

Renewable Energy Advisory Council Meeting Notes

June 22, 2016

Attending from the council:

JP Batmale, Oregon Public Utility
Commission
Jason Busch, Oregon Wave Energy Trust
Shaun Foster, Portland General Electric
Suzanne Leta-Liou, SunPower
Michael O'Brien, Renewable Northwest
Rikki Seguin, Environment Oregon
Frank Vignola, Solar Monitoring, University
of Oregon
Dick Wanderscheid, Bonneville
Environmental Foundation

Attending from Energy Trust:

Chris Dearth
Sue Fletcher
Matt Getchell
Fred Gordon
Jeni Hall
Jed Jorgensen

Betsy Kauffman
Ted Light
Dave McClelland
Dave Moldal
Lizzie Rubado
Jay Ward
Peter West
Lily Xu

Others attending:

Erik Anderson, Pacific Power
Stasia Brownell, 3Degrees
Andria Jacob, City of Portland
Caroline Moore, Pacific Power
Les Perkins, Farmers Conservation Alliance
Rhonda Rasmussen, Pacific Power
John Reynolds, Energy Trust board
Adam Schultz, Oregon Department of
Energy
Jaimes Valdez, Northwest SEED

1. Welcome, introductions, updates

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.

Lizzie Rubado introduced her new role as program strategies manager. She will work across the renewable energy sector on project management, strategy and strategic communications.

Chris Dearth announced that the small wind program will transition from a standard program to a custom program similar to Other Renewables technologies. Trade allies have been notified.

Betsy announced that the Irrigation Modernization program has received the State Leadership in Clean Energy award from the Clean Energy States Alliance. This is a prestigious national honor recognizes the Irrigation Modernization program.

Betsy announced that Energy Trust hired a new executive director, Michael Colgrove, formerly with the New York State Energy Research and Development Authority.

2. Opal Springs Hydropower Project

Jed Jorgensen: The Opal Spring Hydropower Project resulted from a competitive solicitation in January. As of yesterday, Pacific Power proposed changes to its Schedule 37 rates. The proposed rates have not yet been approved by the Oregon Public Utility Commission. The changed rates have potential ramifications for the above-market cost calculations that Dave Moldal will walk through. The change will need to be considered over the next few months and

will raise questions. The prices are higher than the prices we modeled, though we did look at a range. We expect that the new rates may benefit this project.

Dave Moldal: This project involves increasing the head on an existing dam on the Crooked River in Central Oregon. We have provided project development assistance to this site in the past. The project has significant strengths and few risks.

In assessing the project's above-market costs, we reduced the overall project cost by separating capital costs supporting fish passage from costs required for generating additional energy. Capital costs with both a fish passage and energy component were reduced by 50 percent. Where the costs were required purely for energy production, we kept those costs in at 100 percent.

Our incentive proposal exceeds \$500,000 and will require board approval. It also includes claim to 100 percent of the incremental Renewable Energy Certificates. The project includes installation of inflatable weirs, a fish ladder and six feet of increased head.

Owned by Deschutes Valley Water District, the project is expected to result in additional energy production of 3,200 megawatt hours per year, based on an energy assessment by Energy Trust and reviewed by Evergreen Associates.

Fish passage was not required when the project was originally built. The dam has a Federal Energy Regulatory Commission license that expires in 2032. If the project does not address fish passage, that license will likely not be renewed. A 2012 settlement agreement paved the way for fish passage and relicensing to occur. Additionally, the project owners will plan to apply for Low Impact Hydropower Institute, LIHI, certification. This will allow the project to produce Renewable Energy Certificates eligible to count toward Oregon's Renewable Portfolio Standard.

Based on capital costs of \$3.5 million, the above-market cost was determined to be \$954,000. Energy Trust proposes a \$750,000 incentive and requests 64,540 Renewable Energy Certificates over five years. The energy value is \$2.04 million per average megawatt. Construction is expected in summer 2017, with commissioning expected in November 2018.

Dick Wanderscheid: Are all Renewable Energy Certificates eligible once LIHI certification is received?

Dave Moldal: Yes.

Michael O'Brien: How do you get LIHI certification?

Jed: LIHI is a third-party entity with an application process. They evaluate the environmental impacts of the facility and make a determination.

Michael: Do you have claims for any of the other Renewable Energy Certificates?

Jed: No.

Dick: How long do the weirs last? Do they stay in?

Les Perkins: They stay in, are very strong and last a long time. They lay flat when not in use.

Jed: We look at projects with multiple benefits all the time. Our mandate is to support energy generation, so we have to consider what costs we can assign related to the energy benefits. We have done this in the past, such as with the Three Sisters Irrigation District project.

Dick: Why are the interconnection fees higher?

Dave Moldal: We increased interconnection fees based on our experience with other projects. Pacific Power may require this fee as they renew the power purchase agreement.

Jed: With old interconnects, there are costs for changes based on safety. We think that there may be communications equipment costs.

Suzanne Leta-Liou: The above-market costs are in the mid-range. Why do you think that is?

Dave Moldal: We removed fish passage costs, which reduced project costs from \$8.8 to \$3.5 million.

Jed: The projects listed for comparison represent differing market conditions, especially with regard to tax credit availability. This results in above-market cost differences.

Rikki Seguin: Is the 8 percent discount rate standard?

Betsy: We make a decision based on the level of risk associated with the project and the reasonable rate of return. For municipal projects, this is standard and we check with outside reviewers to see if this is the right rate.

Dave McClelland: This turbine has been running for 30 years. What is its life span?

Jed: It is not uncommon for a turbine to last 50 or more years with good maintenance.

Dick: Do we know that the Pelton Round Butte fish passage is successful?

Dave Moldal: Yes.

Dick: How much more fish passage will be opened up?

Dave Moldal: All the way to Prineville.

Eric Anderson: Is there concern that the federal judge might require other fish passage upgrades related to the Columbia River system?

Jed: There is an adaptive management provision and they have to work with agencies over time to resolve any issues that arise.

Peter West: Oregon Department of Fish and Wildlife is supportive.

Michael O'Brien: This is a good project. This work increased the capacity factor and Energy Trust is paying 100 percent of the interconnection cost. Is there a case for more Renewable Energy Certificates for Energy Trust?

Jed: The fish passage and LIHI certification helps with generation, but it is a little complex because we are not looking at the revenue and costs of those elements. It might be hard to tease them apart.

Dave McClelland: There are new banking rules with the Regional Portfolio Standard. Are there any impacts to this project?

Jed: I don't know.

Erik Anderson: If the project owners choose the new rate, do the Renewable Energy Certificates transfer to the utility?

Jed: The first question is if they take the new rates, does this project still have above-market costs? The second piece is based on the renewable energy rates. Our above-market cost calculations say that we should compare to brown power prices. The standard rates are brown. These are renewable energy rates. Our renewable energy credits are shared with the utilities for Regional Portfolio Standard compliance. There are some complications to work through.

Dick: Will this go to the board at the next meeting?

Jed: We will probably present but with a contingency based on decisions to be made and potential changes to the project details, and with an off-ramp based on impacts to the above-market cost.

3. Renewable energy opportunities discussion

Betsy introduced the renewable energy opportunities discussion as part of the sector's planning work. This work was requested by the OPUC. Five renewable energy sector opportunities have been identified for the next three to five years, including resilience and hazard mitigation; location-specific deployment; food waste planning; diversity and broadening the customer base; and grid modernization and distribution planning.

Renewable Energy Advisory Council members broke into small groups to discuss these opportunities and identify additional opportunities. Small groups identified several additional opportunities, including community solar; diversity in relation to trades and rural communities; electrification of vehicles; upstream focus on municipalities and driving renewable markets; load shape of Other Renewables; developing a clearing house for renewable technology; research, development and demonstration; wave energy; more scale in the market, specifically commercial solar over 300 kilowatt hours; cannabis cultivation assessment for renewable energy development; and load growth drivers.

Council members suggested combining resilience and hazard mitigation, location-specific deployment and grid modernization and distribution planning into one opportunity. Members shared feedback on the several identified opportunities.

Members saw research, development and demonstration as important, but only if it helps leverage other funding. They wondered if project development assistance dollars could be applied for evaluations, such as for wave technology.

Members suggested that the commercial market for solar is farther away from being transformed than residential.

There was also discussion of the cannabis industry. Members suggested conducting a resource assessment of that industry as it relates to renewables.

For grid modernization, members saw opportunity to test some things out with the utilities. Some data will be needed.

Members saw diversity as an important opportunity for focus. Energy Trust could leverage its expertise in marketing and creating access to customers.

Council members saw resilience an important opportunity and believe that there is a gap. They suggested that there needs to be a clear definition of the term. The City of Portland is working to pull together its own plan, as are others. This is a gap that needs to be understood to determine Energy Trust's role.

4. Public comment

There was no additional public comment.

5. Meeting adjournment

The meeting adjourned at noon. The next Renewable Energy Advisory Council meeting is scheduled on July 27.