

Renewable Energy Advisory Council Meeting Notes

March 16, 2016

Attending from the council:

Jason Busch, Oregon Wave Energy Trust
Robert Grott, Northwest Environmental
Business Council
Kendra Hubbard, Oregon Solar Energy
Industries Association
Suzanne Leta-Liou, SunPower
Michael O'Brien, Renewable Northwest
Elaine Prause, Oregon Public Utility
Commission
Rikki Seguin, Environment Oregon
Frank Vignola, Solar Monitoring, University
of Oregon

Attending from Energy Trust:

JP Batmale
Hannah Cruz
Chris Dearth
Matt Getchell
Fred Gordon
Mia Hart
Jed Jorgensen
Betsy Kauffman

Dave McClelland
Dave Moldal
Gayle Roughton
Julianne Thacher
Jay Ward
Peter West
Robert Wyllie
Lily Xu

Others attending:

Erik Anderson, Pacific Power
Stasia Brownell, 3Degrees
Claire Carlson, Lockheed Martin
Kyle Diesner, City of Portland
Cindy Dolezel, Oregon Public Utility
Commission
Carolyn Marchin, Pacific Power
Alan Meyer, Energy Trust board
Caroline Moore, Pacific Power
Robin Rabirot, IBEW Local 48
John Reynolds, Energy Trust board
Ann Siqueland, One Energy
Murali Varahasamy, Lockheed Martin

1. Welcome and introductions

Betsy Kauffman 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 thanked Robert Grott for his work on the Renewable Energy Advisory Council. Robert joined the Renewable Energy Advisory Council in 2008 and is retiring from Northwest Environmental Business Council.

2. 2015 annual results

Jed Jorgensen presented on 2015 results for the Other Renewables program. Other Renewables achieved its annual goal of 2 average megawatts. Four projects were completed in 2015, including the Gresham Wastewater Treatment Plant biogas project, Clean Water Services Durham Advanced Wastewater Treatment Facility biogas project, City of Astoria hydroelectric project and Farmers Irrigation District Plant 2 hydroelectric turbine replacement project.

Highlights in 2015 included supporting 35 projects with project development assistance and committing more than \$2 million in project development assistance incentives. Energy Trust also supported two successful biogas workshops, one focused on cogeneration associated with municipal wastewater and another focused on brewery

waste. These workshops resulted in new potential projects with municipalities and commercial developers and project development assistance for breweries and distillers. Twelve irrigation districts are participating in the Irrigation Modernization offering, including all eight irrigation districts in the Deschutes Basin.

Jason Busch: Are you seeing less interest in irrigation modernization in other parts of the state?

Jed: Irrigation districts in the Deschutes Watershed are early adopters of irrigation modernization. There is more interest from that area than we had anticipated, and we have a good amount of projects to evaluate right now. We will continue doing outreach in other districts and will share results from current assessments as they move forward.

Jason: What happens with the surplus generation from Gresham Wastewater Treatment Plant?

Jed: Excess generation from net-metered projects will go to low-income energy programs.

Alan Meyer: Is there any activity in biomass generation?

Jed: There is a torrefaction facility proposed in Eastern Oregon. Energy Trust is providing project development assistance to assess the feasibility of the facility.

Dave McClelland presented highlights from the Solar program in 2015. There were about 1,800 solar projects completed in 2015, a 40 percent increase over 2014, for a total of 15 megawatts installed. A new online request form generated about 60 customer leads for each participating solar trade ally. There's a steady growth in the residential solar market, especially in customer-owner systems which make up about 60 percent of installed systems. In addition, 2015 was the biggest year ever for commercial (non-utility) solar projects.

The solar soft cost reduction initiative assisted in customer acquisition, greater focus on quality management, new electronic signatures in PowerClerk with utility net-metered projects, financial training to support job costing and removal of the generation meter requirement.

The cost of solar has been significantly decreasing over the past six years. Energy Trust adjusts incentive levels on a quarterly basis based on present-value cost and above-market costs. Energy Trust solar incentives are expected to decrease over the next two years with the extension of the Solar Investment Tax Credit, ITC. The Residential Energy Solar Tax Credit, RETC, is set to expire in 2018 and we might not be able to fill the gap in above-market costs. If RETC is extended past 2018, above-market costs could be eliminated and Energy Trust would no longer be able to provide incentives.

Suzanne Leta-Liou: Did the solar soft costs survey analysis include commercial?

Dave: Residential solar was the focus, but some commercial projects were included in survey. The Benchmarking Oregon Solar Soft Costs analysis makes that distinction and is available on our website.

Robert Grott: Part of the soft costs analysis is to help installers understand their costs better.

Dave: Yes, and we're hesitant to define reduction goals within the different soft costs categories, since focused attention could lead to cost categories going up as they become better defined.

Suzanne: Are you seeing growth in direct purchase in commercial sector, projects with power purchase agreements, PPAs, or projects without PPAs? Are dealers offering loan products?

Dave: There's opportunity for growth in loan products.

Michael O'Brien: How does the commercial solar market look?

Dave: Commercial solar looks similar to the residential analysis, but retail energy value would be smaller. Overall cost and value of commercial solar and ITC are lower. Energy Trust would likely play a role in commercial solar longer than residential, if the RETC is extended.

Robin Rabiuff: What is the average wage package for the installers?

Dave: Jeni Hall looked at wages and would have more information.

3. New project proposed for funding

Dave provided a summary of the proposed Rogue Valley-International Medford Airport solar project. The project was originally identified through the solar request for proposals released in 2015, but was ranked second to the Ewauna 2 project. The airport has already completed lighting upgrades and new construction projects with Energy Trust for its parking lot. The proposed 1.9-MW fixed-tilt solar installation would push them to a net-zero energy use facility.

The developer is Lockheed Martin. The project was selected for a Renewable Energy Development grant. The project is scheduled for completion by end of 2016. The interconnection agreement, permitting and trade ally selection are pending. Above-market cost is about \$1.33 million over a 25-year term and the proposed Energy Trust incentive is \$1.25 million. At least 90 percent of Renewable Energy Certificates would go to Energy Trust. The Medford Airport solar project will be presented to the board for approval on April 6.

Claire Carlson: There was an environmental impact assessment on the proposed site, and there was no significant impact on the watershed.

Dave: The glare analysis did not surface any issues.

John Reynolds: Would there be any glare issues if the proposed project was a solar tracking system?

Claire: We didn't do an analysis on that, but a tracking system would add complication.

Dave: Fixed-tilt makes sense based on site restrictions.

Robert: Is it net-metered?

Dave: Yes, the project is third-party owned and net-metered. The PPA is between the third-party owner and Jackson County.

Alan: Are there technically energy savings if the project is selling energy to the airport?

Dave: The baseline comparison is the airport's energy savings. It's between the airport and Lockheed Martin for how they split that up.

Michael: Did you work with Lockheed Martin to bring expenses down?

Dave: Yes, it was originally 20 cents higher and overall cost decreased by 10 percent. We primarily worked with the project on capital costs, especially construction costs that were not as well defined.

Suzanne: Did any of the Qualifying Facility projects with insufficient above-market costs move forward after the 2015 request for proposals?

Dave: Four or five projects received older Qualifying Facility rates that were not available to newer projects. All of them had signed PPAs and some are moving forward or will likely go forward with funding from SB 4037.

Betsy: The project has to have above-market costs. If above-market costs are small, our conclusion is that the project doesn't need our incentives as much as another project with higher

above-market costs. Our funding decision is a balance between finding projects that need Energy Trust incentives to proceed and funding good projects.

Robert: Does Pacific Power have any concerns about net-metered projects like this?

Erik Anderson: Pacific Power is happy to accept any project that conforms to regulations.

Robin: Did you aggregate the 22 meters on the property?

Erik: There's a complex manual billing process each month. They have to be on the same feeder, same utility bill and on contiguous property. The Medford Airport project meets those requirements.

Robin: Have you done this in other parts of the state?

Erik: Yes, irrigators are a good example in Oregon, but it's not typical throughout the country.

4. Oregon legislative update

Jay Ward, senior community relations manager, provided a summary on legislation from Oregon's 2016 session that relates to renewable energy.

Under the Oregon Clean Electricity and Coal Transition Plan (Senate Bill 1547), customers of Investor Owned Utilities will no longer pay for coal-fired electricity by 2035. Concurrently, the bill enacted a new renewable portfolio standard, RPS, which directs the utilities to gradually increase their use of qualified renewable electricity to 50 percent by 2040. Additionally, 8 percent of the aggregate electrical capacity must come from small-scale renewable energy projects of 20 MW or less. There are additional provisions supporting community solar programs, low-income solar programs, electric vehicle infrastructure, biomass projects and creating thermal RECs for new and existing facilities producing heat for a secondary purpose.

House Bill 4037 directs Oregon Business Development Department to establish a 5-year, 150-megawatt program to pay a half-cent per kWh of electricity generated. No single participant in the program can receive the incentive for more than 35 MW of generation.

Suzanne: Would the community solar component subsume Voluntary Renewable Energy Tariff, VRET, at the Oregon Public Utility Commission?

Elaine Prause: VRET is still on the table. Community solar guidelines are sent to the legislature. The next step is rulemaking, and the program starts in 2017. Details are yet to be determined. It could be utility or non-utility ownership.

Michael: Originally there was an 8 percent energy goal. It's now mandated and aggregated. The combined MW of nameplate capacity or firm power hasn't been defined yet. The assumption is nameplate capacity.

Robert: When will the Oregon Clean Electricity and Coal Transition Plan impact the marketplace?

Michael: There was some consideration for REC banking rules that were designed to encourage early action. Up until now, RECs in Oregon had an indefinite lifetime. That remains true for RECs from existing projects and for RECs from new projects generated before 2022. RECs generated after 2021 will have a five-year life. PGE is reworking its RPS to see if there's value in RECs with indefinite lifetimes. In the near term (2016-2022), the incentive is there to develop new projects.

Erik: Pacific Power is updating the 2015 Integrated Resources Plan. We'll start to see impacts there, but they will not be fully understood until the 2017 IRP.

Suzanne: What is Energy Trust hearing from customers?

Betsy: We don't have feedback yet. The legislation is too new.

5. Public comment

There was no additional public comment.

6. Meeting adjournment

The meeting adjourned at 11:50 a.m. The next Renewable Energy Advisory Council meeting is scheduled on May 11, 2016.