CONSERVATION ADVISORY COUNCIL
Notes from meeting on October 23, 2013

Attending from the Council:
Jim Abrahamson, Cascade Natural Gas
Warren Cook, Oregon Department of Energy
Wendy Gerlitz, Northwest Energy Coalition
Charlie Grist, NW Power and Conservation Council
Garrett Harris, Portland General Electric
Scott Inman, Oregon Remodelers Association
Andria Jacob, City of Portland
Juliet Johnson, Oregon Public Utility Commission
Don MacOdrum, Home Performance Guild of Oregon
Holly Meyer, NW Natural
Oliver Kesting
Spencer Moersfelder
Elaine Prause
Jessica Rose
Paul Sklar
Scott Van Swearingen
Julianne Thacher
Ed Wales
Peter West

Attending from Energy Trust:
Adam Bartini
Tom Beverly
Matt Braman
Amber Cole
Kim Crossman
Diane Ferington
Sue Fletcher
Fred Gordon
Marshall Johnson

Others attending:
Monica Blakeslee-Kish, PECI
Sara Brockmeier, Fluid Market Strategies
Christina Cabrales, Conservation Services Group
Scott Davidson, Clean Energy Works Oregon
Tim Davis, Conservation Services Group
Carolyn Farrar, NW Natural
Ken Foster
Mark Kendall, Energy Trust Board of Directors
Marilyn Morfitt, NW Natural
Brien Sipe, Fluid Market Strategies
Mark Weiman
Kendall Youngblood, PECI

1. Welcome and introductions

Kim Crossman convened the meeting at 1:30 p.m. and reviewed the agenda. The agenda, notes and presentation materials are available on Energy Trust's website at http://energytrust.org/About/public-meetings/CACMeetings.aspx.

2. Q3 dashboards

Peter: The sequence of discussion today will be similar to last year's meeting on the draft budget. We start by reviewing our status three-quarters of the way through the current year. We will address 2014 after the break.

> For 2013 we are forecasting to reach 95 percent of the combined gas and electric stretch goal by year end. NW Natural, Pacific Power and PGE will all be at about 96 percent of stretch goal. Our latest information indicates we may only reach 77 percent of the stretch goal for Cascade Natural Gas.

To reach these forecasts we will need to continue the typical outreach with customers to keep things moving. Things may settle or improve, and these forecasts can change, but third quarter numbers are typically the most accurate of our forecasts.

Cascade Natural gas is lower than forecasted a few months ago. There are several reasons for the drop. Completion of the large Sunriver project that we've worked on since 2012 will probably shift from this year to 2014. Second, hearths haven't taken off in Cascade territory as they did with NW Natural. We had trouble with dealer interest in Cascade territory. Looking at the run rates we're getting, the extra bonus isn't having an effect in Cascade territory. And the largest reason for the drop is due to a large industrial Strategic Energy Management, SEM, project that is on track to produce 30,000 fewer therms than originally estimated. The revised results from this industrial project represent eight percent of the entire Cascade goal for the year.

We will try some tactics to drive savings closer to 85 percent of the conservative goal. This includes more outreach and offering bonuses to induce a few commercial projects to finish this year instead of next.

Before turning to the sector detail, I should note that NEEA's revised forecast is now higher than stretch, with an additional 4 million kWh for PGE and Pacific Power territories. Specialty lighting, high-efficiency televisions and efforts around the new residential building code account for the uptick in savings.

Mark Kendall: Is the residential code uptick due to a higher number of housing starts than had been expected?

Peter: It's partially the increase in housing starts, but we're also seeing 10 percent more savings per home than expected. The market is adopting efficiency enhancements faster than we assumed it would.

Turning to the sector breakouts, on the industrial side, savings are near stretch for PGE and NW Natural. The sector finished its one-thousandth small industrial project. That's exciting in a sector that used to be dominated by large projects, and indicates that the initiative started in 2009 to expand into small projects has been successful.

Industrial is lagging in Pacific Power and Cascade Natural Gas territories. In the second quarter, we did significant rural outreach and identified a lot of projects that will land in 2014. It was a good effort and worth repeating, but unfortunately it won't impact this year's results.

In Production Efficiency, as with Existing Buildings, past successes in southern and eastern Oregon may have tapped deeper into the potential than we realized. .

A second shift we may be noticing has to do with the economic recovery. There seem to be fewer industrial sites east of the Cascades. Overall, Oregon's industrial economy has grown, but it has shifted toward the valley instead of eastern Oregon. We may be overestimating potential. As we will note later, an area of focus in 2014 will be to better understand the savings potential in rural Oregon

Charts broken out by program are posted on the website; see http://energytrust.org/library/meetings/cac/131023_CAC_Package0.pdf.

Mark: Are we going to report separately on data centers?
Kim: They're part of commercial.
Peter: Data centers are quite prevalent in New Buildings, the program we use to serve new construction. Pacific Power is over stretch for New Buildings because of data centers.

> Multifamily and New Buildings are both running strong in every utility. Multifamily is exceeding stretch goals in Cascade, Pacific and NW Natural and meeting the PGE stretch goal. Scott Van Swearingen, our program manager, and Program Management Contractor, PMC, Lockheed Martin implemented direct installs for Multifamily. This approach is bringing in very cost-effective savings and has been an effective outreach tool for greater engagement with owners and residents. It's working across utilities and in all markets. We'll continue to run this effort in 2014.
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> In New Buildings, program manager Jessica Rose and our PMC, PECI, pitched a new approach in 2012 with market choice packages. While support continues for custom projects, small- to mid-size projects are offered a limited set of straightforward, pre-packaged solutions. The ease of entry and off-the-shelf aspect has yielded greater investment beyond what is required to meet code. These packages serve small- to medium-sized data centers. Custom offerings continue to serve the large data centers that have been locating in Pacific Power territory.
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> Existing Buildings is lagging. The core program is doing well, but we made some robust assumptions in the launch of commercial SEM that are not going to be met. It has not been an easy shift to take ideas from industrial SEM for application in the commercial sector. Commercial customers find it challenging to devote sufficient time to the SEM process.

Oliver Kesting: We get the savings per project we expected, but aren't getting as many projects.
Peter: We need to look at revisions for 2014 to keep SEM participation rates up.

> Further impacting Existing Buildings was the realization halfway through the year that the rooftop unit tune-up, RTU, initiative had run its course. With fewer savings coming in, we realized we had saturated the market and needed to pull back.
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> One the bright side, working with the Oregon Department of Energy, ODOE, and other organizations, Existing Buildings has improved 101 schools, with 67 additional schools expected to complete by year-end.
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> We are considering moderate bonuses for custom gas and electric projects in Existing Buildings in order to drive more year-end savings and ensure we surpass conservative goals.

Mark: Is that schools number more than double the historical average?
Oliver: We completed approximately 87 school projects last year. School projects are not always comprehensive. Schools implemented key measures like personal computer power management this year.

Holly Meyer: Are any of those buildings on oil?
Warren Cooke: Many of them are still on oil.
Oliver: Our schools folks in Existing Buildings have a pretty good idea of how many. We would be able to find out about the ones in the pipeline.

Peter: Let's move on to residential, which for us includes Existing Homes and New Homes & Products.

> New construction has rebounded to a level 50 percent higher than forecasted and we're still maintaining good penetration rates. We're also getting 10 percent more savings per home than we had expected. The new homes market has shifted from 70 percent gas heat to 85 percent gas heat over the last year. We completed our 4,000th EPS for New Homes. Our incentive is based on the actual EPS score vs. the code score for that type of home. We have taken what has worked for New Homes and extended it to existing homes as a pilot, and now through recent legislation ODOE gets to decide how to roll it out statewide.
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> Refrigerator recycling has done well. If you have a fridge to retire, we give you $40, which can be directed as a donation to Oregon Food Bank. So far this year 526 people have elected to donate their incentive, raising over $21,000.
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> Appliances have been lagging. We jumped up a tier before sellers were ready. Compact fluorescents and LED lighting have made up for that on the electric side.
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> Weatherization is trending well in Existing Homes, but we expected it to be higher. The loss of measures and fewer deemed savings per measure have made it tough to keep trade allies interested in promoting it. We noted earlier that we had fewer than expected Clean Energy Works Oregon projects, down from the forecast in last year's budget. With fewer weatherization measures available in Clean Energy Works Oregon, fewer projects qualified for our incentives.
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> Hearths in NW Natural have been a nice success story, and windows have been another bit of good news. Making windows independent of a second measure has given us greater results than expected.
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> On the electric side, heat pumps make up the majority of savings.

Jim Abrahamson: To make up for some of the shortfall, what water savings devices will be used?
Peter: We will distribute more kits with showerheads and aerators.
Marshall Johnson: Yes. The kits are expected to save 10,000 therms, or about 45 percent of total savings for Existing Homes.

Charlie Grist: Do the heat pump numbers include both ductless and regular heat pumps?
Marshall: They include both types and also include heating system replacement and heat pump upgrades.

3. Discontinuing Existing Buildings rooftop tuneup incentives in 2014

Spencer Moersfelder: The background information will be familiar to some of you from when we adjusted the incentive offering earlier in the year. We know that many of the units aren't functioning properly and there are big savings to be had if we can intervene to get the units to work as intended. The idea behind the initiative was to incent trade allies to tune-up the units to get them working properly. Some of the trade allies had existing service contracts to maintain the units, and a service agreement was a requirement to participate in the program. Through the tune-up we added incentives for demand control ventilation controls, CO2 sensors, outside air sensors, economizer fixes, etc. The offering was released during the economic downturn when

companies were not willing to invest capital. Incentives were designed to cover most or all of the project expenses. Trade allies had to be qualified to work on the units and trained by the program.

> We successfully worked with contractors who were otherwise non-participating trade allies. Most of these contractors provided service contracts to keep HVAC systems running. Participating trade allies needed to show evidence they had an existing service contract, and we hoped to ensure measure persistence that way.
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> We showed little savings in 2010, the pilot year. Savings ramped up dramatically in 2011 and 2012, but dropped off rapidly in 2013. In 2013 we reduced the incentive and stopped offering incentives for units less than five tons. Our goal was to serve 1,500 units by June 30, 2013. We have treated 93 units to date. Trade allies who were offering the service seemed to have completed the tune-ups under their existing contracts.

Charlie: We're getting some feedback from Dan and his crew of trade allies. It sounds like most of this was through existing contracts and trade allies. Yes, those were tapped out, but how big was their coverage? Was it 10 percent or 90 percent of all the possible rooftops?

Tim Clark: We don't have a solid number right now.

Holly: How often does one of these need to be tuned up?
Spencer: Ideally, it's done annually. They can come out of alignment quickly. We hoped the contractors would keep them up under their service contracts.

> We have decided to discontinue the offering because the evaluation team did a billing analysis, and the 2010 and 2011 analysis showed lower savings than we had hoped to see. Based on the billing analysis, gas savings in 2010 were below expectations and electric savings above expectations, but 2011 gas and electric savings both were below forecasts. It's tricky to correlate this result to specific factors; for example, unit size didn't correlate. There was a wide variation in the units' conditions before tune-up. In instances where units were not working at all, tuning them up to make them run may have resulted in more consumption than when the units weren't working.
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> There were significant differences in savings between contractors. The evaluation examined trade allies serving the largest proportion of units and found large variations in realization rates between contractors. This demonstrates a need to revise the quality control protocol if this initiative is reinstated in the future. We had a high level of quality control in 2010 for the pilot but could not sustain these levels in subsequent years due to cost.
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> We are winding down the offering this year. Applications will be accepted through September 20, 2013, and we won't offer it next year. We'll do some onsite metering during the 2012 and 2013 impact evaluation, which will take place in 2014. We recognize that billing analysis has limitations, and we may see different results from the impact evaluation. In addition, we want to continue working with the trade allies that we recruited for this effort and are developing additional offerings that they can leverage for their business.

Holly: I have a process concern with this item. I don't remember this one being on the agenda as a discussion.

Kim: Discussion doesn't mean we need a decision from the group. There are many times when we've had to make decisions based on very clear evaluation results. This discussion is to learn if there is anything we aren't considering, or if are there other ways to work with HVAC service contractors.

Holly: It's peculiar because we had incentives out there and people grabbed them. When we reduced the incentive, no one took it, so we concluded that we needed to end the program. It sounds like we had a small sample size, and it was hard to read the data. The sample may not have been big enough. It sounds like we decided to end it before getting all of the data. Did we really get what was out there?

Spencer: We dropped three- and four-ton units because the incentive was the same for all of them, but savings potential is smaller for the smaller units. We were covering most of the costs of the tune-up, which turned out not to be cost effective. We did reach out to trade allies before reducing the incentive. Their feedback was that they could still sell it; however, that didn't happen. We continue to believe we tapped the market.

Peter: Holly, the statistical validity was another concern I heard from you. It was pretty robust, as I recall.

Fred Gordon: We concluded that we were sending people who were already on the roof to do something more but we didn't know what else they were doing. It's very complex to get a controlled outcome when they are up on the roof doing something for us along with unrelated work. It's hard to control what you get.

Peter: We were finding that after the tune-up the units functioned better, provided more air to the building and resulted in a healthier building. But often these results required using more energy than the units had used before the tune ups.

Holly: That's a non-energy benefit. Is that factored in?
Fred: if you have a positive savings number you can talk about non-energy benefits. We need to look at other equipment and automation, too. Do we want to target those with functional equipment? Other utilities show savings differently, and we aren't able to do it the same way.

Mark: In that first year we had a higher quality control rate?
Fred: We had a high volume and an unsustainable quality control rate. There were different contractors and too many variables.

Charlie: It doesn't surprise me that the billing analysis is equivocal. The Regional Technical Forum, RTF, has posted a protocol with very little measurement to use. It's very cheap. The big concern is that there's some thermodynamic potential here, and we haven't found a way to make it work for people. When we do it, we're increasing usage more than savings. We knew that would happen, but not how big the variations would be. Something is there, but it looks like we need a better way to tap it. You changed the incentives a lot, and the model was to use existing relationships, but clearly a big part of the sector doesn't benefit from these. Is there some way we get at that chunk of potential savings out there?

Warren Cooke: A lot of rooftop programs have struggled with this, and they have failed all over the country. They have always worked with imaginary baseline savings and 100 percent incentives. They concluded that "the measure is hard to do, so let's stop doing it." The machines need the maintenance work, and starting and stopping the measure is pretty expensive. Now we have some national standards we can use. From a contractor perspective, if you can't use

the standards you don't get to play. This way of doing it may be over, but the potential is still out there.
Spencer: That's how we're viewing it, and we can reexamine working with trade allies to get the savings.
Warren: We see these imaginary ventilation baselines a lot. The buildings would have been healthier, but now you use more energy.

Holly: We have these imaginary baselines all the time, and it's inconsistent. If the customer has a standard efficiency gas furnace we assume they would replace it with a like model; but we don't really know if they would have done that or gone with high efficiency.
Kim: We're talking about retrofit vs. incremental baselines. We work with the actual baseline.
Peter: This is a good question about establishing baselines, and if the planning shop is willing, we should bring this discussion back to a future meeting. We should come back to it as a good question, but we can't cover it today.

Mark: There are other good things that come out of these initiatives. In working with NEEA and the RTF we found that Honeywell economizers haven't worked very well. As a result, Honeywell redesigned them. There has been an impact on the region based on this. We know there's a stockpile of opportunity. Charlie brings up a good question. The savings may be lost in the noise of the larger building assumptions.
Fred: The predicted savings are within the range that we thought we could detect with the sample size we had.

Jim: I recall a discussion about Nest thermostats and whether regular programmable thermostats were the baseline. We said we were going to use non-programmable as the baseline; leading to more savings per installation.
Fred: We haven't seen evidence that programmable thermostats save anything.

Charlie: The board and Juliet should be aware of it, and there's more than one way to quantify it.
Kim: This question is core to our business, and our approach to establishing baselines definitely isn't willy-nilly.
Peter: Added on is some sort of review of how we apply it and whether there's a pattern.

Jim: Is that on the website somewhere? It would be great to look into the statement that programmable thermostats show no savings.

4. Residential measure changes
Marshall: We previewed these adjustments with the trade ally stakeholder group a few weeks ago. Two CAC members are part of that group—Don MacOdrum and Scott Inman. These are changes to prescriptive measures, which constitute the bulk of the Existing Homes program. I'll also give a heads up about measures that will be reviewed for potential baseline adjustments next year for 2015.

> The changes are summarized in the slides.
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> Heat pumps will have a new, higher tier in 2014. We currently capture these through the current tier of 9.0 or greater. Early indications suggest the baseline is trending upward. We looked at the Puget Sound area and believe there's a pathway to market transformation. Right now we provide upgrades and full replacement incentives. We expect additional savings of approximately 500 kWh per year. Incentives would be set at

$500 and $700. The current baseline is HSPF 8.5. If we move to two tiers, we're positioned for the next step in the common market baseline in 2015.

Mark: Are we seeing a falloff in 9.5 and above right now?
Marshall: We're not seeing that. We see a trend above 9.0, but no rush to 9.5.

Holly: Is HSPF 8.0 the baseline, or is it higher?
Marshall: Code is 7.7 and the current baseline is 8.5. We believe the baseline could be moving toward 9.0.

Garrett: What's the percentage of 9.5 units currently coming through the program?
Marshall: It's roughly 10 percent, but we need to revisit the data and come back with that detail.

Jim: Oil and gas are backups and not primary heat?
Marshall: We assume the heat pump is the primary heat source.
Jim: So the furnace could have been primary, and the heat pump makes it backup?
Marshall: Yes.

Warren: Is that to get someone who wants air conditioning to consider a heat pump instead?
Marshall: We believe that we're influencing people who would have already chosen electric heat pump to install something more efficient.
Holly: This is what I meant earlier: it's an assumed baseline that may not be true.
Marshall: There's a market research study on our website that documents this.

Charlie: Are you doing heat pump commissioning along with this measure?
Marshall: Yes, we do CheckMe and PTCS, but we believe trade allies aren't locking out strip heat at the right temperatures, so we are looking for ways to improve that.
Charlie: Unless you do those commissioning things, the savings may not show.
Marshall: We may go after the controls, long term.
Fred: It can be tricky.
Charlie: It's not as tricky as rooftops but can be elusive, with more than one way to do it.

Holly: We had a presentation a while ago that showed the penetration of higher efficiency heat pumps at about 60 percent. It was a question about when we should back down because we've transformed the market. It seems like you need to adjust your baseline. It makes an assumption about what people are putting in without incentives. We're now paying a higher incentive on better equipment, but are we keeping the same baseline with a higher incentive?
Marshall: We're not moving the baseline up. We are seeing more installs because of our activity.
Holly: That's my concern because we did the same thing with gas furnaces.
Fred: We are moving the baseline up, but it's a matter of timing.

Marshall: The other measure is heat pump water heaters. We currently support NEEA's tier two northern climate spec, but there's only one manufacturer who qualifies. The long term goal has been to influence 2020 code to require a certain efficiency over 55 gallons. We got behind this tier because we feel it performs better in our climate. We've supported NEEA's Smart Water Heat project, and they also have strategies for tier one with suppliers and contractors. We could align with their initiative to meet our objectives because properly sized systems could produce savings to promote customer satisfaction. We think there are issues with replacing 50 gallon regular electric with 50 gallon heat pump water heaters. They are unequal in efficiency. We are favoring the larger, 60-gallon units, but would continue offering incentives for the smaller units. The measure is only for those who are current electric water heat customers. We'll educate

customers and align with NEEA to encourage units that perform well. We'll also support self-installs to align with NEEA.

Holly: Since we have the incentive today, what is the spec for that one?
Marshall: It's a tier two unit, with certain requirements. They're exhausting air from inside to outside. Conditioned space temperature is unaffected.

Garrett Harris: Are the models out there aligned with your incentives?
Marshall: We followed the common cutoff sizes that were in the market.

Mark Kendall: Is there no variation on location of the unit?
Marshall: Tier one units are to be installed outside the conditioned space. Installation requirements and other specifications will be explained in the November Insider.

> Air sealing has come up for several years, and we were waiting for billing analysis. From recent billing, we found the savings levels to be higher than we thought, but costs have tripled. The societal benefit is a challenge, especially on the gas side. We don't believe we should promote air sealing if it's a challenged cost effectiveness outcome. Air sealing accounts for about two percent of gas and one percent of electric savings. We will implement a prescriptive, air sealing and attic insulation combination pilot in 2014 as an effort to continue promoting air sealing.
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> Our current assumptions are shown in the chart. Incentives were reduced to $150 in 2013, and savings are most challenged on the gas side. We revised the costs to include the average we found in our database. On the gas side it costs more than it saves. This is the main reason we decided to test ways to do prescriptive air sealing instead of whole-house.

Warren: Did the requirements change between the 400 and 1200 job?
Marshall: Yes, and we primarily promote it through the Home Performance track where we look at ventilation, indoor air quality and sealing air leaks through the home performance assessments. We plan to drop air sealing.

Warren: Are they adding ventilation?
Marshall: It's mostly Home Performance contractors, who are very comprehensive in their approach. They look at what they can address to get large savings and generally seal to the building airflow standards.

Charlie: The revised savings come from where?
Marshall: The 2012 program year.

Holly: Why are the costs inflated? Have we asked? Are they inflating what they charge because of the incentives?

Marshall: There are many reasons, and we have ideas to investigate.

Peter: We can come back with more information at the next CAC meeting.
Holly: Can you add something for next time? There were four reasons you gave.

Marshall: We have exceptions for gas weatherization measures through the OPUC to allow us to gradually improve our portfolio.

Elaine: We did go through the process of defining the exceptions, and determining if there is there a case we can bring. We couldn't find the justification and criteria needed to keep costs down and bring performance up.
Holly: There's a lot of grey area, and I would like to understand it better.

Kim: We went through the correct process.

Don MacOdrum: Electric air sealing seems to pass pretty well. The consistency exception exists. If they are really such small percentages of the portfolio, how much are they really bringing it down?
Marshall: The benefit is 0.17 and the cost is 1.0. They bring the program portfolio down by $1.5 million in added costs.
Holly: So it's a much bigger piece of cost but not savings?

Wendy: Why would you remove both the gas and electric incentives? I don't have enough information, but it looks like you are dumping something that is cost effective by getting rid of the electric incentive.
Marshall: We've heard from this group, and from trade allies, that it's disruptive to have different gas and electric measures.
Holly: The logic doesn't seem consistent either.
Marshall: We can bring that back for discussion.

Paul Sklar: Around 75 percent of air sealing projects have been gas homes.
Marshall: There seem to be fewer air sealing opportunities in electrically heated homes, based on history.
Jim: I'll be curious, because it looks like savings vs. usage is skewed. I'm interested in that.
Scott Davidson: When you say this is a stand-alone measure, do you mean it bears all the costs of test in and test out?
Marshall: We assume all requirements for that measure are included in the costs.

Scott: If you combine that with attics or other insulation, a standard Home Performance practice, the costs are spread among all the measures. It's a bad call to walk away from that practice. Some homes are very leaky and others aren't. To not seal the very leaky homes would be a bad call. Maybe we need to look at the reduction achieved to keep it cost effective.

Marshall: BPI requires that the attic is sealed when insulation is installed. We can assume that without our intervention, we'll still get the same savings. We need to find out how to bring the costs way down or bring the savings way up. There may be an opportunity there, but we may not always pay for each portion to get the savings.

Tim Davis: Is that one to two percent for the overall residential program or just weatherization?
Marshall: That's for all of Existing Homes, excluding behavioral change efforts.

Holly: I checked UM551 to be sure, and I think you are imposing an additional constraint. It doesn't say you have to be close to cost effective before looking at an exception. I don't think that as shown we should disregard it. To maintain consistency, it could still fit.
Kim: We will clarify that.

Charlie: On Home Performance we would like to have the savings back on the chart. That will help in making comparisons.

Kim: I can tell that we need to send things out earlier. I'm hearing a lot of requests for technical information.

Marshall: The Trade Ally Stakeholder Group works through some of these technical issues. It includes Oregon Air Conditioning Contractors of America, the Home Performance Guild, Portland Metro Home Builders Association and others who are influenced by our programs. We talk about these things with these groups. We met with them regarding air sealing and we'll go back them with other measures.

Kim: Are there other comments from the group?

Scott Inman: My comments were already covered, but the electrical part baffles me.

Don: Part of the stakeholder group did provide some of the same feedback you heard today. Part of it was about not being on the timeline for rolling out the changes. There was some pushback.

Marshall: Moving on to other measures: Savings Within Reach maximizes utility cost tests to serve customers with higher incentives. We will remove air sealing and blower door testing as a requirement from that track. Based on input from the Trade Ally Stakeholder Group, we wanted to maintain testing as an option to ensure the minimum ventilation level is met. We will add 9.5 HSPF heat pumps with slightly higher incentives.

> On insulation outside Savings Within Reach, we made changes in 2013 to stay in line with gas costs, and we didn't change the core assumptions to Savings Within Reach at the same time. We currently offer a flat incentive rate per site. Prices don't meet the utility cost test of 1.0. We used updated billing analysis and added a second issue to address, which includes equity in size of homes. We created more parity in the percentage of project costs. Small homes were getting a higher percentage of costs covered than larger homes. Going to a per-square-foot incentive will help with that. We'll take this back to the Trade Ally Stakeholder Group for discussion.

Holly: What does that compare to? Where do they balance out in terms of size of house?
Mark: It may be about 1,000 square feet.

Marshall: We cover in some cases 15-30 percent of costs in the regular program track, but it's up to about 70 percent for Savings Within Reach.
Diane: 1,600 square foot homes fare better in the standard track under the current incentive regime.
Kim: The math comes out to about 1,300 square feet.

Garret: Can the contractor pick the best incentive for the customer?
Marshall: Yes, they can choose.

Charlie: What's missing for me is that I don't have a clue about the CRC cost and levelized cost. I appreciate that you're working with the trade allies, and am unsure what you want from this group.

Kim: The CAC is an advisory group. How much information do you need in order to advise us, and what are you advising on? The topics often are very complex, and we have to make decisions and come here as early as possible; but we're often waiting on evaluations and more

data. The information presented here is at a high level, and I don't know what sort of advice you can give us. Maybe a sanity check?

Fred: I appreciate the struggle. But, to clarify, the incentives reside around the utility test and not the total resource test. What incentive will it take to move the market? The cost effectiveness issue is mostly the TRC, which is about the whole cost. The incentives are more driven by feedback from the market-sales trends.

Kim: Many incentives that are going up don't get this much discussion, so you don't get the backup on the commercial and industrial side. Residential changes tend to get more attention.

Wendy: Are you looking for feedback, or just explaining this to us? Don pointed out that the Trade Ally Stakeholder Group addressed the same things. Is it too late to incorporate the feedback? I sense some resistance and defensiveness here.

Peter: We'll be back the next time to answer these questions. If we haven't yet answered them, it moves into 2014 and we'll struggle with it then. I appreciate that this isn't working. This is the first bite, and not the end. The questions are informative. We get that it's self-think, and the frustration we're hearing is illuminating for us. We'll postpone and have another discussion.

Charlie: It would help when you come back to know the volume coming through and what's estimated. When you tweak the dial, what will it do? More context will help us avoid arguing over little things or missing big things.

Peter: We can show some metrics next time.

Scott Inman: On this floor and sealing incentive, basically a 500-square foot home is getting most of the work paid for. I'm guessing that someone in that small home is less likely to be able to afford the work than someone in a larger home. Is the old program reaching more people than the new one would reach?

Marshall: I don't know if you can make that correlation. The moderate income program helps people who don't qualify as low income but can't afford full market price. Looking at smaller houses might feel like we're helping more, but it may not correlate with income.

We will look at assumptions on the baselines in 2014 to adjust in 2015.

Matt Braman: For New Homes and Products, we were aware that refrigerator recycling has a limited lifetime, and that as the pool of older fridges shrinks the stock gets newer. Federal standards changed in 1993. Right now we pay $40, and will propose two tiers for older and newer than 1993. In 2015 we'll follow the RTF work, and will have an age cutoff. We may be getting closer to the end of the measure's life. Lighting will shift toward top performing, general purpose LEDs. We'll still support CFLs through the Energy Independence and Security Act transition.

5. 2014 draft budget

Peter: There are some hard copies of this presentation available, and the budget will be posted online after this meeting.

> Some good news we want to share is that for every $1 invested, ratepayers get about $3 back. Companies we work with report they employ 14,000 people related to our work in the marketplace.

We last did strategic planning in 2009, covering 2010- 2014. The new strategic plan for 2015-2012 will have five areas of emphasis and a new goal structure. We have eliminated the range of goals at the request of the utilities in favor of one stretch goal that aligns with utility IRPs. The utilities will file tariffs based on this goal. Our OPUC performance metric is 85 percent of the new, unitary goal.

In 2014 we plan to make things easier, enhance program design, do targeted marketing and outreach, and leverage partnerships with parallel organizations.

The focus will be on specific customers, niches and segments, instead of a broad-based approach. We'll make it easier and target the right audiences by finding partners who are already there and can help us. They operate in the same markets and relate to the same customers already.

2014 budgeted savings are up an average of 8 percent from where we expect to land this year. About 65 percent of electric savings are expected to be in PGE in 2014, and 60 percent of gas savings are expected to be in the core NW Natural efforts in Oregon.

In terms of costs, going into rural areas is expensive, and targeting isn't necessarily a cheaper approach. It's getting harder to get people in the door. Consequently we expect to see about a 10 percent increase in levelized costs.

Wendy Gerlitz: You switched from the two goals to one goal. How do these compare with the old way?
Peter: The single goal is the stretch goal.

Charlie: Are the levelized costs just system costs?
Peter: They are based on everything we propose to spend to reach the savings goal. They are what the proposed $162 million dollar investment shown on the slide will buy at that unit rate. They do not represent the societal tests.

Looking back over the last few years, we planned through our current strategic plan to double our savings, and we've reached toward that. Intentionally, some sectors grew more than others, but we have experienced growth in every sector. Industrial has seen a jump from nine percent to a 21 percent share. You will see that in 2014 the budget will support growth of about 8.3 percent in gas savings and 7.8 percent in electric savings. As expected, achievement is leveling out. As we tap resource potential, and shift the baselines rise higher.

Starting in 2015, we may see a drop based on the diminishing resource potential. The idea five years ago was to front load our efforts , which is what we did.

We are projecting an increase in spending for 2014 of 16.7 percent. The majority (62 percent) of the increase is in proposed incentive changes. An increase in delivery costs (including internally managed program efforts) accounts for at least another 19 percent of the change. It won't be cheaper to squeeze the rock more tightly.

Jim: Thank goodness for NW Natural helping reach the target. The next goal is 521,000 therms, which is an increase over this year and will be a challenge. Success will be driven by NW Natural.

Peter: With Cascade Natural Gas, it's a small system problem. We literally have seven projects for 2014 that will make all the difference.

Jim: If they come through it will be a 40 percent increase in accomplishments.

Peter: We should and will discuss this further during our utility meeting with Cascade. That meeting is already being scheduled.

The presentation slides show the breakdown by program.

Wendy: A couple of years ago, you noted that differences in the law between collections and spending for residential vs. commercial and industrial may cause you to bump up against a cap. Have we come close to that?

Kim: This issue applies to customers with use greater than one aMW per site. These include larger hospitals, university campuses and industrial sites. We have not triggered the cap yet. We may find that we've triggered it next year. We do not know yet. We'll look again in April, and if we have an issue we'll have to adjust for it in the following year's goals.
Wendy: If you can send that to us as soon as it's ready, it will help.

Jim: The forecast says that the single goal "approximates" the IRP target. I thought it would be set at the IRP level?
Peter: It does hit IRP on the gas side and is very close on the electric side.

Charlie: On the electric side, funding is going up by 10 percent, and we're barely holding in acquisition. I see a flat-line on savings and an increase in incentives. To get more, there needs to be a big change in spending; or can you even get more? Are we maxing out on what we can get?
Margie: We've gotten the easy things. We're facing that question about what we can squeeze out of the rock with the same level of investment.
Peter: We're forecasting a 10 percent increase in cost per unit next year. Our OPUC levelized cost performance metric is 3.9 cents/kWh, and we're still well under that.
Kim: You'll see this in each sector's presentations.

Fred Gordon: We're not just trending things up: we're looking at markets, and that's what we get.
Peter: Even at these costs, we are exhausting some markets. Resource potential needs to be revisited. It may be less than we believe right now. We front-loaded things as part of our plan so it's a good question to ask how long we can hold onto that level, and at what price?

Oliver Kesting walked through specific slides on the budget for the commercial sector. He noted an increase for Cascade, NW Natural and PGE, and a decrease for Pacific Power from 2013. That's due to a bubble in New Buildings for Pacific Power in 2013. Changes are driven by large shifts in the New Buildings pipeline. Cascade Natural Gas drivers are Multifamily, schools and SEM. The big items on our radar for the commercial sector are in the slides.

Juliet: There will be a public process about bundling for whole-building upgrades. The commission will come out with an order about it.

Don: In this context, 2801 refers to all buildings?
Juliet: Yes, it's everything: commercial and residential.

Oliver: We have three programs in commercial, and we are trying for each of them to make it easier to work with us. We're looking at tablet-based apps, redesigning the custom track to minimize customer effort and simple prescriptive incentives where they are needed. SEM will reach more large customers and engage more service providers. There are only two SEM service providers now. SEM for small commercial will be offered.

Charlie: Is there going to be a place for roof-top tune-ups in strategic energy management? It's a market problem, but it may work.
Kim: We're doing it in SEM on the industrial side.
Oliver: We look at RTU opportunities in commercial SEM.

> We'll continue targeted outreach, account management, and providing small commercial customers in New Buildings with simple solutions and tiered incentives. We're targeting training for the trade allies and doing a net-zero campaign. We'll offer more training on understanding and selling the business case for energy efficiency. NEEA is also doing some work in this area and we'll coordinate with them. We may issue a request for proposals for additional tool development to build the business case for energy efficiency. We're also looking direct installs for small customers.
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> We'll continue our collaborations with ODOE and other partners like NEEA, building codes division, American Institute of Architects and Cascadia Green Building Council for training and code compliance support. We'll work with NEEA for the transition to new lighting standards.

Peter: There are detailed program and sector plans on the website that elaborate on these points. In this sector, the changes are large. Gas incentives in this sector have been lagging what we've accomplished in the industrial sector. We now need to catch up in the commercial sector. Increased spending to support this is included in this budget. The economic value equation of payback for the customer had deteriorated, and we needed to step forward. This is also true for lighting, where we are also increasing incentives.

Oliver: The commercial plan that was handed out today was at a high level, and the supporting program information will be shown in more detail online.

Kim: Overarching numbers are shown for industrial. We build from the previous years' goals. We are coming up low in two utility territories now. We close 80 percent of savings in the last four weeks of each year. That's true in Pacific Power territory, but not in Cascade Natural Gas, because we have nothing in our pipeline. What we do next year is a significant ramp up from this year. It's tricky to build industrial goals because of lumpiness. Overall, there's a seven percent increase in both electric and gas in next year's budget.

> Half of the electric savings come from custom projects and other significant savings are from SEM and lighting. There's also the last phase of a megaproject in PGE territory in 2014. That helps with 2014 costs in PGE territory. Streamlined industrial represents a small amount of savings but a large market reach, with many smaller customers.
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> Projects on the gas side are less diverse, with no lighting or megaproject. Small industrial is emphasized on the gas side, along with SEM. There's only one program for the industrial sector. As in the other programs, we spend our money on delivery, technical services, quality control and incentives. Program Delivery Contractors, PDCs, help trade allies by offering training and program assistance in delivering streamlined, prescriptive incentives.

Aside from aligning with the commercial sector on lighting, we are not recommending incentive changes next year, but we may prepare a bonus incentive. We have done this for seven years, excepting 2013, and it grabs everyone's attention. This would have to launch early in the year to have an effect.

Lighting incentive changes came up in July. These are the only measures we deliver jointly with other programs. We all work with Evergreen and try to align our incentives to keep things simple for customers. There is definitely room to raise custom lighting incentives because we mostly work with high bay. We analyzed this and found that incentives only cover 25-30 percent of costs. Other custom incentives cover about 40 percent. We raised the lighting incentives to bring them closer to custom.

We plan more collaboration and are especially engaged with other industrial programs. We have to improve or we get buried. We are making a shift in how we deploy PDCs. Feedback says they are very effective. People in plants don't have time to work on energy projects, so the PDCs support them. We are about to roll this service out to all customers. In the past, the PDCs only covered large customers. We are going to try something new: custom PDC services to small industries. We are putting in more money to leverage more delivery. In the current strategic plan, when we wanted to double savings, we did it through delivery. We will try it with small industries and see what we can do.

We'll leverage PDCs to motivate customers, scope projects, and act as a sales force in a real way. We will combine what we learn from SEM and expand it. We've done the experiments, and need to apply what we learned.

We will look at commercial LED prescriptive incentives. This technology is still tiny for industrial, showing up in parking lots and similar places. Industrial lighting is still about 90 percent high-bay.

Charlie: As for price and efficacy, LEDs are quickly coming down.
Kim: Maybe in a couple of years they will start to catch on.
Peter: We'll see how it plays out in commercial, but adoption could easily be more rapid.
Charlie: They are also easier from a controls standpoint.

Diane: For residential, our 2014 savings are growing everywhere but in Cascade Natural Gas territory. The August 2014 forecast includes the Sunriver project, which will now complete in 2014. Overall 2014 is very similar to the current year, and our 2014 budget aligns with this year's costs. We show about 100,000 therms in NW Natural Washington, and you see a big increase in Pacific Power because of increased lighting. There will be a high bill/user effort with Opower in Pacific Power territory. Gas transformation savings are in the numbers, but not NEEA electric. They are not in the budget shown on the sector slide. The packet has a separate slide on NEEA.

The Aclara effort will probably be pulled in during round two of budget preparations, depending on further conversations with PGE. New Homes in Pacific Power is a very small part of the mix of savings. On the gas side, most of the savings are from Existing Homes.

We want to focus on connecting customers to the right services, target the right customers using CRM tools and empower contractors to be the program

representatives. We also plan to emphasize the quality of their installations. Fluid is doing a quality management effort with them. We're planning to bring innovations in retail strategies. NEEA network efforts show an opportunity we can leverage. Their ductless heat pump and heat pump water heater efforts help us. We'll also add more lending allies and tools, and our Savings Within Reach lending product. If it works well, it could be expanded outside Savings Within Reach, but this is the initial test.

A new tool will go live soon to show customers estimated returns and savings based on our deemed savings values. We're planning more online tools, energy savvy referral codes and leveraging collaborations like school outreach by Community Action Partnership of Oregon, CAPO, which links people to Energy Saver Kits. There will be outreach with the Home Performance Guild and with public utilities like Clark PUD in Washington. We plan to increase EPS in Existing Homes and are working on awareness building. We also plan to refine delivery efficiencies.

Juliet: What are you doing with the public utilities?
Diane: We are working with Clark PUD on things like clothes washers, where they can offer clothes washer incentives for gas water heating customers. We pay the incentive to them if they help the customer while they're working with them. It comes out of NW Natural Washington funds.

Scott Inman: How many existing homes now have EPS scores?
Diane: About 1,200 so far, and we are looking to raise awareness.

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Scott: The marketing piece for EPS seems very targeted.
Diane: This is our first marketing EPS marketing effort.

Peter: One of the key features of an EPS is having someone with a building science background deliver it; it's not something just anyone can use. We have used the home performance path through the Guild and Clean Energy Works Oregon to market test it. There's new legislation to extend it statewide, and Warren Cook of ODOE is leading the writing of the rules related to this.

Diane: Energy Saver Kits will be limited, and we will look for other ways to gain savings. We are planning on pilots, also.

Mark: No air sealing for floors or walls?
Diane: They are still in our specs, and we want to find out where contractors are failing so we can work on quality control with them. The prescriptive duct sealing pilot will continue. The Savings Within Reach loan product will be out soon. We are looking at early retirement for windows, mobile homes and other measures.

Peter: Our next steps will include more detailed information on the website. We do have some challenges: on the business side we are still hoping for capital spending increases. We are having issues maintaining the range of measures for some programs, sectors and customer subsets. We are driving toward a big solution in October for gas cost effectiveness. There are some speed-of-acceptance issues: LEDs got ahead of us, but on appliance tiers, we jumped ahead. We need to decide if we really have saturated certain customer segments. Those are the overarching challenges.

The breakouts by program and utility are already posted. The board will see this at a higher level on November 6, the OPUC public workshop is on November 13, and we'll

also offer a webinar. We'll have CAC and RAC updates on November 20, and another OPUC meeting on November 26. All public comments are due on November 27. We'll gather them, finalize our version of the budget and take all of it to the board. The earlier you can get comments to us, the better. It allows us to incorporate comments before the next time we come back to you.

We'll restart our next cycle of strategic planning in 2014. The draft will be available by about June, for the strategic planning board meeting. We will also discuss the draft at RAC and CAC meetings.
Fred: It's usually the subject of the board retreat, and will typically come through here.
Peter: It will come through here, and your participation is key. The signup for email updates is on our website, and I encourage you to sign up.

Don: As Juliet said, and Peter reiterated, Energy Trust and the OPUC are driving toward cost effectiveness solutions. There will also be a panel at the upcoming Home Performance Conference on October 29, at the Ambridge Event Center.

Mark Kendall: So, you need comments in the next two and one-half weeks?
Peter: That would be best.

Jim: Just a reminder that our budgeted savings are up by 30 percent in Cascade Natural Gas, and we need to discuss it. We may need to touch base before the meeting on November 13.
Peter: If you propose some times, we can do it. We can change the goals if we need to.
Jim: We've been looking at dollars, rather than therms. Now that we're looking at therms, we need to discuss it.

Diane: Jeremy from WISE needed to leave, but wanted me to share his comments: "As you work on program design, please continue to pay customers and contractors more quickly."

6. Meeting adjournment
Kim thanked everyone for their participation and adjourned the meeting at 5:00 p.m. The next full council meeting is November 20, 2013.