

## Renewable Energy Advisory Council Meeting Notes

November 20, 2015

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### Attending from the council:

Diane Broad, Oregon Department of Energy  
Robert Grott, Northwest Environmental  
Business Council  
Karen Hubbard, Oregon Solar Energy  
Industries Association  
Suzanne Leta-Liou, Sun Power  
Elaine Prause, Oregon Public Utility  
Commission  
Rikki Seguin, Environment Oregon  
Frank Vignola, Solar Monitoring, University  
of Oregon  
Dick Wanderscheid, Bonneville  
Environmental Foundation  
Peter Weisberg, The Climate Trust

### Attending from Energy Trust:

Susan Badger-Jones  
JP Batmale

Chris Dearth  
Matt Getchell  
Jeni Hall  
Mia Hart  
Jed Jorgensen  
Betsy Kauffman  
Dave McClelland  
Dave Moldal  
Lizzie Rubado  
Peter West

### Others attending:

Evan Elias, Oregon Department of Energy  
Alan Meyer, Energy Trust board  
John Reynolds, Energy Trust board  
Ann Siqueland, One Energy Renewables  
Andrew Warren, Oregon Department of  
Energy

### 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](http://www.energytrust.org/About/public-meetings/REACouncil.aspx).

### 2. Energy Trust's irrigation modernization work

Jed Jorgensen provided an overview of Energy Trust's recently completed hydroelectric generation projects and irrigation modernization efforts with Three Sisters Irrigation District and Farmers Irrigation District. Hydropower is just one component of irrigation modernization, in addition to opportunities for water conservation and energy-efficiency improvements.

To better understand the impact of hydropower on irrigation districts, Energy Trust and Farmers Conservation Alliance completed an evaluation of three irrigation districts to examine how hydroelectric generation helped finance other irrigation system improvements. A follow-up study identified numerous irrigation districts in Oregon with potential for hydropower. In the near term, one 12-kilowatt hydropower project is expected to come online in fall 2016.

Providing incentives for irrigation modernization projects is new for Energy Trust. With the support of Farmers Conservation Alliance, Energy Trust is helping coordinate new irrigation modernization projects with irrigation districts. For the last year, Energy Trust has been working with Farmers Conservation Alliance to support program building, including stakeholder engagement and outreach, examining how to better perform

assessments and developing a regional strategy. Over the next 10 to 18 months we are performing assessments for 12 irrigation districts to identify hydropower opportunities and other modernization benefits.

John Reynolds: What happened to the pumps that were replaced?

Jed: Most of them were at the end of their commercial life and only have scrap value.

Robert Grott: What was Central Electric Cooperative's reaction to the Three Sisters project?

Jed: On the renewable energy side, Central Electric Cooperative did not initially support the project. They changed their position after the project analysis showed substantial benefits from improved reliability. They also made some upgrades to take advantage of the improvements.

Suzanne Leta-Liou: What is the wheeling fee?

Jed: It's about \$1 million over 20 years.

Alan Meyer: Central Electric Cooperative receives electricity from Pacific Power. They are happy to use clean generation from Three Sisters Irrigation District to meet their goal.

Dick Wanderscheid: Bonneville Environmental Foundation funded the original study for Mark Thalacker at Three Sisters Irrigation District. We're currently working with them on the next phase that examines hydropower potential on individual farms where there is excess pressure.

Betsy: How big are the systems?

Dick: 10 to 75 kilowatts. This is the last piece of this innovative project.

John: How many of the potential projects identified by Farmers Conservation Alliance are in our service territory?

Jed: Almost all of them, including some that are partially in and partially out of our service territory. For example, Three Sisters Irrigation District is not in our service territory, but additional power is wheeled to Pacific Power. All projects would have the potential to wheel to Pacific Power or PGE. If a completed project didn't sell generation to Pacific Power or PGE, they would have to return the incentive money.

Diane Broad: Irrigation districts in the Deschutes area are collaborative. Is this special to irrigation districts or can we apply learnings to other industries? Are we relying on others to share experiences?

Jed: The anaerobic digestion industry collaborates similarly, but is not as developed as irrigation districts yet. Also, the Gresham Wastewater Treatment Plant's net-zero energy use project is a great model that translates to other industries.

Robert: I am very impressed with Farmers Conservation Alliance. Even if there are no hydropower projects that result from their work, the non-energy benefits are huge and worth ratepayer money.

Dick: Whychus Creek in Three Sisters Irrigation District experienced a severe drought in 1977 and the creek dried up for irrigation purposes. 2015 was an equally dry year, but the creek wasn't as affected because of irrigation modernization improvements. It was a win on every side.

### **3. 2016 final proposed budget and action plan**

Betsy presented the 2016-2017 final proposed budget for the Renewable Energy Sector and highlighted changes from the draft budget presented in October. Total generation in 2016 increased because a large solar project is expected to complete in 2016 instead of 2015 as originally estimated. This changed the P&L budget, but there was no change in the activity

budget. The project change also increased expenditures in 2016, but overall expenditures did not change significantly due to a second change related to the Ewauna 2 solar project. The Ewauna 2 project timeline also shifted, which decreased expenses in 2016 and effectively cancelled out the increased expenses from the first project.

The Other Renewables program has allocated \$5.8 million in expenditures and 0.01 aMW generation. The primary reason for this disparity is because we pay large projects in phased payments, but claim the full generation amount when the project is complete. There are a number of second phase and third phase payments included in the total 2016 expenditure for Other Renewables.

Elaine Prause: Does Energy Trust expect to meet the 2015 generation goal?

Betsy: Yes, we still expect to exceed our 2015 goal absent the large solar project.

Peter West presented changes from Energy Trust's draft budget to the 2016-2017 final proposed budget. Energy-efficiency expenditures increased for three reasons. The first increase was due to Northwest Energy Efficiency Alliance's expansion into natural gas programs and accelerating opportunities that hit sooner than expected. The second increase was the addition of a large chiller project, and the third was due to a recent decision to move the Existing Buildings Program Management Contract rebid from 2017 to 2016, so that Energy Trust is not managing two program rebids in 2017.

Overall, there was an 11.3 percent increase in spending, 80 percent of which is increased incentives. Also, there were a couple of errors corrected for the final proposed budget that changed electric savings, including a change in lighting baseline and additional savings for Pacific Power due to increased savings opportunity for manufactured homes.

Public comments on the draft 2016-2017 budget are due today, November 20. Energy Trust responds to comments in November and the final proposed budget will be presented to the Board of Directors on December 11.

#### **4. Biogas workshops**

Dave Moldal provided an overview of a recent brewery and biopower workshop, and current biopower opportunities that are available for water resource recovery facilities, agricultural operations, food processing facilities and post-consumer food waste collection. Strategies for project development include maximizing electricity generation at water resource recovery facilities, evaluation of existing projects and sharing best practices, investigating sources of co-digestible feedstocks and reducing operations costs.

The biopower workshop gathered several breweries and distilleries to share best practices and gauge their interest in developing a collaborative model of organic waste collection to generate renewable power and save energy, water and money. Businesses typically pay extra sewage fees to the city to treat organic waste that is disposed in the wastewater collection system. Sewage fees can be expensive for small and large facilities. There is good opportunity for a collaborative model because of expected future increases in sewage fees.

Chris Dearth presented on a cogeneration workshop held at Gresham Wastewater Treatment Plant in early November. The workshop covered financial incentives available from Energy Trust and Bonneville Environmental Foundation, conditioning biogas, and how to plan a cogeneration system and increase runtime and output. There are 10 water

resource recovery facilities operating cogeneration projects from biogas today. In the near-term, these facilities alone have potential to expand their nameplate capacity by about 2,000 kilowatts. There were several requests for assistance as a result of the workshop.

Peter: What is included in the expense costs?

Dave: For digester costs, it's operations and maintenance and treating the organic waste onsite.

Rikki Seguin: What is the lifespan of a digester?

Dave: Approximately 50 to 100 years, given expected operations and maintenance costs.

An audience member asked for more information about the technology risks involved.

Dave: Biopower is new for breweries of this scale over the last 10 years. We don't know all the risks yet, but breweries are controlling their costs well and avoiding having to deal with fluctuating sewage fees. The collaborative model is new and we want to promote shared learnings of new practices.

Robert: Why would breweries be interested in the collaborative model?

Dave: For marketing purposes and to control wastewater costs. Widmer Brewing is interested in biopower and deciding if it would accept waste from other sources.

Suzanne: Many breweries have added solar because of their high energy usage. How does biopower compare from a cost effectiveness standpoint?

Betsy: It depends on levelized cost. I can follow up with exact numbers, but I think biopower is cheaper than solar, despite the decreasing cost of solar.

Alan: There is less than 10 percent opportunity for cogeneration projects in Salem.

Dave: Energy Trust is currently providing project development assistance to the City of Salem for replacing its cogeneration system at the wastewater treatment plant.

John: Are there any digesters in Albany?

Dave: Albany has digesters, but they switched from anaerobic to aerobic digestion and are no longer producing biogas.

Diane: Biopower is an interesting resource because the biogas output is also marketable as a fuel. How does Energy Trust address this discrepancy if the owner receives project development assistance? What if the facility switched to selling biogas as fuel?

Dave: If the facility receives Energy Trust services and incentives, they're required to produce a certain amount of generation over a defined period of time. Energy Trust can request the return of incentive money if the facility switches to fuel.

Chris: The return on investment of biopower is much more predictable over 10 years than a fuel.

## **5. Public comment**

There was no additional public comment.

## **6. Meeting adjournment**

The meeting adjourned at 11:40 a.m. The next Renewable Energy Advisory Council meeting is scheduled on February 10, 2016, from 9:30 a.m. to 12 p.m.