RENEWABLE ENERGY ADVISORY COUNCIL
Notes from meeting on September 14, 2011

Attending from the council:
Jason Busch, Oregon Wave Energy Trust
Megan Decker, Renewables Northwest Project
Ben Henson, Renewable Energy Solutions
Thor Hinckley, Portland General Electric
Juliet Johnson, Oregon Public Utility Commission
David Van't Hof, Lane Powell (On behalf of Glenn Montgomery for OSEIA)
Dick Wanderscheid, Bonneville Environmental Foundation
Tashiana Wangler, Pacific Power

Attending from Energy Trust:
Doug Boleyn
Pete Catching
Amber Cole
Jed Jorgensen
Betsy Kauffman
Elaine Prause
Thad Roth
Kacia Brockman
Sue Meyer Sample
Peter West

Others attending:
Dan Enloe, Energy Trust Board of Directors
Theresa Gibney, Corvallis Energy Sustainability Coalition
Vijay Satyal, Oregon Department of Energy
David Dickson, member of the public
John Reynolds, Energy Trust Board of Directors

1. Welcome and introductions
Betsy Kauffman called the meeting to order at 9:34 a.m. August notes were approved.

2. 2012-13 budget themes and technology goals
Elaine Prause presented the 2012 budget themes. Elaine explained that in September we talk about themes. In October we present draft budget numbers. In November we bring revised numbers back for presentation. In December, the draft budget goes to the Energy Trust Board of Directors for review and approval.

Elaine presented the slides that are attached to this document.
Questions and discussion from the council

Juliette: What do you mean by directed development assistance on slide 5?
Elaine: Development assistance means early stage project work like feasibility studies, grant writing, etc.

Vijay: You are aware that some feasibility analysis will not lead to projects.
Elaine: Yes, but we need to play in the early development stage to generate a pipeline of projects.

David V: If you are assisting in this stage, does that raise the probability that they will get incentives?
Elaine: Not necessarily. This is a two-step process, not a guarantee. The project is assessed separately for incentives.
Jed: A project could ask for development assistance several times—for a feasibility study, permitting assistance, interconnection assistance, etc.
Betsy: The more we help push them forward in early stages, the more likely the project will be able to get financing and move forward. Last year, the council endorsed doing more of this kind of work because with less budget we can make more of a difference.

Ben: I would like to reinforce what Jed and Betsy are saying. On a hydro project, the year plus time span of development is a deterrent to getting people on board and risk resources early. Once we get through that, the opportunity is clear cut and it's easier to bring on investors.

David V: When will the competitive processes start?
Elaine: 2012. We'll start off the year with fresh uncommitted funds and if we do run across this competitive position, this is what we'll do.
Fred: Is this for project incentives only or for the early development?
Elaine: This is for project incentives only.
Tashiana: I've heard Pacific Power folks express an interest in this type of competitive approach.

David: What was the timeline on that community wind RFP? How much time did the developers have?
Peter: Three or four years is what it turned out to be. We were patient.

Jason: What is causing the downward trend in your budget?
Elaine: It's really about the carryover going down each year. In the early years, it took a while for projects to get going. So we built up funds. When utility scale started, we could get money going out the door, but then we transitioned to smaller scale. And it took some time to help those projects get going, so we built up more carryover again. Now our carryover is going down. Our only source of funding is still from SB 1149.

David: You expect to be in the $12 million range going forward?
Elaine: It's more like $14 million between PGE and Pacific Power.

Betsy presented the Wind Program Objectives slide.
Questions and discussion from the council:

Jason: This work with communities. Do you do outreach to communities currently?
Betsy: We have done some of this work. We produced a document to help communities understand small wind, and we have helped counties with public ordinances. But we haven't done a real full court press on that.

Vijay: The Oregon Department of Energy hosted a wind working group and Lizzie has been very helpful and present at these working groups. We have had a lot of planners and commissioners engaging with us and we have been trying to spread that message in the same way. Energy Trust has a more direct ability to do this, but we have been trying to fill in. Deschutes County made a big effort in developing ordinances.

Megan: I spoke to Lizzie about Deschutes County and she thought it was very helpful to have Energy Trust educating the commissioners about these types of projects.

Thor: We have found it helpful to have those projects feed into our system. We have development funds that could supplement that, if needed.
David: Who is financing these mid-scale projects—private developers?
Betsy: Mostly private agricultural operations.

David: What are the sizes?
Betsy: They are in the 50 kW size range, and we'd like to see them get larger.
Dan: Get some successes and then repeat!

Kacia presented the Solar Program Objectives slide.
She explained that Energy Trust believes this technology will eventually stand on its own. In the meantime, we are looking to balance market demand and the delivery/supply channel.

We are pushing these technologies in PGE territory because that's where we have the most funding. We expect the constrained budget to hit us particularly in Pacific Power territory. Our focus will be to keep the volume of smaller projects higher rather than fewer larger projects. For commercial, because of the loss of tax credits, we will look for ways to support solar upstream, such as working to make buildings solar ready, and supporting grant writing assistance.
Questions and discussion from the council

Vijay: What kind of grant writing are you thinking?
Kacia: Mainly USDA REAP grants.
Vijay: Do you use that as leverage? I'm trying to understand how you use this approach.
Kacia: We set aside funds to cost share for a grant writer to go out and secure funds.

David: What is the system size cut off?
Kacia: in PGE territory, it's approximately 650 kW per site, but we have been able to support several larger scale projects beyond the standard incentive offering. In Pacific Power, it's 200 kW per site.

David: Would this shift more resources to the smaller projects? Would you see large projects not getting funding from Energy Trust?
Kacia: It all depends on the above-market cost. In PGE territory, there are fewer opportunities for other technologies, so it could be that we can support large scale solar.

Jason: Do the other solar incentives out there (RETC, Feed in Tariff) affect Energy Trust's allocation across other technologies? Are those incentives supporting solar to an effect that Energy Trust would consider backing off of solar?
Kacia: Those other incentives have allowed the solar market to continue to grow. As long as we have funds, we will seek to continue to grow the market. It's when we no longer have the funds that we'll look to simply maintain the market such as it is. So we're seeking the right balance.
Peter: We were asked specifically by the OPUC to maintain a steady state so that the Feed In Tariff pilot could be measured effectively.

Jed presented the Hydro Program Objectives slide.
Questions and discussion from the council

John R: I recall we did some pressure valve energy recovery. Are there any of those?
Jed: Yes. There are some projects in the municipal category in Portland and Astoria.

John R: Do we have very many more irrigation districts where it will have to cross public/private land to get to our territory.
Jed: Yes, we will discuss more about that later.

Betsy presented the Geothermal Program Objectives slide.
Questions and discussion from the council

David: Do you know how many projects there are in the size range you are looking at?
Betsy: There is only one operational geothermal project in the state, that's on the OIT campus. There is another project under construction that will hook into Idaho Power.

David: Should this area be eliminated from your program?
Betsy: It could be, but we have several projects with applications or development assistance in the next few years. We're not Nevada, with large geothermal resources, so Oregon is a place where we'd be looking at smaller resources

Thor: Do you collect public purpose funds from Idaho Power?
Betsy: No.

John R: The opportunity here is to create a new market for lower temperature projects. That is what we are hoping will happen.
Betsy: That's right. This isn't Nevada. We don't have high temperature resources. But if we can learn how to effectively develop lower temps than there could be a large market.

Juliette: Do you support ground-source heat pumps?
Betsy: Through the energy-efficiency program, you can get incentives in certain circumstances. On the renewable energy side, you have to generate kilowatt hours to get an incentive.

Thad presented the Biopower Program Objectives slide.
There were no questions or discussion from the council.

3. The state of wave power in Oregon

Jason Busch of the Oregon Wave Energy Trust made a slide presentation on the state of wave power in Oregon. Oregon Wave Energy Trust is a nonprofit public private partnership funded by the Oregon Business Development Department through the Oregon Innovation Council. The mission is to support the responsible development of wave energy in Oregon.

- Focus:
    - Environmental baseline studies
    - Community outreach and education—helping communities and the fishing industry to understand the value; the fishing industry is adamantly opposed to wave energy
    - Research and development—OSU is one of three national test centers
    - Regulatory streamlining and coordination
    - Utility markets

- Oregon's attributes:
    - Best wave resource in continental U.S.
    - Grid infrastructure available, able to absorb 430 MW without major upgrades
    - Existing underutilized substations
    - Close to load and increasing coastal population
    - Manufacturing, transportation, deployment
    - Increasing rates: Tier 2 BPA rates are an indication

- Projects, companies in Oregon
    - Newport/OSU testing site
    - Ocean Power Technologies
    - Aquamarine
    - Wavegen
    - Columbia Power Technologies
    - WaveEnergy AS
    - Principle Power
    - Floating Power Plant

    - M3 Energy
    - Neptune Power
    - Ocean Kinetics
    - OWHAP

- Technologies: amazingly dissimilar
    - Diversity: power, siting, size
        - Overtopping
        - Oscillating
        - Snake/Attenuator
        - Heaving Buoy/Point Absorber
    - Second generation buoys are smaller, lighter, simpler, more resilient

- Ocean Power Technologies is the leading company, most money and most devices deployed around the world, but their technology is likely to be surpassed

- Ocean Power Technologies' plan is to do one device outside of Reedsport
    - Phase 1: 150 kW device
    - Phase 2: 1.5 MW, 9 more buoys
    - Will be first grid connected array in North America
    - Well on the way to permitting through FERC
    - 32 Northwest companies involved in the construction
    - Phase 3: 50 MW
- Recent announcement that Lockheed Martin is getting involved.

David: How does that affect Oregon Iron Works?
Jason: Oregon Iron Works is working very closely with Ocean Power Technologies. They are "tied at the hips". They are the only company that is well positioned to build the next buoys.

David W: Who is taking the power?
Jason: Central Lincoln Co-op.

Kacia: What is the capacity factor?
Jason: Nameplate is 150 kW, efficiency is about 30-35 percent.

Vijay: On the FERC permit, does that take into account environmental impact?
Is this batch processing for the NEPA – EA/EIS?
Jason: Yes, the current EA is done through the FERC permit. We are struggling with how to permit for things that are phased in. We don't know what the impacts will be over future phases.

John R: Do you get better production in the winter versus summer?
Jason: There is very much a peak in the winter months, which corresponds to heating load.

David V: What is the visual impact?
Jason: In Oregon, because of the steepness of the ocean, you can be as close as two miles out. You will see the buoy two miles out. [Jason showed an artist's rendition of a collection of buoys two miles out.] I think it's more likely we will have buoys three miles out—or even further out to sea.

Jason showed a graphic of the Aquamarine Power device and said this is in operation in Scotland. They are about to deploy the next generation of this device. It uses a closed loop of pressurized flow lines powered by wave and moving a turbine on land.

Vijay: Are there any concerns with these sites and fault lines?
Jason: They are flexible lines. Many of these devices are designed to shut down, lock up or go underneath a large wave event, such as a tsunami. But a big subduction zone quake could destroy things in the ocean and on land.

Offshore Wind: In Oregon you would need a floating platform for offshore wind. Principal Power is working on a floating platform project for deployment in Oregon.

Pete C: Are any of these companies looking at tidal or current technologies.
Jason: Not much tidal in Oregon, so we are looking primarily at wave. There is more tidal in the Puget Sound. There is a research center at the University of Washington that is focusing on tidal. There is some ocean current technology that is very viable near the equator.

John R: Is there potential for community wave?
Jason: Very much so. If you are a small coastal community, you can imagine an idealistic future where you would own and operate a wave development and sell to the grid. For the foreseeable future, it will be exclusively private development.

4. Projects that wheel power to PGE or Pacific Power

Elaine provided some highlights on a document distributed last week to bring the council up to speed on the issue of projects that wheel power to PGE or Pacific Power. (See attached paper.)

Elaine explained that at the last council meeting, staff brought a project that was an irrigation district hydro project. The proposal was a $1 million incentive, which was required to go to the board. Because of the location of the project, the power would be wheeled to Pacific Power's system. The board approved the incentive for this project. Concerns were raised at the council meeting, Pacific Power sent a letter to Margie on those concerns, which were then briefly discussed at the board meeting.

Elaine recapped that the concern Pacific Power voiced is that by providing Energy Trust incentives for a project that is not located within Pacific Power territory or within its transmission system, ratepayers are not provided with a net benefit.

Elaine said staff is bringing this to the council to see if this is a point of view that is shared by others. Staff needs to go back to the board Policy Committee to give the council's feedback. Also, Energy Trust has three or four other projects in the pipeline that would also need to wheel power.

Discussion questions include: Should Energy Trust accept projects that would wheel power to PGE and Pacific Power? If so, does Energy Trust need additional terms about how it treats these projects?

Elaine said Energy Trust's recommendation is that we continue the current practice. We consider these off system projects because they bring power and renewable energy certificates to ratepayers and it aligns with state policies supporting qualifying facilities. If we change this practice it will significantly impact our ability to meet our goals (we have projects in our pipeline). We also feel that singling out wheeling costs isn't appropriate in our above-market cost methodology; there are other costs such as interconnection that can be just as significant.

If we change our current practice, we will be inconsistent with past practices on utility scale projects.

Jason: This is a complex question and so we need to understand Pacific Power's position well. It's imperative to maintain good relationships. I'm curious how Pacific Power sees that these projects don't benefit ratepayers. The 1149 and 838 legislation is silent on location, which suggests to me that they determined to provide discretion to the organization. That suggests that you should use your discretion. Based on staff recommendations, it's clear there are a variety of benefits to the ratepayers. We're moving away from the traditional energy paradigm, the distribution of power from centralized locations; we have to recognize that the future will look very different. We have to generate renewable power where the resources exist. We'll need to wheel power wherever we can. On the two questions you pose, the answer is yes. I think you should maintain the status quo, otherwise it undermines Energy Trust's overarching mission.

Tashiana: Pat Egan did submit a letter [Tashiana circulated]. As we looked at Three Sisters (the irrigation project brought to the council last meeting), the wheeling costs were pretty significant. The fact that the project is eligible for the Energy Trust incentive because the power can get to our territory, the wheeling cost was more than the incentive. If the wheeling cost were a small amount, the concern would be different. I think we could put together a process where, if you see that a project is not located within our territory, you bring it to our attention in advance. I think that would be an improvement. Some of our interconnection folks were contacted, but they did not recognize this as different from other project contacts. Our concerns were specific to the Three Sisters Irrigation District, and if we could look at the process, that would be very helpful.

Peter: I appreciate Tashiana's comments. I want to be really careful. We respected the process with the utility, and if you could help us understand where and at what levels to communicate, that would be very helpful to us. We did do the communication with Pacific Power that we understood was needed. When you see costs, as part of an above-market cost, one has to push back on a project. Jed made it clear that the project is eating some of these costs. Three Sisters Irrigation District is accepting quite a low return on investment and eating some if not all of the costs of wheeling. Payback of about 18 years is far below any other investment that they could be making, and far below what private investment would be making. Further, you have to look at the project as a whole and can't pick on one cost. If interconnection with Pacific Power was high, we would not claim that is what was driving the above market costs, again it is the whole not the components that matter.

Elaine: Is it fair to say the concerns were specific to the wheeling costs for just this project? I'm hearing it was.

Tashiana: I think so. They're not our customers. They're not in our territory. For a project to incur those costs to get to our territory, we don't see that as a benefit for our ratepayers. Our ratepayers will pay the incentive and the avoided costs.

John R: If you could get a map of the service territory of Energy Trust on the screen, we could get some perspective of how much territory is not in utility territory. We would see how much of a fix we would be in if we excluded these areas and projects.

Note: a map was projected and it showed that limiting projects to only within the Pacific service territory was quite constraining.

Betsy: One reason we felt this needed to be on the agenda is because of future projects. The question we have is if this an issue that will be raised every time, whether the wheeling costs are high or low, or are there other issues that will come up around projects that aren't in your territory.

Tashiana: We would want to see feasibility studies for projects that are outside of our territory, to look specifically at wheeling costs and look at how far they are from our service territory. Those should be special projects that receive special scrutiny.

Ben: There is a nice multiplier for the ratepayers when the project is in territory, but when we have a future where we have to pick and choose projects to fund, we have to figure out where to get the most bang for the buck. As we see more limited funding, this will become more critical. It's more about how do we allocate funds to get the most benefit for the ratepayers.

Dave: OSEIA supports Energy Trust's position on this. From my own perspective, for your competitive allocation strategy, the comparisons may take care of this issue. I'm not sure how you figure out benefit to ratepayer, if projects are buying down wheeling costs versus other comparable projects, I would think your selection process will take care of this issue. It would be interesting to know PGE's position. I wouldn't want to see you limited in how you can select projects.

Elaine: I want to clarify one thing. From the project owner's perspective wheeling costs are another cost they have to absorb, not different form interconnection costs. But the impact to Energy Trust—what we're paying to get that energy into the system—is not necessarily affected by the wheeling costs. Our cost, at the end of the day, is what we are paying per average megawatt.

Thor: For PGE, we are interested in a heads up well ahead of time and a review of the project. We do not have the same issue as Pacific Power. We're willing to do project outside our service territory with Energy Trust and we've shown that in the past.

Vijay: On page 2, you say there is no legislative requirement. On another page you say that if you continue to do existing practice, will you be inconsistent with OPUC rules. Where is the mis-coordination with OPUC rules?

Elaine: I think you are misunderstanding. We wouldn't be able to support the broad statewide goal of under 20 MW projects. If we were limited to only Pacific Power and PGE territories or customers, we would be limited in how we can meet the larger state goal articulated in SB 838. We are one of just a few organizations that can contribute to that larger statewide goal.

Vijay: A case-by-case approach seems prudent. Can we resolve this in the project review at the council level?

Peter: There is another level of coordination. The QF rules in the state do require PGE and Pacific Power to accept a project out of their area. If we do something different, since we are a bigger player, we would need to determine if we are in effect modifying the QF rule in the state as applied by the OPUC.

Megan: I'm not sure I understand the issue. To me the real benefit to ratepayers is diversification of the power supply and contribution to the RES. The legislation seems to be silent on location to preserve the ability to meet this goal. Economic benefits are not something we get to talk about in the regulatory environment. So it seems incongruous. I appreciate the utilities willingness to work on these projects, and Energy Trust's willingness to be flexible. But I don't understand why wheeling would be treated differently or would throw into question whether or not the investment is a good one for Energy Trust.

John R: I watched the battle between Emerald PUD and Pacific Power, and I can understand why a corporation would not want to pay wheeling costs to what could be perceived as a competitor.

Tashiana: Jed did a nice job of distinguishing three buckets of project types: 1) where the developer has paid in to the public purpose charge, 2) the developer has not paid into the PPC but is coming in to the territory and 3) the developer is not in the territory and will not pay the PPC. In the third case, the community benefit is remote.

Jed: Sometimes the project is across the street, so the local community benefit is harder to draw a circle around.

Juliette: Could you put this question into the RFP/competitive process going forward?

Betsy: Our job is to bring power and RECs. It seems artificial to say for a certain type of project we will look at certain costs. All projects are unique, and some have different significant costs associated with them.

Juliette: Is that really your purpose: power and RECs?

Betsy: The goal we are measured on by the OPUC is just power. Not even RECs.

Juliette: I'm interested in what the statutes say. What is the mission of the program? That seems limited.

Peter: It's about the value of the projects: power coming to the customers, RECs and environmental benefits, and the market development, which is part of the budget themes we went through. So that's the third. And we should remind folks that under the green tag policy there is a whole discussion around market development. When you do project screening, there is an aspect of what this project does for market development. The cost of the project is a whole cost, is what I think Betsy is saying.

Juliette: To me it really boils down to, if you have two identical projects and one where folks have paid into PPC, and one that it doesn't, is that a value? For me, that is the issue. But I don't know if that's the Energy Trust's role to really look at.

Thad: To be clear, third-party developers will never have had a history of paying in.

Dick W: Most utilities don't have distribution wheeling costs. PNGC used a FERC approved methodology to determine the wheeling costs for the Three Sisters project. They have few customers per mile so their distribution costs are very high. Most of the projects we are seeing right now would not be considered in territory. The realistic outcome of deviating from the policy we have now will be to kill small scale renewables in Oregon. Public utilities are awash in Tier 1 power. So the avoided costs you would see for a project selling to a public utility is Tier 1 costs, really cheap. Those rates will be low through at least 2019. So you would not see any appetite at all for public utilities to take these projects. I understand what Pacific Power is saying. In a perfect world, the public utilities would take these projects but it isn't a perfect world.

Tashiana: Is it true that much of the renewable energy projects funded by Energy Trust are not in the territory?

Elaine: No, the majority are in territory today, but there are the past utility scale projects and our pipeline looks different with 3-4 pending review.

Peter: The reason that most of the current portfolio is in territory is because of the solar program. It gets a little more uneven when you get into other technologies.

Summary of comments:
Megan: Energy Trust needs flexibility on non-solar resources to develop a pipeline without this constraint. I wouldn't want to see an aversion to wheeling become a black mark on projects. If it becomes a gold star on projects that they are in the territory, that might be a better way to look at it.

Vijay: The Oregon Department of Energy is dealing with an issue like this in other ways. Juliette brings up a good question around who is paying in and who is not. Rebecca Sherman was in the last meeting and supported the project. I do see the concerns brought up by Pacific Power. I think it would be great to understand the degree of dependence on wheeling costs for projects in the pipeline relative to other costs that might be involved.

5. Public comment
There was no public comment.

6. Meeting adjournment
Betsy thanked all council members for their participation and adjourned the meeting at 12:05 p.m. The next full council meeting is October 26, 2011.