RENEWABLE ENERGY ADVISORY COUNCIL
Notes from meeting on October 13, 2010

Attending from the Council:
Eric Chung, Pacific Power
Megan Decker, Renewable Northwest Project
Margie Gardner, Bonneville Environmental Foundation
Robert Grott, Northwest Environmental Business Council
Thor Hinckley, Portland General Electric
Moshrek Sobhy, Oregon Public Utility Commission
Sandra Walden representing Glenn Montgomery, OSEIA

Attending from Energy Trust:
Doug Boleyn
Kacia Brockman
Pete Catching
Amber Cole
Fred Gordon
Hannah Hacker
Erin Johnston
Jed Jorgensen
Betsy Kauffman
Elaine Prause
Thad Roth
Lizzie Rubado

Others attending:
Theresa Gibney, Corvallis Energy Challenge
Charlotte Morrows, member of the public
Andrew Volkman, independent contractor
John Reynolds, University of Oregon

1. Welcome and introductions

Betsy Kauffman called the meeting to order at 9:32 a.m. Everyone introduced themselves. The minutes from September were approved, the October agenda accepted and a reminder announced of NW Natural's lunchtime presentation on its proposed solar water heating program.

Betsy announced Erin Johnston, wind initiative manager, is moving on to a position at Garrad Hassan as a wind farm project design manager. The council offered its congratulations. Betsy thanked Erin for her service and the technical credibility she has brought to her position.

2. 2011 program plans

General overview of 2011 plan
Elaine Prause presented a review of the 2011 Renewable Energy budget themes, which illustrate 2011 as a year of transition. We're budgeting 2011 to use all that is available; 85 percent of funds will be spent on incentives, the other funds go to delivery, management and other costs. The total activity budget is $24.1 million with a wide range of generation expected, from 2.5 to almost 11 average megawatts (largely an indication of uncertainty surrounding the Business Energy Tax Credit).

She showed the 2011 draft budget ($24.1 million) compared to the 2010 activity budget ($31.3 million). Another graph broke out funding by utility. Portland General Electric is heavily weighted to solar (also the largest renewable resource in PGE territory), but Energy Trust will work on custom project outreach in PGE territory as well (potentially wheeling power to PGE). The Renewable Energy sector will remain flexible throughout 2011, including shifting funds between programs as needed to meet demand.

Margie Gardner asked what the annual goal is for the sector. Elaine said it is a three year rolling average of three aMW installed (an Oregon Public Utility Commission minimum performance metric). Elaine clarified that the tables she presented show commitments, and the projects may or may not go through.

Biopower 2011 program plan

Thad Roth presented on the Biopower program plan. There are two segments of the program: woody biomass (combustion in a boiler, stand-alone generation or cogeneration), and biogas (which is broader and includes side benefits beyond energy). Wood biomass waste streams are from mill and forest residue, and biogas waste streams are from agriculture, food processing, organic municipal solid waste and other residues. Right now, there are a lot of activities in play pushing projects to complete in quarter four of 2010 or quarter one of 2011 to take advantage of the federal Investment Tax Credit (expected to sunset end of this year), plus the competitive nature of the Business Energy Tax Credit application process has also jump started projects to complete sooner rather than later. We're hoping to see projects meet these two large deadlines, though we are realistic in knowing not every project may succeed.

Program strategy:

1. Work with industry partners to identify projects early on (i.e. clean water agencies, Oregon Dairy Farmers Association, Oregon Food Processors Association, municipal solid waste projects).
2. Co-fund feasibility studies. Four projects currently being proposed received Energy Trust funding for feasibility studies.
3. Grow relationships with companies by providing ongoing technical support for interconnection, project financing and technology analysis.
4. And as always, invest in feasible projects that support overall program and sector goals.

Key activities:

1. Manage generating projects through the incentive stage, move dedicated projects through construction and complete evaluation of projects applying for incentives.
2. Support expansion of generation capacity of wastewater treatment plants utilizing co-digestion (brown grease/food waste) at facilities with excess digester capacity.
3. Complete Energy Management Systems training to integrate efficiency and renewable resources at wastewater treatment plants.
4. Continue to do outreach with biogas plants, those which use anaerobic digestion.
5. Continue to develop the pipeline for woody biomass projects.

Thad went through 2011 new initiatives, which included:

- Business Oregon and the Oregon Department of Energy approached Energy Trust to consider a pilot in investing in idled or underutilized biomass generation projects.
- Continue to pursue construction financing in lieu of post-construction incentive payment.
- Working with Northwest Food Processor Association (which has a very active energy efficiency program and sees controlling energy as a strategic advantage) as it looks at adding investment in renewable energy and has brought on part-time resources to support that effort.
- Be aggressive in supporting the utility interconnection process.

Robert Grott asked if there is conceivably a cliff with the Business Energy Tax Credit and the federal Investment Tax Credit. To what extent will projects be feasible without them?

Thad said some would be feasible. On the woody biomass side, projects are driven by utilizing idle capacity. On the biogas side, it will be more of a challenge as projects rely almost exclusively on energy production (even though there are co-products, such as tipping fees). In the last six months, we have seen a handful of proposals by third-party developers and energy only represents 50 percent of the project revenue. This has us asking the question of whether

we need to relook at what we finance — only the energy side or the whole project? If we focused just on the energy component (interconnection, energy generation, possible cogeneration) we could get them to possibly think about their project economics differently.

Robert asked if the Environmental Protection Agency biomass ruling is seen as a threat to this industry.

Thad said it depends on who you talk to on whether problems will be created, which largely hinge on what the threshold is and what are the accepted best available technologies. The pushback nationally indicates the emissions issue needs to be dealt with.

Thor Hinckley asked how Energy Trust is contractually dealing with this regulatory risk.

Thad said you could create a milestone around having a successful application and if they don't meet it, our funding could go away.

Eric Chung asked what the uncertainty is driven by and if it's not a go, where do the funds go back to.

Thad said funds are returned to the overall Renewable Energy sector budget and the money will be used to go to the next best project.

<u>Other Renewable Energy 2011 Program Plans</u>
Betsy presented. She went through the activity tables on the handout. "Activity" means dollars are committed.

Table 1: Activity budget for Pacific Power is dropping from 2010 to 2011 as we have less money thus we will commit less. In regards to the PGE activity budget, we are setting more aggressive goals and expect to spend more, most of which is in wind.

Table 2: Incentive activity budget by technology and utility shows Pacific Power at 49 percent to hydropower, 34 percent to wind and 18 percent for a geothermal project (if the geothermal project doesn't materialize by about June 2011, the money will be redeployed). In PGE territory, 68 percent to wind (20-22 wind projects were completed in 2010 and this technology is one of the things we can do in PGE territory; the program is looking at a wheeling project for wind as well), 32 percent to hydropower (smaller, municipal projects) and no geothermal budgeted given no geothermal resource in PGE territory.

Program strategies:
Overall program strategies for 2011 are to:
1. Complete approved projects.
2. Remain flexible and open to supporting a range of technologies and shifting funds to do so
    a. The program is not looking at shutting down or shrinking any technologies in relation to any other in 2011 (this may change in 2012 or beyond).
    b. Wind: Set up effective partnerships with agriculture groups.
    c. Hydropower: Completed a resource assessment of possibilities in irrigation districts. This means we have a database to refer to when looking at what we can pursue in 2011 and beyond.
        i. John Reynolds asked what percentage of resource potential have we taken advantage of.
        ii. Jed said about three percent; there's a lot of potential out there yet and we're using the technology of piping existing canals and using a generator.

iii. Betsy said there are a few municipal projects between 25-50 kW, this would be more time intensive for us but still beneficial if you can get a few of these projects done.
iv. Betsy said a piping project in an irrigation district can often get funding from other sources.

d. Geothermal: Will work with communities that have existing wells, since not having to drill can make a project more feasible.

3. Continue to build the pipeline even though we face less funding — we still need to put projects in to get projects completed.
4. Focus on finding projects in PGE territory while maintaining a stable presence in Pacific Power territory.
5. Help projects find other sources of funding.

<u>Solar 2011 Program Plan</u>
Kacia Brockman presented. Goal of the program has always been to support all sectors, which has recently served us really well as projects in 2009 involved third-party commercial ownership while projects in 2010 were largely residential.

Program strategy:
The program will need to manage a significantly smaller budget in Pacific Power territory in 2011 (about two-thirds of 2010 activity level). We will continue to drive activity in PGE territory, where the 2011 budget will support the same activity level as in 2010. Despite the cap on the Business Energy Tax Credit, we will continue to generate demand in the commercial sector, leveraging the feed-in tariff to fill the gap until new Business Energy Tax Credit funding is allocated. Since the Residential Energy Tax Credit is set to expire January 1, 2012, we intend to utilize this deadline to spur the residential market in 2011. We will also provide information to support any potential policy changes that will sustain or expand the solar market.

The program was recently made aware that available money in the Tier 1 Business Energy Tax Credits has all been allocated, effectively halting new activity in the commercial sector.

To manage the solar incentive budget in Pacific Power territory and avoid exhausting the budget too early in the year, we'll watch the market activity and may lower incentives if needed in Pacific Power territory. We don't yet know how much demand will shrink as a result of the capped Business Energy Tax Credit and the reduced Residential Energy Tax Credit, or whether an incentive change will be necessary. In PGE territory, the program will take advantage of new market opportunities such as additional Solarize efforts or third-party residential ownership. The program will remain open to larger, custom projects in PGE territory, similar to the recent Oregon Department of Transportation solar highway, including any that receive Tier 2 Business Energy Tax Credit pre-certifications.

The program will use PMC outreach channels to cross-promote solar and energy efficiency, targeting small commercial projects that could use the Tier 1 Business Energy Tax Credit when new funding is allocated. We will continue to educate the market about the feed-in tariff option in addition to Energy Trust incentives and state tax credits. The program will continue to provide grant writing assistance to help rural businesses secure USDA funds for solar installations, support Solarize initiatives within and outside of Portland (central Oregon activity has slowed down, and we hope to see something like Solarize Pendleton happen elsewhere), and support the utilities and the OPUC with the feed-in tariff pilot.

Table 1: "Previously Dedicated" includes projects that received incentive reservations in 2009, but were not installed until 2010 or are still pending; "YTD Dedicated" includes new projects that

received incentive reservations in 2010; “Remaining to be Dedicated” estimates the new projects that we expect to reserve incentives between now and year-end 2010 (but these estimates may be too high as Tier 1 is now fully allocated); “YTD Paid” shows the incentives that have been paid in 2010 (for projects either from the 2009 or 2010 pipeline).

2011 new initiatives:

- Removing barriers to community-owned solar projects (i.e. “solar gardens”)
    - Margie Gardner noted that BEF is working with NREL and IREC on creating a national community solar policy guide
- Moving upstream with commercial new construction, allowing projects to reserve incentives during design, before a solar contractor is hired
- Raising the bar for contractor performance by implementing a ranking system for solar trade ally contractors
- Establishing an online self serve tool to help customers assess solar potential at their site
    - On-site Solar Energy Reviews were well received but resulted in few installations
- Support Solar Now! University to overcome barriers in rural areas

3. 2011-2012 budget and longer-term issues

Elaine presented and referenced the briefing paper distributed to the council last week by email. Staff is looking for feedback on the longer-term issues and decisions proposed. After council input, Energy Trust will formulate a recommendation on these issues that will be brought before the board for consideration and approval.

The high level concern is available funds are decreasing: $34 million in 2010, $24 million in 2011, $14 million in 2012. We are spending down our carryover and working within our yearly budgets. However, above market costs for projects we expect to or could support are increasing (she referenced Table 1 in the handout). We negotiate the percent of above market costs we pay per project, but as it goes up and we continue to support larger projects, each incentive payment would be a larger portion of our budget.

Operating parameters are set by SB 1149, SB 838 and the OPUC performance criteria (minimum of three year rolling average of three aMW installed), which was originally negotiated between Energy Trust and the OPUC when the Business Energy Tax Credit was a certainty. Programs were designed around the assumption that if a project met Oregon Department of Energy requirements, it would receive a Business Energy Tax Credit. Now that the Business Energy Tax Credit is competitive, not all projects can receive credits.

The sector also works within its vision, mission and leadership position statements as defined in its strategic plan. We see ourselves as being a catalyst to development of small renewable projects and as a leader in the region in providing assistance and funding to drive development.

The sector’s four key objectives:

1. Support a wide range of technologies
2. Provide early development assistance
3. Expand market opportunities
4. Leverage other funding sources

As we go into 2012, the business as usual case would be to continue support for the five technologies, but we would need to prorate the budget down for each technology. We see this as limiting the effectiveness of each technology. We won’t have enough incentive money to support each of the four objectives and meet the OPUC performance metric. We need to make

choices by reviewing our objectives, redefining priorities and redesigning programs to meet those priorities. Business as usual won't be acceptable in the coming years and is not a viable option for Energy Trust.

The RAC briefing paper defined four distinct operating principles. To help explore how each principle, if held as the number one priority, would impact our operations and resulting portfolio, a series of scenarios were created. Each scenario steps through the actions and impacts that would result including ideas for new tools or policies needed to carry out the plan. Although these scenarios are created as separate and distinct, we realize it won't be a black and white decision.

Scenario 1: Maximize generation; key operating principle is to get as much generation as possible

- Funding technologies with least incentive cost per aMW. Limit or eliminate supporting higher cost technologies (solar, small wind, small hydro). Lower cost projects are community wind, biopower and large hydro.
- Magnitude of incentive dollars per project would be high
    - Risk would be fluctuations in installations — for example, 0 aMW one year, 5 the next — as money goes to fewer, larger projects
- Would need new tools
    - RFP route (which could positively create a competitive nature), incentive caps, revolving loan funds as examples

Scenario 2: Focus on early stage assistance across all the technologies — playing to our strength and doing what we are uniquely able to do.

- Close to base case, supporting all technologies
- Shifting funds to development costs
- Success: relies on market and/or other resources to construct/complete, collaborate with co-funders (which could be a challenge to align goals)
- Challenge: the 3 aMW performance goal would need to be redefined and reduced
- Would need new tools
    - Revolving loan fund, teaming with co-funders
- Council feedback
    - Robert expressed support for scenario 2. $14 million is not enough to make a significant difference in markets. Most leveraging can happen at early stage assistance, identifying barriers and overcoming them (construction assistance). There are smaller, newer technologies that we could support.
        - Fred: This assumes there are partners out there for helping with the financing. Is that a good bet given the economy?
        - Robert: It's not a problem to have Energy Trust consult.
    - Betsy: If we provide early stage funding and there's no funding to complete it in the end, what have we put our money to?
        - Robert: Spend money on the feasibility side and technical assistance, barrier analysis reduction. The theory being they need these funded to go and find investors. Whether they succeed or not is up to their ingenuity.
        - Margie: Agree the biggest benefit is the assistance early on.

Scenario 3: Limit number of technologies supported

- Fully support two to three technologies versus the current five
- Could be different technologies in different utilities
- More similar to other organizations like Energy Trust in other parts of the country

- Success: depends on our ability to pick the winners
- Challenge: OPUC performance goal may need to change, depends on technologies chosen
- Would need new tools
    - Definition of criteria for technology and portfolio selection
- Council feedback
    - Margie: Supports this one, focusing is better than cuts everywhere. Doesn't mean you are set on those technologies forever. She said that perhaps this scenario could be combined with Scenario 2. The council would look to Energy Trust staff on which technologies to choose. She said staff would need to choose the ones where Energy Trust can have the biggest market impact — the emerging technologies in Pacific Power, standard technologies in PGE (given resource availability).
    - John: We're fortunate as a state to have all these resources and we shouldn't be cutting technologies.
    - Margie: Could you support technologies in stages and shift support through the years?
    - John: We should keep them all on the plan.

<u>Scenario 4:</u> Support onsite generation only

- Further limit what we support as incentives can only go to sites where project owner contributes to the public purpose charge, similar to how we work within the efficiency sector
    - Most qualifying facilities and community wind would be excluded
- Would reduce the size of projects we work with
- Challenge: OPUC performance goal would need to be decreased
- Would need new tools
    - Incentive caps, revolving loan funds, teaming with co-funders
- Council feedback
    - Sandra: Originally thought Scenario 2 was important as in terms of percentage of budget (lack of funding for new projects to get financing). However, Scenario 4 addresses looking at transmission issues, offsetting carbon, bringing in a larger number of people that are supporting Energy Trust with the public purpose charge and having them directly benefit. Onsite generation is usually smaller projects and net metered.

<u>Discussion ensued:</u>
Margie: What does the statute say about renewable energy?

Elaine: It's broad — support the above market cost of renewable energy technologies.

Margie: Means really need OPUC on board if/when the metric goal needs to be changed.

Fred: The OPUC commissioner has talked about Energy Trust being more of a "proving" ground, though the goal is still there.

Theresa Gibney: The commissioner also said that the megawatt goal is arbitrary, it's a small number in the broad scheme of things and is open to changing it.

Margie: If that's true, we have the ability to do Scenario 2. It's not just the OPUC but also the perception of the value you bring and what the legislature sees you bringing.

Margie: How about being radical, what about cutting solar? It has become more established. If it's more well launched.

Fred: The decision has to be paired with what everyone else is going to do.

Thor: Maybe we should think of this as an ongoing discussion. Other technologies could need your support or no longer need your support in the future. Don't need to think of this as long term, it's a stop gap measure for the next three to five years and then policies will change, altering the landscape.

Sandra: It's important for Energy Trust to look at politically how these decisions will play with the legislature. Any plan should address some of the issues likely to come before the legislature (not taking money out of the general fund, leveraging other sources of funding). The public purpose charge is not immune to changes.

Sandra: It isn't exclusively one scenario or another; you have a limited budget, implement priorities.

Eric: Wants to have us rethink the dilemma and it's Scenario 1. Scenario 2 is a policy decision and related greatly to risk and reliability, Scenario 3 is a version of that, as well as Scenario 4. The paradigm is you want to maximize bang for buck, whether that's a hard cap or not. Want to see the maximum impact for the dollars you have. With the other scenarios you are imposing greater risks. Need quality verification for each technology. Will need to absorb some risk but have risk tolerance clearly defined. Also, think about extending timeline expectations. It's about how your maximize return.

Sandra: Agrees with Eric, financing for projects is key, any funds you can allocate for the co-partnering and drawing in other available funds is like creating insurance so that the projects you are investing in actually happen.

Margie: Near term generation versus long term.

Fred: Scenario 4 focuses on making deals; Scenario 2 focuses on making bets; what is our role in the market? Create opportunities in the long term or make deals in the short term?

Robert: It depends on your bang for the buck definition, I think of it as something else: economic development, image of the state, bringing in creative companies and innovative industries as opposed to short term kilowatt hour impact.

Eric: There has to be a near and long term distinction and a flexibility to change courses and time needs to be included to shift gears.

Theresa: At least until 2014, she would like to encourage Energy Trust to make sure incentives for residential solar are set at a level for above market cost rather than making sure the project goes through. This is on behalf of the pilot concept where Energy Trust is a competing incentive with the feed-in tariff. In a world where financial resources are expected to go down, if we ratchet down Energy Trust incentives, demand for the feed-in tariff will go down, and resources in general will go down. One of the unintended consequences of lowering incentives will be lowering the size of the pie in general.

Sandra: Reminder that SB 3039 was set as a way to compare the feed-in tariff model to the incentive-based programs.

Theresa: As you consider scenarios 1-4, there may be unintended consequences. Energy Trust needs to decide if you're in the business of manufacturing (Scenario 1), development (R&D) or HP labs? Are you an early stage venture capitalist, a regular venture capitalist or just a bank?

Moshrek: Is Scenario 3 better described as not a "limit" on the technologies, as it varies from utility to utility, but as a flexible option?

Betsy: Theresa, do you have a best one in mind?
Theresa: Scenario 2 because of the conversations I heard at the commission on things that are already going to happen without you, how difficult it is to choose winners and if others will step up.

Margie: Doesn't Scenario 2 mean you have to do more with picking winners as you're so far upstream you can't see the end product?

Elaine: It's meant to be a combination of project specific and greater market development

Theresa: If you're focused on removing common barriers and when it makes sense to fund feasibility studies, no.

Robert: You've been doing Scenario 2 all along.

Elaine: Yes, Scenario 2 would be more of what we do today but more intense.

We invite further thought on this from the council.

4. Public comment

No public comments.

5. Meeting adjournment

Betsy thanked all council members for their participation and adjourned the meeting at 11:45 a.m. The next meeting is November 17, 2010, which is also the last meeting of the year.