The cheapest solutions will win, and we'll be installing something designed in 1950.

Whit Hall: This rebate didn't keep up with innovation. The programs shouldn't be evaluated on four year ODL numbers, but using current numbers from condensing units. Move forward with

them instead of abandoning the program. We've done great things and innovated. Get the new numbers before the end of the year. They'll look more favorable.

Joe: Your budget for conservation for 2011 is about $80MM from the ratepayers. You've done 4,300 rebates since 2007. That's 1 percent of what you taken in for the number 2 energy consumer in the house. That doesn't make sense.

Peter: We can't evaluate relative to our whole budget. We have to use the measure tests required.

Joe: Consumers are funding you since 2003, and we're talking about a primitive technology vs. the newest efficient technology, and you want to drop it? Something is wrong here.

Juliette: As OPUC staff, there were important policy issues discussed today, and we have specific measures by which these programs are evaluated. We heard two big issues today: fuel switching and societal benefit tests. We are looking at those things going forward.

Joe: When will they be reevaluated?

Juliette: It may take a while, but it will probably be about a year.

Jason: A lot of us are skeptical about data based on old inaccurate numbers. The Davis study is based on very old technology, and the decision should be based on newer data.

Holly: What will be the method of addressing this?

Peter: We'll remind people where to find the studies. Some questions have been asked that need to be responded to, and we will do that for the next CAC.

Fred: For the hybrid to pass the test, if it costs exactly the same, they would need to save four times as much energy as the ones we tested.

Peter: You'll see more comments when you see the studies, and we'll respond and re-look at the proposal.

Fred: Right now we're looking at research in Minnesota and California, and we don't control it. It may be several months.

Theresa Gibney: I thought there was no data in your condensing studies? I thought I heard that you pulled the 0.8s out and higher efficiency condensing units still failed the tests.

Lakin: We get the cost data, but not indicators of what the unit would save. I took out the baseline units and just based on costs, they would have to save four times as much to pass the test.

Holly: I've never really heard the role of the Conservation Advisory Council. Do we make decisions, or are they already made and we just get to argue about them? Can we get that information? It would be worth discussing at another council meeting so we understand our role.

Peter: It's an advisory council, and we take a census of the group and use the comments to provide information for the board. On October 26, if there's a counter proposal, we'll represent

what we think in the budget plans, represent any counters to that, and the board will decide as part of their process.

6. Additional public comment

Peter asked for additional public comment; no additional comments were added.

7. Adjourn

Peter thanked everyone for their time, and said that we will revisit the tankless discussion in future meetings. Information will be posted online, along with links to the studies used in the tankless water heater proposal. The next Conservation Advisory Council meeting is October 26, 2011, at 1:30 p.m.

The meeting adjourned at 4:58 p.m.