Notes from Energy Performance Score (EPS) Stakeholder Meeting
Monday, Jan 23, 2012

Peter West called the meeting to order at 1:30 pm. He went over the agenda, and explained that the discussion was limited to Energy Performance Score (EPS) for existing homes.

Peter: The new homes EPS is working well and has great acceptance in the market. This discussion is unique to existing homes; we're trying to take the successes seen with new homes to the existing homes side.

I want to recognize those who helped with EPS development and studies. Sean Penrith has worked with Earth Advantage and Conservation Services Group (CSG), Adam Winter with Recurve, Charlie Ellis with Energy Savvy, Kendall Youngblood and Bob Stull with PECI, and Terry Miller at CSG.

Betsy Kauffman will moderate and keep us on task. The agenda is available in the back of the room. Our purpose is first to bring everyone up to speed on where we are. We show significant results and challenges, but also significant choices. This isn't the final word, but is the first salvo, if you will. So we'll bring you up to speed, invite initial comments and feedback, and over the next 3 weeks we'll get more feedback to inform our next steps.

The agenda is posted on the Energy Trust website under 'public meetings,' and the webinar is also available there.

Diane Ferington covered history and background on the EPS for existing homes.

Diane: Over the past five years we have been working on this, but I always start any discussion of EPS with an explanation. This score is asset based, and not behavior based. We liken it to a miles-per-gallon rating for homes. It tells you, "What does it take to operate this house each year?" It's a way to engage customers, and a way for home performance contractors to sell their work scope. Realtors can use it to compare between homes with respect to energy. It's an educational piece, and gives visibility to consumers about consumption of both a home's shell and its mechanical systems. EPS isn't:

- A certification
- A program – (rather, it's a program tool)
- An incentive, but may drive incentives
- A guarantee
- An alternative to a Home Performance with ENERGY STAR® assessment

It started in about 2006 as a concept and part of CSG's rebid for the Energy Trust Existing Homes program management contract. The concept was an asset-based score for homeowners, and we invested in a significant effort to study it. Out of that effort came how to deal with behavior in models. We also looked at the question of whether or not we can deliver a

score at about $200. We looked at benchmarks; we asked, “Can it be delivered in the field, and will complex expensive models work better than easier ones?”

As it turned out, complex models seemed no better than simpler ones. At that time, tools for asset based scores came up about +/-30 percent, in accuracy. Billing data includes behavior, and maybe the comparison wasn’t good. We believe that a set of enhancements to less complex models would result in improved accuracy and have less room for user error.

We saw success with EPS in new homes, having 1,500 homes (25 percent of homes in our market in 2011) receive an EPS through our New Homes program. Oregon is progressive in carbon mitigation. Our governor has strong objectives for carbon mitigation and efforts of EPS in the market are strongly supported at the legislative level. Senate Bill 79 was a bill to look at energy scoring of structures and resulted in the creation of a task force on EPS for residential and commercial buildings. It had 13 members and was run by the Oregon Department of Energy. They were to make recommendations to ODOE and report to the Legislature on both voluntary and mandatory scoring, and what they would look like.

They had four primary recommendations:

A physical inspection is required – not an online tool
Using credentialed BPI, RESNET, or other certified professionals, is important
US Department of Energy or ODOE should approve the tools used for scoring
A voluntary approach should be used

The ODOE website has all the results of the task force’s work.

Energy Trust’s goals in our current phase of the EPS pilot for existing homes:

Find out if EPS motivates customers to act by doing more or doing work sooner. What follow-through rates happen? What presentation works best? Does it have efficacy in directing customers to the right things? Does it rank well without diagnostic tools? We also tried to hit a $200 delivery cost.

We developed a nice customer recommendations report used in our Customer Home Energy Report that is used in conjunction with an EPS or DOE’s score.

Dave Robison wrote our report on model comparisons.

We looked at Energy Trust’s residential HER analysis – which was a survey of groups of customers who had a score, and we looked at their project records to see if they acted.

Energy Trust organized a homeowner communications focus group, and we included a look at the visuals for the US Department of Energy’s HES score and Energy Trust’s EPS score, and got feedback.

Phil Degens discussed the studies and findings in more detail.

Phil: The pilot review was completed in November 2011. We obtained feedback on the Custom Home Energy Report (CHER), EPS, and DOE’s Home Energy Score, and analyzed actions taken. The pilot had four groups, but only three received surveys. The treatment groups were:

customers with a CHER by itself, customers with a CHER and EPS, and customers with the Home Energy Score and CHER. The sizes were a little different for each group.

The Custom Home Energy Report shows estimated costs and a pie chart of where the home loses energy. The other side shows next steps to take and an estimated energy costs chart.

The Home Energy Score used the DOE tool and score.

The Energy Trust EPS has a score which is different from the DOE tool/score. EPS has been redesigned to show the home's carbon footprint in a different manner (from focus group feedback) and dollars spent on energy.

Our key findings based on surveys showed that Energy Performance Score and Home Energy Score do not appear to be driving peoples' actions or investments. We asked what types of actions or investments people were making, and got feedback. Our database showed customers with scores to have the same participation rates as other customers without scores. There were different rates of participation in our programs maybe due to the short period of time. It really was unclear if it was a lasting effect due to the short period, differences in customer groups, and seasonality.

There was no difference in satisfaction levels between people receiving the different reports. No difference between groups was found on clarity and usefulness, except on one question: Is the score clear from the visual? HES performed better than EPS on that one. The custom report was useful, but ratings for energy cost and savings elements were lower. It's still not clear whether we'll see a difference over time.

For the modeling comparison the study has gone on for a long time. EPS modeling goals were: to see if the different tools resulted in consistent and similar scores. Were they compatible with SEEM results (which are our best data on home loads)? Last was to recommend which tool should be provided by the program, and how it should be improved.

Our methodology was to use the homes' modeled total energy consumption to calculate the rating score. If the tools resulted in consistent and accurate EPSs, we would develop further criteria that could be used to select tools. We would look at costs and simplicity of use, data collection costs and the upgrade cycle.

We found that fuel choice results in different scores. Looking at a gas furnace vs. a heat pump gives a considerably different score with the MBTU method. Conservation measures by themselves have small impacts on the score unless several are done at once. If the score only changes marginally, it may not be a motivator. One measure doesn't show much of a change.

We evaluated EnergyMeasure Home - CSG's tool, Home Energy Score from the DOE, Earth Advantage's Simple 2.0, Energy Savvy, and Recurve (which is new to the Oregon market). These were mid-2011 models of the software, so they have been updated and improved, since then.

SEEM was the comparison model because it's used by the NW Power and Conservation Council, is based on regional information and validated against load data, and prototypes were available for NW climate zones. There were 36 prototypes across fuels and weather zones. The models ran similar sets of data for SEEM prototypes and a set of 35 actual gas heated homes. All of these tools were compared to SEEM.

The combined results of different tools show they are fairly close to SEEM. Looking at Energy Measure Home results, with all the different prototypes and climate zones, shows a bit of a scatter in that it under predicts homes with large consumption. It does seem to follow the trend line. Earth Advantage results show good agreement with SEEM, but it was noted by the consultant that heating performance is slightly less accurate with this one. Energy Savvy was a little more widely scattered. Recurve followed fairly well, but there was wide variation with differences in end uses.

Dave Robison explained how the charts in the presentation are laid out. SEEM is along the X axis. Model results are along the Y axis. If they matched, they would run along the 45 degree line. Above the line means the model is over predicting. Below the line means it is under predicting.

The Home Energy Score tool version used for their initial pilot over predicted energy consumption for this region. However, the tool has since undergone significant improvements based on input from the nine states pilot of which Energy Trust was one location.

Recurve was excluded because it overestimated cooling and underestimated heating. In the chart it was closer fitting because they compensated for each other, but it looks okay for the wrong reason. Home Energy Score was excluded because of heating load over predictions at that time.

As for test homes – there were 36 gas heated homes used to compare the models against SEEM. We had 2 data sets, and the prototypes were hypothetical. The chart is actual field results on these homes.

The modeled appliance usage recommends that standard assumptions for appliance energy should be the same for each one.

When looking at the three models that were considered, the consistency metric, relative mean square error, and agreement with SEEM leads to relative rankings. Earth Advantage and Energy Measure Home were close to each other and Energy Savvy was next closest but Energy Savvy is not designed nor intended to be used an audit tool. It is the analytic engine for Energy Trust's quick consumer-friendly online estimate of where a home falls on energy consumption.

The models compared favorably on many statistics, so the findings were that our goal is achievable. There are tools that can work. The Earth Advantage or Energy Measure Home models both appear to provide reasonable EPS scores relative to SEEM.

Holly Meyer: Was a higher number best, or a lower number?

Phil: 1 was the best in the rankings.

The models show that consistency is still an issue as all the tools showed some flip-flop compared to SEEM. We should develop a standard assumption for appliance energy use. We also can't have a BTU fuel-blind rating.

Holly: Can you explain that last comment?

Phil: You are going to come up with a recommendation on fuel type when you do these ratings. The lower score in this case recommends a heat pump.

Peter: This is an artifact of using the BTU basis.

Dave Robison: It's a methodology issue. If you define scores with BTU's, a heat pump uses less BTUs on a site basis.

Peter: It definitely mixes up the message, "save energy" and "save money."

Phil: We did a focus group, also. It focused on consumer EPS feedback with 18 people. They saw the handout sheet for the first time and gave initial impressions. They struggled to interpret their results, found the graphs confusing and found it hard to distinguish between good and bad results. They didn't get the idea that lower scores are better. The carbon score and meaning were tough. They equated CO2 with CO in a home, which is a bad thing.

Despite some confusion, people felt it would encourage them to take action. When buying a home they thought it would help them. A good score makes a home more attractive.

Q: So the results of the focus group looked just at EPS, or did it look at others?

Phil: No, it looked just at EPS for focus group. The survey groups had others.

Q: Are you planning to find out, or do you see, any evidence around resale value?

Peter: On existing homes, we haven't rolled this out to get enough of a track record. On new homes, there may not be enough information. Is it EPS or the home's efficiency having the effect?

Q: Are there other geographies doing this already?

A: There may be some results showing green certification effects on value.

Tom Eckman: The City of Tacoma did a study in the 90s on Super Good Cents homes. They were selling much better than others, and were certified, but didn't have a score. They were better than code by some margin. There are others elsewhere, but that's the only one we know of here.

Sean Penrith: There is a report from the Netherlands called the RICS report. They showed a four to eight percent increase in home values compared to mandatory vs. non-mandatory scores. They showed that voluntary compliance will cause that premium to eventually disappear, but mandatory will cause it to continue higher.

Peter Tofalvi: CEWO used Energy Measure Home and we found it extremely slow to use in a customer's home. When you compared software, was there a comparison of suitability for everyday use? We waited quite often on Energy Measure Home.

Dave Robison: We did experience some of that, but it wasn't a focus of the study. We looked at whether it actually worked, then at cost, upgrades and usability.

Q: Did the evaluation look at the Washington State experience?

Phil: We didn't. Is it still ongoing?

David Heslam: DOE funded research attached to the Seattle pilot that will come out in March. The research looked at the motivations of homeowners to conduct improvements. It included the influence of an energy label.

Q: Would it make sense to have something that works regionally?

Peter: That's one of our goals. We didn't want the "Oregon-Only-Tool." We wanted others to help work on it and upgrade it, and we hoped for a larger, regional or national presence. People could recognize EPS as reliable elsewhere.

Q: Can you describe again EPS vs. HES? Are they complimentary? Why look at both?

Joan Glickman: Home Energy Score was developed by DOE, piloted nationally, and is coming out in the next couple of months. We looked at many different scoring types during the development of the Home Energy Score, including EPS. We had many great partners to help test it. It was piloted with 10 groups, including Energy Trust which tested both Home Energy Score and EPS.

Peter: All the meeting materials are on the web. Our next question is, "Where do we go from here?" There was a lot of dense material involved in the discussion, so far. Recall from the earliest studies that we didn't have models that were accurate enough to build a score. +/- 30 percent was the first set of results and we thought that wasn't very good. However, we found in this second phase some of the models were able to incorporate changes identified in the first phase and improve. There are at least two that are pretty good, and there probably are others. We pushed the DOE model in this phase in a way it wasn't meant to be used, yet. Since we did this work DOE has updated there model, but we did not evaluate the newer version. There are ones out there that can do the job, but from our perspective, there are still issues. I'll go through three issues and offer a solution.

First, we have a fuel neutrality concern. Consumers have to decide on their fuel, then we can advise them on the most efficient equipment and ways to improve their home's shell. Current models aren't neutral. One can game the scores by switching from a furnace to a heat pump. Operating costs would be higher, but the score would be lower. Several methods can overcome the bias, but more work is needed before launching an EPS today. The info from today's models would be misleading to customers.

We looked at source energy; NW Natural has looked at it too. It's not easy for customers to understand. Getting agreement on the factors and the merits of this at the state and regional level isn't easy. As Energy Trust, we would be stepping into something that's not our forte or policy area, if we advanced source factors as the solution to the site bias. We would need more actors involved and go a lot slower.

Fuel sources change annually and there would have to be updates to the software to keep it effective and accurate. It could also mean an EPS has a very limited shelf life. If you got a score today, and discovered a year from now you had to pay for a new one, it wouldn't sell.

You could create an index and compare heat pump to heat pump and gas heat to gas heat. If you index it and solve for the current bias, you are still providing a relative MPG rating. It would

be more specific and measurable than LEED ratings, for example. However, it would not a pure MPG rating as has been envisioned by some. If that's an issue, then EPS is fundamentally a tough thing to get to.

Q: Gas turns out to be better under source based, but favorable isn't the same as biased.

Peter: It gets more complicated and needs more explanation. Clearly site measurement, as in the way these model measure MMBTUs, gives you a contradictory and potentially misleading answer when it comes to heat pump vs. gas furnace choices. Switching to source-energy metrics goes in the other direction to favor gas.

Fred: If you do a source score it favors gas over electricity, whether or not it's a "bias" is a semantic issue.

Q: If a heat pump is not as good as a furnace, is that right?

Matt Braman: That was ducted to ducted system, and it's the relative price of the fuel and efficiency of the heat pump. We took an average heat pump for this purpose. High Efficiency could make it more even, but they aren't widely in use.

Peter: A number of models proved workable, which raises some next steps issues. If multiple models are allowed to be used in a market, new ones need to be vetted, and all need to be updated periodically. It will be important to define who decides if and when new models enter the market.

Looking at other alternatives, one could use a score which is not quantitatively established. It could be point based, like in Europe, and based on what people invest in. You could develop a single math engine that works with different vendor rating products regularly, and reflects energy use in Oregon homes. Choose a single customer-facing product through an RFP process. Or you could defer to DOE's index. You may need to do some market comparisons to see how it's adopted.

What did I leave out? Have I left out a problem, or a solution?

Holly: It would be easier to figure out solutions if we agree on objectives. What are we trying to accomplish?

Peter: Our business is kWh and therm savings. Our work helps utilities meet their IRPs, so we want to gain more savings. EPS, we hope, would accelerate investments and deepen them. It would speed up the pace and reinforce the actions. Market transformation is a goal. As with LEED, we would hope that it increases value of the asset at a faster rate than those that are less energy savvy or sustainable. We also want to create visibility for efficiency, and the ability for folks to get a return outside of lowering their bill. We have identified this as a barrier for a long time – making energy efficiency and sustainability valuable.

Joan: In reference to Holly's comment, DOE struggled with the same issues. Basically, it's a zero sum game. There are trade-offs between scoring systems. You are always making trade-offs between level of detail, cost of assessment, complexity of information, and then trying to figure out whether people will do anything with the information provided.

Q: Will you be able to include carbon reduction goals? How does this site vs. source decision lead toward state goals along those lines? Did you consider the ENERGY STAR® system that is recognized nationally, and uses site?

Peter: Energy Trust does not have an explicit carbon goal; it's implicit. By saving energy and generating clean energy, we provide a lower carbon solution for Oregon. Our mandate is clean energy. Utilities, through the OPUC, look at it quite deeply in their IRPs. Lower-carbon sources are clean energy. We take it as a given that most of our market gets the point. On the second one: ENERGY STAR?

Matt: We tried to sort through that. There was a time and place for using source energy and other times it wasn't appropriate. Residential ratings didn't seem to be the right time for it.

Joan: There is something on EPA's website that shows why EPA chose to use source energy as a metric. You're never going to make the electrics happy with source and gas companies happy with site. Consumers don't understand what BTUs are, so it muddles things. DOE chose to exclude this information in the main page of the score. In the pilot, Oregon recommended including more about the home's current condition and we added that.

Sean: The original intent of EPS related to Earth Advantage is that it was designed to be a dual metric, like blood pressure. One score over another. Site vs. source wasn't an issue because of that. It gives customers a full perspective. We are working with MLS on it so realtors can become more familiar with it.

Q: What about new homes vs. existing homes? You had a tool for new homes working well. If they are both asset based tools and use building characteristics, why isn't there one tool? From a consumer perspective, it would be nice to have all of them on one scorecard.

Matt: The first thing is that the new homes tool didn't work very well for existing homes. Going back to the third issue Peter talked about, we needed multiple tools and all that went along with that. For new homes the decision about the heating system is made early on, so fuel neutrality is established early on. Plus, the homes are so efficient that heating loads are smaller, so the type of heat isn't as big of an issue.

Q: If they are both asset based – just looking at building characteristics – what variable is not the same?

Matt: In 2008 we looked at REM rate, and it didn't perform well for existing homes. There was a large overestimate of consumption. It needed lots of detail that you don't have for existing homes. It was easy to get in new homes, but not in existing. That's probably why it didn't work very well.

Joan: REM rate gives a HERS score, but the way you do it, it costs $500 per house. And, it's a different way of modeling and scoring the home.

Peter: Kendall and Bob Stull, from PECI, had a big hand in developing it. They might have some insight.

Bob Stull: Matt said it correctly. One reason is that the number of inputs needed for REM rate to model a home is much higher, so time is a problem. It wouldn't meet the $200 cost structure. REM rate worked well with modifications for new Homes in Oregon, but compared to existing

homes it didn't provide the same level of efficacy. An existing homes model could still be found to work with REM rate, but we don't have one yet.

Jeremy Anderson: Since we're focusing on existing homes, and driving people to do something, the second bullet point may be the better approach – using a point system.

Peter: With a point system, there wasn't much more than the measures you all agreed to. There are some issues. If you do air sealing, for example, you get a point. You get a point for new windows, but is it the same energy savings for those? You have to agree on points. If a house has all the things that we think are right, it has the highest score. You have to agree on the universe of things to do, and agree to assign points. It's a longer path of consensus and would mean starting anew.

Jeremy: That might be a more valuable tool if you're quickly going into a house to get someone to do something.

Peter: We didn't study it because we saw things that were more neutral and less judgmental, and wanted to measure the efficacy of those things. But there are issues with the other choices, and this is a possible way of dealing with it.

Larry Shirts: Wouldn't a 4,500 square foot home be the same as a 1,200 square home in that situation?

Peter: It's a fair question and one the builders brought up. There are tradeoffs.

Bill Edmonds, NW Natural: An index score is a good solution, but a source score matters and should be considered. Any of these could be made into a source score. In focus groups, people wanted cost savings. Source matches that. Site score could be the same score but gives higher costs and carbon footprint. Policymakers are moving toward source scores. The Federal Register is showing it. DOE has already put generation into its projections. It's already being done so it can be done. One worry is that it's complicated. However, it's already being done. You have a DOE lookup table with regional numbers that move you from site to source. You can go back to the generation mix of an electric company already. Source shouldn't be discarded and site may be incomplete.

Peter: Don Jones from PacifiCorp asked us to say that PacifiCorp believes there are counter arguments to using source energy that need flushing out.

Don MacOdrum: The big thing that jumped out at me is that 83 percent of people wanted to see data on houses when they were buying. It would be useful. That speaks to a market that is interested and ready – and shows things they can control, also. You already know what your mortgage will be, property taxes, and the like, so utility costs would be great too. We appreciate Energy Trust's leadership in settling the argument.

Marshall Runkel: Another option is to step back. Other regions have a working EPS. Let someone else work it out. Maybe continue to study it, and use someone else's leap forward. The problem dynamic is that people are clearly making investments now, and the tools would really help, so let's not make a perfect enemy of the good.

Peter: We are struggling with that, ourselves. Maybe our next role is "to not." Maybe we need to step back. Maybe it's a legislative solution, which wouldn't be us at all.

Michael Piper with Clackamas County: On site vs. source – what if you have dual fuel? What about PUD vs. investor owned utilities? There are lots of factors with these things. Where does the score reside?

Peter: it belongs to the homeowners. That's how we propose it. It's not a code or legal requirement. The handling of dual fuel is a sticky issue. You have to go with the first fuel source. You have to choose the rules in advance so people know how to rate it. As different kinds of homes emerge, like anything on the margin, you get some anomalies. You have to be careful about those and might need to not offer it for some homes as the tools and the data catch up.

Consumer understanding is still an issue. While this has a lot of improvements, even if we figure out site vs. source, it still could be tough for people to figure out which way is up. Only testing in the market can tell consumer acceptance.

Clearly this is a market transformation effort. Years ago, renewable folks got all the utilities to disclose to their customers what their fuel sources are. That helped create a common comparison and understanding. They built a common platform and communicated it over and over. It took a decade of dissemination, but the information helped form the basis for the successful green power programs, it was an education effort. MPG wasn't an easy concept for people at first MLS shows a walking index for homes and you can know how far you can travel from your house. Once you get people geared up, the EPS could be the same in terms of market uptake and acceptance.

Open Comments

Matt Hopkins, home inspector: There is a difference between new homes and existing homes. That's a problem if you have different scores for new and existing. A lot of people don't know if they want a new home or an existing home. Maybe new homes can have both scores. People may not be able to compare without that.

Tammy Kenworthy, General Pacific: As a consumer myself, I'm concerned how the EPS is perceived. We have spent years talking about reducing light bulb wattage and high energy factors being better for water heaters. This doesn't tell the customer if the score is good, better, or best. What we do now with CEWO is give the free audit, and tell what they can do to improve their home in a leave-behind. It should remain with the program, and we should explain what the homeowner can do. I also want to hear about Seattle's results in March, before I wrap my arms around EPS. If we compare it to MPG, we need to really drive that home. With water heaters, we shoot for a high number in EF. EPS is a low number. That's confusing.

Jana Gastellum, Oregon Environmental Council: I like the concept of EPS, but something really is missing. We need continued progress on this, but there is a need to do something soon. Don't get slowed down with the process. Index scoring doesn't help the consumer understand cost savings, so it would not be as motivating. An index score may not provide the same amount of info more broadly, and an asset based tool may be better for that info.

Peter: An index would still have to be an asset based tool. You couldn't lose that. Relative improvements would still show.

Derek Smith, CEWO: I would want to understand, at the end of the day, where is the decision point? I agree with the points about market strategy to get energy savings and jobs going. We need to get moving with those things.

Juliette Johnson, OPUC: I'm recognizing the need to balance market needs and transform them with ratepayer dollars. Who is financing this, ratepayers? Who is already doing this, and can we use their work? Tying the index to energy costs will help with potential financing down the road. It may help with CEWO-style initiatives. We can tie it back to bill savings.

Anne Snyder-Grassman: PGE has also discussed, at what point, if this moves forward, do we need to measure effectiveness? Maybe it's not moving people to action, and we're spending ratepayer dollars on it. Similar to the OPower report, if it doesn't seem to be moving people then the money should be moved to incentives? Carbon isn't something people understand, and even going back to people from my background in renewable energy, people just don't get it. You may lose something by putting it in carbon terms. It needs to go into terms people understand. At what point do we determine if it's not working, and if we shouldn't be spending on it?

Jim Abrahamson, Cascade Natural Gas: One of the things striking me is that it's confusing even me. As a utility rep and a consumer, I'm trying to grasp where the value is for me. Maybe we need to take a step back and decide this is a bridge too far – even though policymakers want to push forward. How are we going to come together on a product that pushes people toward more efficiency, given differences between utilities?

Allan Meyer, Energy Trust Board: On gas vs. electric: I'm concerned we get this issue right. Site energy doesn't tell the full story. Source doesn't necessarily get it right, either. It still takes an amount of energy to heat the home, either way.

Richard Stacey, Vermont: Don't forget fuel oil as part of the mix. Don't make it just gas and electric. It won't apply outside gas and electric territories.

Sarah Moor, BPA: A key element about the tool is: when does it matter to the consumer? When the house is selling, people care. Those are the points at which the score matters more to consumers, both buyers and sellers. The rest of the time it's just nice to have. Think about who will use it and when.

Peter Tofalvi, Abacus Energy Solutions: I am happy this is going on, but Europe is way ahead of us because energy is more expensive there. Their model is very simple and based on points they can use and understand. It doesn't require in-depth analysis, and gets the job done. Just by having this tool you reach the goals. Who will use the information and how will it be used? I join those who say ongoing conversation is useful, but we need tools now. I recognize that the utilities don't want to lose customers to each other, but it's a larger goal to have a tool available soon.

Sean Penrith, Earth Advantage. The thesis statement is best place to start. If you want customers to move, you have to show them where they are and where to move to. Energy reports have been around for 15 years, and audit reports have cost millions of dollars. People don't understand it. The market needs to trust it. If you have a score piece between you and the contractor, and the market doesn't trust it, it won't work. It needs to be educated into the market and recognizable. Also don't overlook the fact that whether carbon is important today doesn't

matter. When we're living in a carbon constrained market, it will be. What is going to be important? If carbon will matter, you should include it.

Tom Eckman, Northwest Power Conservation Council: My personal observation is that, after my three decades of trying this, I am less enthusiastic than most of you.

Vijay Satyal, ODOE: I appreciate this discussion, because we've been working on this for a while. LEED is known for environmental aspects, but it's used for more than that. You can link lots of aspects to the score. In my personal opinion, an index is a much better option, but keeping site vs. source aspects will be valuable. On the solutions side, you want to be careful about codes that prevent energy retrofits from getting done. ODOE will support the ongoing discussion.

Joan Glickman, DOE: We are coming out with pilot research, and you are all welcome to look at that. It will be available on the web. It really is important to keep this simple. People don't care about carbon, they care about kids, how to send them to school, and all of that. What does motivate them? It can be strange things like peer pressure. That needs to be kept in mind. Who are you selling the score to? What do they respond to? A point system that allows homeowners to accrue points for doing improvements can be effective, and can go hand in hand with an asset rating. TVA's pilot is looking at allowing all homes to reach a perfect 10, which can be a nice motivator in getting homeowners to make improvements. However, this type of system does not allow people to compare between homes. The two approaches can work hand-in-hand as long as we find ways to avoid confusing the consumer.

Jeff Bissonnette, Citizens Utility Board: I wanted to listen and get an update. I'm not bothered by the Energy Trust work. They should be doing this. Figuring out how to help consumers save more is part of what they do. It's worth trying to figure out if this will help consumers. It's not all that confusing: it's how to communicate info to consumers about positive changes to make to their houses and save money. This may not be it, but we are asking the right questions, and pushing the right way. Eventually, we'll have to decide if it's worthwhile or not, but I think it's still worthwhile. CUB will still support these efforts and be engaged in the discussion.

Jennifer Stout: I prepared the summary report of issues for this workshop, partly because I haven't delved into this, and have a fresh set of eyes. There has been a lot of discussion about tools, but I was charged with finding the core issues beyond the tools. What do folks keep bumping up against, when they try to do this? I tried to describe them in as simple terms as I could find. At some point, with issues laid out, we have to decide which ones we have to deal with. It does seem like the simpler the tool, the better. How are we going to know the reference average the score is compared against?

Dave Robison: Jennifer and I had this same conversation. It wasn't clear to me that people understand the indexing and how it works. Let's say we calculate a gas house MBTU rating. If one house is 120 percent of average, that would become an indexed, normalized score. Here is a gas furnace house at 120 percent and heat pump one at 115 percent. You would need two indexes. If you're comparing just the assets, that works. The index base would require consensus on the average.

If you do this indexing, which would solve what we think of fuel neutrality, or what we think to be fuel neutrality, it would need dollars and cents and a carbon score. There could be a relative score.

Susan Ziolko, Clackamas County: I have a problem with MPG, because it depends so much on how people use the house. I would rather educate people to make changes and make improvements.

Peter West: If we were to tell you what this house would cost to operate, it would be some average assumptions based on what's there. It would be the same as an appliance rating.

Tom Kelley, Neil Kelley Company: What would Tom McCall have done with this? He worked on land use planning early on, and because of those efforts, we are way ahead of others. Why don't we get past this discussion and get something in the field? Municipalities are already doing this. We can talk until half the country already has this and we still don't.

Don MacOdrum, Home Performance Contractors Guild: There are a lot of contractors here, and this doesn't speak for all the members of the guild. Energy literacy, systems thinking, site and source are all parts of this. Sean made great points. Tying this to metrics we use on our body makes sense. There isn't a single metric that makes sense for how your body is functioning. Multiple numbers with informed people to translate them to homeowners is the key. Literacy happens in schools, TV programs, billboards, and the like. If you look at the intro to the EPS report, they say: "One of the keys is to motivate change to upgrades and purposes. The EPS is fair to site and fair to source. Let's get it into the market and get upgrades happening.

Holly Meyer, NW Natural: I agree with everything he said but a little twist at the end. At the end of Christmas vacation, I gave some thought to how I hate to waste energy, but also to how I love to maximize things. We have a way to reduce waste with this, but we can also maximize things for the same reasons. Site metrics can reduce wasted energy. Source metrics can maximize savings for the whole region. Everything would move the same way if you are using source. Literacy needs to happen, and our best shot is to go the same direction so people can latch onto it. Source metrics do this. We are talking about how site favors electric and source favors gas, so we can't use either of them. No; we need to do what's right.

Tim Lynch, Multnomah County Office of Sustainability: It's a great conversation, and I echo remarks from Jeff Bissonette and others. Keeping it simple is very important to keep people making investments. Focus on the long term goal.

Joan Glickman, USDOE: DOE's index has nothing to do with what people are talking about here. In fact, DOE is not using an "index" system. The 10 points on the scale correspond to specific energy levels (in BTUs). These levels are different depending on the climate. For example, a home that rates an 8 in San Diego would equate to a lower level of BTUs than a home that rates an 8 in a harsher climate like Maine. The DOE scoring tool estimates how much energy a home is likely to use given standard operating assumptions in whatever location it is in and then assigns a score that corresponds to that level of energy use.

Peter: If you go to the lookup table for source energy, it will give you a regional number. The EPA region excludes coal from Pacific Power's generation mix east of the Rockies. PGE uses less coal than Pacific Power, but would have the same score under the EPS regional approach for source. Source doesn't solve everything. There are legitimate concerns from electric utilities that need to be flushed out.

Holly: If you're doing it on a utility basis, we already can do it.

Tom Eckman: You wanted a persistent number. The number changes over time on a carbon basis. On the margin, we're building wind rather than coal plants. You can have lots of debates over what that number can be if you go to source. This is a highly fought over number.

Joan Glickman: One way Earth Advantage and DOE talked about getting over going with one score or another is to produce a 1 through 10 rating along with an EPS score. The 10 point scale is simpler to understand. But, if a customer is engrossed in the topic, they may want more information. You can have a deeper conversation with the right customers. The professional assessor providing the information can choose to go the way they want to with it. We are amenable to that.

Peter: To wrap up, we are looking for comments through February 15, 2012. We'll use them to figure out where we go next.

The documents and presentations are on the website. We welcome your comments, and solutions. It's inviting to step back from the site source debate. We don't want to be in the way. We take our neutrality role very seriously. We also need to be aware of anything that creates more confusion, which we strongly believe would cause us to get fewer saving.

We will bring this to our Conservation Advisory Council and invite their input. Then after we have your comments, we'll formulate a recommendation on which way we should go and what our role should be. For those who thought we would be able to produce an EPS for the market by the end of Q1, it turns out we won't. We will make our recommendations in that timeframe. What we can do next and in what period is still to be determined.

Thank you for your time and help. Peter adjourned the meeting at 4:40 pm.