Renewable Energy Advisory Council Meeting Notes

October 21, 2016

Attending from the council:
Bruce Barney, Portland General Electric
JP Batmale, Oregon Public Utility Commission
Michael O'Brien, Renewable Northwest
Frank Vignola, Solar Monitoring, University of Oregon
Dick Wanderscheid, Bonneville Environmental Foundation
Les Perkins, Farmers Irrigation District
Jason Busch, Oregon Wave Energy Trust, Pacific Ocean Energy Trust
Lise Wineland, Northwest Environmental Business Council
Kendra Hubbard, Oregon Solar Energy Industries Association
Adam Schultz, Oregon Department of Energy

Attending from Energy Trust:
Amber Cole
Sue Fletcher
Matt Getchell
Fred Gordon
Jeni Hall
Jed Jorgensen
Betsy Kauffman
Dave McClelland
Dave Moldal
Joshua Reed
Lizzie Rubado
Peter West

Others attending:
Erik Anderson, Pacific Power
John Reynolds, Energy Trust board
Rebecca Smith, Oregon Department of Energy
Alan Meyer, Energy Trust board
Sara Parsons, Sunpower
Richa Poudyal, 3Degrees Inc.

1. Welcome, introductions and updates

Betsy Kauffman, renewable energy sector lead, convened the meeting at 9:30 a.m. The agenda, notes and presentation materials are available on Energy Trust's website at: www.energytrust.org/About/public-meetings/REACouncil.aspx.

Betsy invited the new members to provide introductions, Lise Wineland with Northwest Environmental Business Council and Les Perkins with Farmers Irrigation District.

Betsy mentioned that the Oregon Public Utility Commission recently released its solar study and it will now go to the legislature. She stated that Energy Trust functions under a grant agreement with OPUC and any changes to Energy Trust's Solar program would occur through that agreement. Energy Trust programs continue as they are now and await information from the OPUC in the future.

Jason Busch announced that he is representing the Pacific Ocean Energy Trust. It is a new organization and it will do what the Oregon Wave Energy Trust did but for the full west coast.

2. Draft 2017 budget and 2017-2018 action plan

Peter West, director of energy programs, presented the draft 2017 budget and 2017-2018 action plan. The full presentation is available online and includes additional slides with program and utility detail.

Projected 2016 results are unofficial, and indicate Energy Trust expects to exceed savings goals for all utilities. Two renewables projects are delayed, which will cause a shortfall for generation goals. This year, Energy Trust made an effort to draw down reserves and reduced reserves by $36.8 million, which was more than planned.

The 2017-2018 action plans focus on expanding customer participation, supporting new approaches and emerging technology, managing transition of a changing energy landscape, and cultivating efficient and effective operations. The total draft 2017 budget is $201.2 million to acquire 56.88 average megawatts (aMW) and 7.74 million annual therms through energy efficiency and 2.75 aMW through renewable generation.

There may need to be rate adjustments for utilities to meet these budgeted goals. This is the draft budget, and there may be adjustments to the final budget to be approved by the board on December 16, 2016.

The public comment period is open October 26 to November 9. Submit comments to info@energytrust.org.

Jason Busch: Do the utilities inform new customers of Energy Trust services? Cities and counties could be a resource for informing those customers, too.
Peter: Yes, utilities make them and us aware. We can do a better job of following up with the new customers once we are alerted. Others could assist if there is a data system to tap and mechanisms for sharing information.

Frank Vignola: What are the reasons for the reserves being down $36 million?
Peter: Much of the draw-down has been on the energy efficiency side. We were collecting more money than we needed in prior years, and we have been spending down that reserve and not collecting as much from the utilities. We have reduced the reserve considerably. For renewable energy we have a larger reserve but most of the funds are committed to future projects.

Jason: How do you use the narrative about your results and impact and how are these numbers verified?
Peter: Bill savings is a result that we verify through evaluations that examine how much savings we got from different measures installed in a certain timeframe. We know the savings accurately and this is needed to verify that we are delivering for the utilities what was planned. We also work to understand the measure life. We spend a lot of time and effort verifying these numbers. This narrative is told through briefings and communications.
Alan Meyer: As a member of Energy Trust's evaluation committee I see how our evaluation process aids in the verification of our savings results.

Betsy Kauffman provided additional detail on the draft budget for renewable energy programs in 2016 and 2017. She described the project pipeline for both years and clarified that Energy Trust sets aside money when contracting with projects, pays on completion and claims generation at that point. There are a few large projects finishing next year, and the greatest share of spending for 2017 is within the standard Solar program, slated to grow by 3 percent. She clarified that this is the first round review of the budget and there will be some adjustments to get to a final proposed budget that the board of directors will vote on.

Betsy provided detail on the portions of the budget for renewable energy generation, how that spending and activity compared to 2016, and broken out by utility and solar and non-solar spending.

Kendra Hubbard: If projects do not occur in the year as planned, what happens to the money?
Betsy: It carries over into the next budget year so that it is available when the projects complete.

Jason: Is the ratio between solar and non-solar in spending reflective of ideal or what is in the market? Would you like it to be more balanced between the two?
Betsy: It reflects what we want to accomplish based on what we are seeing in the market and pipeline for non-solar. Ideally the split would be more even than in 2016. We like to send a message to the market that we are open to all technologies.
Dave McClelland: As we reduce our incentive per watt over time for standard solar we get more for our dollars each year. For example, even though our budget goes down next year we will get a little more generation than this year.

Bruce Barney: Is the energy to power 46,000 homes and heat 14,700 homes based on one year or is it cumulative?
Peter: We will follow back up to clarify.
Alan: We should use the same time frames for the impact statistics; it should be apples to apples, whether for carbon reductions or homes heated.
[Post meeting, it was clarified the energy saved being equal to powering 46,000 homes and heating 14,700 homes is a cumulative statement, and that it is a statement for illustrative purposes only.]

Kendra: Do you know how you will pivot if the state Residential Energy Tax Credit is extended?
Betsy: If it expires, the issue is likely to be high demand for incentives in 2017 and reduced demand in 2018. If it is extended it will likely take some of the pressure off in 2017 and we could be down a little bit in terms of project volume. We will then be looking carefully at above-market costs for certain markets in 2018.
Peter: If it doesn't get extended we will have to manage to a fixed budget and there will likely be customer impacts.
Dave Mc: We have been proactive about reducing solar incentives based on market conditions.

Dave Mc: We mentioned that third-party solar has dropped out of the market. One contractor left in June and the other has shifted to a loan model. We still offer incentives for third party but we don't currently have any companies offering third-party owned systems.

Bruce: Have you considered a rationing approach such as a lottery? It seems odd to lower incentives when costs haven't yet changed.
Dave Mc: We do expect costs to change. It doesn't take much of a change for us to be able to change our incentive levels. Since our incentives are already lower now, we can ratchet them down without significant market impact.
Alan: Our charge is to cover above-market cost, which would go up.
Betsy: That would happen if the Residential Energy Tax Credit goes away. This is a 2018 question.
Peter: Our goal is to use incentives to drive the market. If you can have mechanisms to change the incentive structure, you can transform the market and eventually exit. Lotteries don't leverage the market; you are tapping luck. We seek to leverage the market mechanism to manage demand and dollars.
Betsy: Step changes occur throughout the year and aid the market by offering predictability.

3. Review of Renewable Energy Certificate costs

Jed Jorgensen started the presentation by referencing the background information that was provided in the meeting packet. The Renewable Energy Certificate (REC) policy was updated last year, and staff is required to conduct an annual review of the value of RECs and report back

to the Renewable Energy Advisory Council and board on the registration of Energy Trust RECs in the Western Renewable Energy Generation Information System (WREGIS). For every project that Energy Trust incentivizes a portion of the RECs are requested for delivery to the utilities, but not every REC can be entered into WREGIS cost-effectively. Under current policy, the board can authorize Energy Trust staff to take contractual ownership of RECs but not register those RECs if the cost and effort of registering RECs is disproportionate to the market and other values. Energy Trust is proposing to maintain the same process this year.

Jed presented a few reasons why Energy Trust recommends retaining the current process. Utility Renewable Portfolio Standard (RPS) compliance went up, and as those obligations increase over time, Energy Trust's portfolio of RECs make up a smaller and smaller component of the utilities' RPS compliance. Energy Trust RECs could account for 3 to 4 percent of each utility's RPS compliance in the near term if all RECs were able to be put into WREGIS cost-effectively, which is currently is not cost effective to do so, and will likely drop to 1 percent or less as RPS requirements rise over time. Additionally, Pacific Power is sufficient through January 1, 2028, and Portland General Electric through January 1, 2020. RECs continue to remain low in value. Nationally, RECs are valued at 34 cents, and there is no functional market for compliance RECs in Oregon.

Energy Trust has continued to work with the utilities to register custom projects. Energy Trust proposed registering RECs from the Medford wastewater treatment project, 50,000 RECs, but that amount was considered too small of a transaction by Pacific Power.

Dick Wanderscheid: Are there any renewable projects where RECs are being registered? How many?
Jed: On the custom side, if a project already has other equipment tied into WREGIS then it may make sense for the owner to register the new project. For the utilities, it is for the larger custom solar projects. If Energy Trust is taking 100 percent of RECs, as in the Medford example, it still may not be enough.

Michael: Why has the board decided to take claim for RECs? What has been the discussion at Energy Trust about continuing this approach moving forward?
Jed: This review doesn't change our current policy. There continues to be multiple perspectives on the value of RECs on the board and some members feel that we need to have them.
Alan: This discussion has gone before the board policy committee. I have supported taking ownership of RECs but remain concerned that the WREGIS process is cost-prohibitive.

Adam: What is the total size of the REC portfolio?
Jed: I don't have the exact numbers but it is something close to 100,000 RECs per year.

Jason: Is there any other market in Oregon?
Jed: No and we cannot sell RECs, we deliver to the utilities.

Betsy: We are open to further discussion on the broader topic of RECs and Energy Trust's REC policy at a future meeting.

4. Solar and storage pilot

Jeni Hall, solar senior project manager, presented an update on Energy Trust involvement in solar and storage. Betsy and Jeni attended the Rocky Mountain Institute Electric Innovation Lab accelerator in April to develop a pilot program in the area of solar plus storage, within the context of preparing for a Cascadia Subduction Zone 9.0 earthquake. It was an invitation-only working meeting with project teams from across North America working to accelerate progress on each invited group's project. The project team from Oregon included Betsy and Jeni from

Energy Trust, two staff members from Portland General Electric, a large industrial customer and Elaine Prause from the OPUC.

Jeni also provided an update on what is happening currently in relation to solar plus storage at Energy Trust, including increasing capabilities and decreasing costs for these systems and new market actors. Jeni provided visibility into the types of projects that are using incentives and the process for supporting customers interested in these types of projects.

Energy Trust has a new pilot for solar plus storage for non-residential customers that provides a feasibility study and standard solar incentive for installation. Additional accomplishments include working with the City of Portland's Bureau of Planning and Sustainability, Resilient Power Working Group, Hazard Mitigation Action Plan; ongoing engagement with the utilities, OPUC, vendors and customers; and identification of market barriers.

Bruce: Are these custom projects?
Jeni: These are standard solar projects at the established incentive level. Energy Trust does review the design.

Frank: Do these projects have a higher above-market cost?
Jeni: They are more expensive for the same generation.

Jason: There is no additional incentive?
Jeni: We provide the installation incentive for the solar system under our standard program. We are also offering 50 percent matching funds for system design and feasibility assessment.
Dave: This is similar to project development assistance provided to non-solar projects.

Dick: Do you have requirements of the size of the system for the pilot?
Jeni: We are not focused on system size but on a diversity of customer models. We would like to see a multifamily property, hospital and fire station, for example.

Kendra: Do you have a goal for the number of pilot sites?
Jeni: We are expecting six and have $50,000 set aside. We are working with utilities, vendors and customers currently.

Sara Parsons: Would they meet the PGE requirements for systems?
Jeni: There is a storage docket with the OPUC. There are many variables in Oregon right now. We hope our pilots will inform those processes.

Michael: Can you expand on the barrier of safety concerns?
Jeni: Some of the concern is around the safety of lithium ion batteries.

Frank: Any discussion of how the utilities might contract with their own customers?
Jeni: That is an open question. We have a starting point through the work that PGE has done on its Dispatchable Standby Generation program.

Dick: Can the utilities be part of the pilot and actually own the asset?
Jeni: This pilot is focused on demonstrations at customer sites. The utilities are closely involved. They are looking at ways to own assets themselves.

5. Public comment
There was no additional public comment.

6. Meeting adjournment

The meeting adjourned at noon. The next Renewable Energy Advisory Council meeting is scheduled on November 16, 2016, from 9:30 a.m. to 11:30 a.m.