RENEWABLE RESOURCE ADVISORY COUNCIL
Notes from meeting on July 18, 2007.

Attending from the Council:
Thor Hinckley, PGE
Lori Koho, OPUC
Troy Gagliano, RNP
Angus Duncan, BEF
Frank Vingola, UOSRML
Jeff King

Attending from the Trust:
Lizzie Giles
Erin Johnston
Eric
Alan Cowan
Adam Serchuk
Jill Steiner
Betsy Kauffman
Tara Crookshank
John Volkman
Kendall Youngblood

Attending from the Board:
Alan Meyer, Weyerhaeuser
John Reynolds, University of Oregon

Others attending:
Dave Tooze, City of Portland
Jon Miller, OSEIA
Doug Boleyn, Cascade Solar Consulting
Jan Lee, Swalley Irrigation District

1. Welcome and Introductions

Peter convened the meeting at 9:40 am. The June notes were adopted without change.

2. Demonstration project policy

Peter said with the focus on projects of 20 MW and less resulting from SB 838, Energy Trust has turned toward developing a pipeline of projects is critical to long-term success. Developing new markets and opportunities often requires demonstration projects. And, often the best demonstration opportunity does not exist in PGE or Pacific Power territory, or even Oregon.

Staff has developed a draft protocol for demonstration projects. First, these demonstrations must lead to projects. They must also have a dissemination plan that shows to whom and how the demonstration will be presented. Incentives will be based on a standard analysis. And most critical, the project must deliver benefits to Energy Trust's stakeholders in the form of electricity, green tags or both.

Staff has identified two types of demonstration projects: demonstrations of pre-commercial technology, and demonstrations of commercial technology not in common use in Oregon. When considering pre-commercial technology, projects must be installed under realistic conditions for a reasonable duration (at least 5 years). Priority will be give to projects deemed to deliver power for a longer term, ideally 15 to 20 years. The project must be owned by a stable business entity, and the project must have market significance. Technology that can fill a niche or compete with existing systems to improve quality and/or drive down prices will be given priority.

In most cases, these projects will pose higher risk than projects using commercial technology. Reflecting these risks, project owners may require a higher-than-usual rate of return. While Energy Trust may accommodate the need for higher returns, we will require program participants (or their project partners) that stand to gain financially from the development of a new technology to share some of that risk. We also acknowledge that demonstrations of pre-commercial technology pose higher risks for Energy Trust, due to technology failures.

The other demonstration type project that will be considered will be commercial technology not widely available in Oregon or not commonly used by specific market segment. These demonstrations will differ from standard projects chiefly in their higher costs associated with publicity, tours and related activities to inform the market. The evaluation criteria above for duration, operator and market significance would be used to evaluate the value of the additional cost for demonstrations of commercial technology.

Jeff asked if staff had considered how they would treat a component of a facility, e.g. a fuel gathering or processing system that is novel. Peter said that this had not been considered. The project would have to contribute directly to the generation of energy. Improving a process to make it cleaner or more efficient at processing fuels would be a great value.

John asked what the implications would be on staff time, and suggested an RFP to tap into interest generated by SB 838. Peter responded that an RFP, if offered, would be late 2008 or early 2009 due to the numerous new initiatives and program offerings on the table. Staff time will be a critical issue in the coming years.

Frank said that flexibility is key when dealing with untried technologies. Energy Trust should develop guidelines, but allow plenty of room for new opportunities and to react to circumstances as they arise.

Jon said he approved of a more formalized policy, but questioned the amount of resources Energy Trust would dedicate to this initiative. Peter said the amount would be fleshed out during this budget cycle. The thinking is that every program would set aside some funding for out-of-the-box opportunities, so that the funding would be program specific, as opposed to going through the Open Solicitation Program. This will be 2009 and beyond.

The next steps will be to take this before the Board., Comments prior t

3. Swalley Irrigation District hydro project

Betsy introduced Jan Lee from the Swalley Irrigation District in Bend. Swalley Irrigation District is requesting $916,386 in funding to install a hydropower project totaling 750 kilowatts (kW) below an existing diversion in Bend. The project is expected to be completed in mid-2008. Staff recommends that the Open Solicitation Program provide up to $916,386 in funding. The total project cost is $10,436,585. Because of the project's watershed benefits, Swalley has successfully secured commitments for seven grants totaling $4,228,865 from agencies and organizations including the Oregon Watershed Enhancement Board, Deschutes River Conservancy, and the National Fish and Wildlife Foundation. The rest of the project's funding

would come from a loan, a BETC pass-through, and the additional fundraising or cost-savings mentioned above.

The project would be Energy Trust's first hydropower project developed by an irrigation district. We are expecting others to follow because of new state legislation allowing an expedited process for secondary use of an existing water right at an existing diversion under certain conditions and the fact that many of these projects at existing diversions qualify for an exemption from regular Federal Energy Regulatory Commission (FERC) licensing requirements.

Energy Trust has identified $532,000 in above-market costs, Energy Trust's incentive of $916,386 will be paid on production over 15 years, giving it a net present value of $530,754. Energy Trust's incentive is contingent on Swalley Irrigation District being approved for a loan from the State Energy Loan Program and raising an additional $1,000,000 in funding for the project. Part or all of the $1,000,000 could come from bids that are lower than estimated costs.

In addition to the quantifiable benefits of the project, staff believes this project will benefit Energy Trust by developing our relationship with irrigation districts and open the door to other hydropower projects, and allowing the Energy Trust to fund hydroelectric generation in a safe, fish friendly fashion. Because of its benefits for in-stream flows, water quality, the watershed and associated fish and wildlife, the project serves an example of a multi-partner/multi-benefit project in a water-challenged part of the state and sets the stage for other such cooperative endeavors.

Frank asked where the water is coming from. Jan replied that the district is piping five miles of the canal (from the diversion point in the city of Bend to a point 5.1 miles northwest of Bend) to allow more water to be returned to the stream. The closed pressurized pipe will allow the district to use 81 cfs of water, and return 27 cfs of water to the Deschutes River for the benefit of the watershed and associated wildlife, and as a permanent in-stream water right.

John asked what months water will not flow. Jan replied that the system will run during the 200 day irrigation season from April 1 through October 31.

Jeff asked about the 27 cfs returned to the river. Jan replied that this will be an avoided diversion. Jeff asked if there would be contractual obligations that this will remain undiverted. Jan said that there are protections in place.

The RAC expressed support for the project. Staff plans to bring the proposal to the Board for approval in August, 2007.

4. Renewable Energy Goals

Peter presented a first draft of the new goals for the renewable energy programs in light of the new focus on projects under 20MW. The first step in developing the new goals is to forecast future revenues from the utilities and the relative program shares by utility by year. Staff considers cost trends by technology, based on EIA, trade groups and publications by industry experts. Electricity price forecasts come from utility IRPs and QF filings. Variations an changes in tax benefits and energy policies such as RPS' and CO2 regulations, are very unpredictable and pose considerable challenges.

Thus far, staff has acquired, on average, 3.2 aMW annually by the end of 2008. This does not include community wind projects due to the difficulty of acquiring turbines. The proposed annual goals are a range. In 2009, the low end is 4 aMW and best case is 6 aMW. By 2016, the

low case should be 4.5 aMW, and the best case at 8.5 aMW. On average, this is 4.5 aMW on the low end and 7 aMW in the best case.

By 2016, there should be cumulatively 38 aMW of community based generation, with a best case of 55 aMW. This assumes the current policies and tax benefits stay in place.

Frank asked about the flattening of the generation in 2015/16. Peter responded that this reflects a leveling of the price drop in commercial technologies over time.

John asked what technologies were included in Open Solicitation. Peter replied that hydro and geothermal were considered. Wave was not considered because there are no reliable price forecasts for wave.

Jeff asked how inflation in the cost of technologies has been addressed in the model. Peter replied that he based prices in what they are today. In solar, they are forecasting a leveling of prices, and ultimately a decrease. For wind, belief is that prices will increase another 10%, and the gradually descend. For Biomass, there was no expectation that prices would increase. The technology improvement assumptions are based on today's situation.

Alan asked how much will be spent to acquire this generation. Peter replied 80% of the budget would be spent in generation acquisition, with the remaining overhead on administration, feasibility studies and market development. The forecasted income is roughly $11 M per year. The actual budget for these kinds of projects will increase, perhaps as much as 40%, but there will be a delay through 2008. The first year that is solely focused on <20MW project will be 2009.

This will begin to inform the OPUC benchmarks and the goal setting as part of the budgeting process for 2008/9 and beyond.

Jon said that he hopes there is a lot of collaboration between ODOE and Energy Trust with an eye toward collaboration on the incentives. ODOE is entering rulemaking. There is the possibility of a six month evaluation cycle for the BETC cap, and hopefully Energy Trust will work alongside to develop the best incentive package possible. Peter replied that there will certainly be collaboration, particularly with small wind and solar.

5. Green tag exemption for PV on new homes

Lizzie presented a proposal from Policy Committee that would temporarily exempt new spec homes from the ETO green tag policy.

She explained that the reason for the proposal is that the green tag policy creates a barrier to widespread adoption of solar technology by homebuilders. They are already hesitant to pursue new technologies because of cost and the fact that it upsets their system for getting a house built. We have an opportunity now, however, because of some strong interest by about a dozen builders in installing solar technology on spec homes. Some of them are volume builders and Energy Trust would like to capitalize on this opportunity.

The problem is that our relationship is usually directly with the homeowner who is also the owner of a solar system. In the case of a spec home, our relationship is with the builder who then transfers ownership of the solar energy system – and the tags – to the home purchaser. That necessitates that the builder have a process for telling the homeowner that s/he doesn't own the tags, can't claim to be green or to be reducing his/her environmental footprint. When

this information is introduced when the builder is trying to make a sale, it introduces enough complexity to make a builder decide that it's not worth the trouble to have solar on a home.

Because of this, we are recommending that for one year, we make an exemption from our green tag policy and allow homeowners to own the tags. The solar program expects this would apply to the sale of about 35 systems, which translates to 77 tags or 1/100 of the annual tags produced by the renewable energy program.

It would allow time to develop the new homes market and educate builders about solar and about tags.

Alan Meyer asked how much incentive money would support the 35 systems. Lizzie responded that the best-scenario is that this would be a $150,000 investment from Energy Trust. Alan said that if we don't have the tags, we have nothing – that ratepayers are subsidizing tags without getting the benefit. He said he would vote no, despite the fact that he believes the reasons for the exemptions make sense. Peter asked if he would take that position even if it prevents Energy Trust from breaking into a new market. Alan said he is concerned about the precedent the exemption would set. Peter said this would not be a precedent forever, just for a narrow time period necessary to break into this market. He said the tag issue is a foreign concept for the builders.

Frank Vignola said that putting ownership of tags into sale of a house complicates the sale; builders will end up installing solar without ETO or not do it at all. It's a difficult issue because it creates a situation where a builder can't advertise that this ia green house, but that's why they're adding the solar – it's a green feature.

Alan said it is a green house. He wondered if the tags could be retired on behalf of the utility <u>and</u> the homeowner?

Jill Steiner asked if we could we have a process for educating homeowners. Lizzie said the feedback from builders is that this will increase the risk for them to bring the issue up when they're tryng to do a sale and they'll avoid the problem by not adding solar.

Lori Koho asked if the incentive is enough to be the deciding factor of whether they'll put the solar on the house. Lizzie said that the builders won't install solar without an ETO incentive. They don't want to have home sit unsold because of a higher price which they would need to charge if they can't recoup some of their costs by accessing the ETO incentive.

Doug Boleyn said he recently attended a solar convention where information on home values was presented. He learned that in California, solar does not a home's cost, but its value inflated faster than non-solar homes. He said that the risk to builders is perceived, not real and that builders are not perceiving the benefit of solar yet. They still feel installing solar is too risky without Energy Trust.

Lizzie pointed out that California builders have entered the solar market; that hasn't happened in Oregon.

Jon Miller said that this market is important because it brings solar to the mainstream, which is where we want it. He said that Lizzie's concerns are correct -- builders don't know where to start with solar. Asking them to wade into this and fit it into their process is a lot. Adding the complication of tags when they don't know what tags are is a deal-killer. The tag issue is a barrier to getting builders to build spec homes with solar. Maybe we can promote this as a special program for 2008 that will be re-evaluated and dropped after we penetrate the market.

Alan asked if we can we do this without talking about tags? As long as a homeowner doesn't sell the tags, it's not an issue. There should be a way of doing it and saying the home is green.

Peter said that if you want the tags to be retired on behalf of the ratepayers, you need to go through a specific process. Unless the PUC allows us to just assert a right to tags, they must be specifically transferred.

Lori mentioned that PGE is talking about offering loans through the electric bill and the loan transfer to the new homeowner should the home be sold. She asked if we can have a discussion with the utility to have a way to just have this on the bill? What is the legality of having a development with solar that puts you on a special rate schedule that addresses the tag issue?

Jon said that would just be a barrier to builders. They have a specific process for churning out a home and we want to interrupt the process as little as possible

Lizzie said that the builder doesn't sell the house, a realtor or sales team does, so there are multiple layers of communication and room for error or complexity.

Alan says he lives with homeowner restrictions that restrict all kinds of things. Why should this be any different?

John Reynolds asked if this could come up when the homeowner calls the electric company to turn on the power. Then it would be an issue between the homeowner and the utility rather than the builder and ETO.

Lizzie said the policy committee okayed the exemption as long as we would revisit it in a specific timeframe.

Lori said that the scenario that went to John Savage was for a specific development and builder, so she will need to re-present it to him. Peter doesn't want to have to come back to PUC for each individual builder and development.

Frank expects that people who buy these homes would sell the tags because they're valuable. Penetrating the homebuilder market requires a home buyer get the tags. Otherwise it's a waste of time for ETO to pursue this market.

Jon said that a special tariff would present a barrier. He doesn't want to make things any more complex for solar customers.

Peter said this will come up again at the August board meeting.

Jon said that BEF, the utilities, and 3 Phases should be invited to weigh in. Lori said that CUB should also to weigh in to make sure that ratepayers' interests are protected.

Peter adjourned the meeting at 11:30am.