RENEWABLE RESOURCE ADVISORY COUNCIL
Notes from meeting on May 20, 2009

Attending from the Council:
Carel DeWinkel, Oregon Dept. of Energy
Bill Eddie, Bonneville Environmental Foundation
Thor Hinckley, PGE
Suzanne Leta Liou, Renewable Northwest Project
Sandra Walden, OSEIA

Attending from the Trust:
Kacia Brockman
Erin Johnston
Jed Jorgensen
Thad Roth
Peter West

Attending from the Board:
John Reynolds (by phone)

Others attending:
Heather Beusse, enXco
Jon Miller, enXco
Joe Eberhardt - PGE

1. Welcome and Introductions

Peter called the meeting to order at 9:40am. Everyone introduced themselves. The agenda was adopted without changes. The April minutes were adopted without change.

2. Program Updates

Solar Program: Kacia gave an update on activities in the solar program. The OSEIA and solar energy showcase events just concluded. There was a well-attended technical training for contractors. Lots of new contractors showed up for that event. That was followed by consumer Solar Expo. There was slightly less attendance at the Expo than last year. The Solar program likes the Expo because the people that come are just there for solar. A home show may ring people for other reasons. People come to close the deal, to be convinced solar is a good investment or to talk to directly with contractors

Sandra noted that attendance at the Expo was about what it was last year, but there were many more exhibitors this year. The attendance at the classes that were held was higher than last year.

Kacia said that in the first quarter her program went through comment period on installation standards with contractors. Those standards are now updated and published. The program is now asking trade allies to re-enroll in the program. They have gone through a program documentation overall to clean up all the terms and conditions, refresh the list of trade allies to determine who is still interested and active, and to shorten list of trade allies on website to make it more useful. Those who are active will be listed online. The program is still open to new entrants.

At the last RAC Kacia noted that Brian had resigned. The program now has an offer pending on that position.

The program has also re-launched solar energy reviews that were done as a pilot last year. These are free one hour visits. Customers are pre-qualified and then Energy Trust helps them figure out if they have a good home. Then they can move forward with a contractor.

Peter asked what the review concluded. Kacia said she'd like to have Lizzie present that information at a future RAC meeting. She noted that the review was positive. People like that Energy Trust plays the role of an objective third-party. In general, people don't like to call contractors, but that is the first thing Energy Trust asks of participants in the solar program. So it is important that we help consumers get the confidence to make that step. The goal of the pilot was to help accelerate the decision making process, which is one to two years for residential projects. So far it doesn't seem like the pilot sped things up that much, but we're still evaluating that aspect of things.

Sandra noted people aren't spending money right now, so the fact that things haven't sped up may be related to the economy.

So far in 2009 the solar program is about 18% towards its yearly goal. At this time 74% of budget has been committed, but some of those projects are suffering due to financial markets. The program is concerned about impact of the market on commercial and third-party model solar. It is good that some communities are continuing to put out RFP's for projects. Hopefully that keeps interest up in the third-party model.

Peter asked about solar legislation. Sandra said HB3039 has moved to committee in the Senate. Changes and clarifications have been made. It now clarifies that a 10 year warranty is for equipment, not workmanship. The bill has a 2:1 valuation on solar RECs for utilities. There is movement around the number of MW that the PUC can choose to allow under the program.

Suzanne noted that there are three primary components to this piece of legislation. The first is a large scale solar requirement. It requires IOUs in the state to install a certain amount by 2020. The second part of the bill pertains to the RPS. It includes a multiplier for solar. Solar counts double towards RPS requirements. RNP opposes this multiplier. The multiplier dilutes the value of the RPS and puts some types of energy on a different playing field from other types of energy. RNP does not feel that is in the broader interests of the community. The third piece of the bill is a 25 MW pilot program to require residential and small commercial solar systems. There is a work session on the bill scheduled for May 27th. The governor's office is generally supportive of the legislation, but has also expressed concern about 2:1 multiplier.

Carel observed that we are going back to the "carve-out" idea that was rejected 2 years ago.

***Open Solicitation Program**:* Jed noted that the program has been focused on activities relating to hydro, geothermal, and large scale solar.

The largest programmatic change is that the board agreed to an additional program track within Open Solicitation. This idea was discussed at the April RAC. It creates a "standard technology" track with the same staff and board approval levels as the other renewables programs. Project incentives less than $500,000 can be approved by the Executive Director. Above that level they must go to the board. Hydro is the only technology in the "Standard Track." All other technologies will go through the more rigorous review process that has been the standard of Open Solicitation.

On the hydro side, the 500kW Albany project came on line in March. The Swalley Irrigation District project is delayed due to funding issues. The district is dependant on a SELP loan to purchase their turbine. Due to the downturn in the markets SELP has not been able to sell

bonds to raise funds. Swalley is pursuing Federal Stimulus dollars which could obviate the need for a SELP loan.

There is continued interest in hydro, especially in Southern Oregon. Several potential projects are engaging in feasibility studies. There is also a push for stimulus funds from the City of Lakeview for a known feasible project.

Jed is also working on a set of hydro permitting guidebooks that would help resource owners understand the different federal and state permitting paths required for different types of hydro projects. The federal level guidebooks should be of use to developers in other states.

A GIS study on run-of-river hydro in Clackamas County was completed in the first quarter. The study was meant to analyze a method of determining the number and size of potential projects utilizing Clackamas as a sample county. The study was not entirely successful. It did identify potential issues in the study method and was accepted for publication in an international hydropower journal. The study was also useful because it showed that there are few run-of-river resources outside of legally protected areas. This result reaffirms the programs decision to focus on “in-conduit” resources where owners have existing water rights.

On the geothermal side, the OIT project was approved at the April Board meeting. The cities of Klamath Falls and Lakeview are also now evaluating potential geothermal projects.

On the solar side, staff has spent a lot of time evaluating utility scale solar projects. One of these projects is on the agenda today.

Betsy has also kicked off two solar working groups: one for municipalities and one for state agencies. Both groups are geared to help the participants develop their projects together, while learning from one another and sharing best practices. So far the groups seem to be working well.

Biopower Program: Thad mentioned that the Board approved the Douglas County landfill gas project. Funding is $1.25 million paid over 5 years. We’ll be taking 85% of the tags from that project.

There is a lot of activity around waste water treatment plants with anaerobic digesters, including expanding capacity for older facilities. There are two projects we are looking at in that vein. There are also treatment facilities in the metro area that are looking at co-digestion using fats, oils, and greases to boost methane production. There is a system in eastern Oregon looking at replacing gas flaring with a sterling engine.

On the agricultural side of the business, manure and processing wastes, there are two trends. There is a third party that has approached us to do between 5-8 dairies that would use digesters to process manure and generate electricity. A couple of the projects are outside of PGE and PAC territories so there is some coordination going on with that. There is impact in doing more than one site at a time. The other trend is looking at using manure and other feed stocks for co-digestion. With a small increase in capital costs you can increase the methane output by 4-5 times.

Carel asked what the other products would be for digestion.

Thad said the manure is a good base product. The rest is driven by what is available locally. Annual rye grass is an example. It might be used instead of burned in the fields. Other dairy related wastes can also be used to add fats to a process. The goal is to get a ratio of 30:1

carbon to nitrogen. With manure you only get to about 17:1. Food waste is another potential waste stream.

As part of that idea we have funded six feasibility studies to look at co-digestion. Three have completed so far and one appears to be moving forward with a project. Thad has a fair degree of confidence that some others will also move ahead.

In the woody biomass arena, last fall we engaged a consultant to talk to 38 wood products manufacturers that have some potential and/or interest in using woody biomass to generate heat and power. We came up with 8-10 facilities that might be feasible and we are considering more detailed feasibility studies at those sites. Those are in the 10-20 MW range.

There is also a lot of interest in the gasification of municipal solid waste. There is discussion of how that fits into the renewable resource stream.

Thor asked if it is co-digestion, or co-combustion. Thad said he was talking about digestion, but you have to treat the materials so the particles are small enough for digestion.

Wind Program: Erin noted that a study was done earlier this year overlaying wind maps with tax lots in five counties to identify property owners with enough wind and land to potentially install a system. We used that list to invite people to a workshop at the Better Living Show in March. The people who showed up were essentially pre-qualified for systems.

We sent out ~2,500 invites and capped the workshop at 150 reservations. More than 10% of the list responded to the invitation. We think this indicates very strong interest in the program.

There have been two systems installed so far this year and four applications have come in the door. Some of those systems are also applying for USDA REAP Grants. There has also been a lot of interest from contractors interested in getting into the business.

On the community wind side three projects have expressed interest. Two have applied and are under review, a 1MW and a 10MW project. We are negotiating with the 10MW project.

With financing drying up for larger projects this seems to be driving people towards community scale projects.

The Confederated Tribes of the Umatilla are seeking an anemometer; they'll get one this summer.

Sandra asked how many anemometers there are. Erin said there are 8 tall towers and several other short towers.

Bill asked if anyone has done a technology review of turbines. He says they've seen a lot of projects not perform.

Erin replied that there is a list of eligible turbines for projects less than 100kW. We will be installing anemometers with turbines so we can field verify performance. We require field production from manufacturers from sites known to have >12mph wind.

Carel noted the industry has been working for a decade to develop standards. Those are just about done at the national level. It may be in place later this year. At the state level we have an issue with the electrical board because the machines are not certified by a national institution.

Bill asked if the technical reviews are available online. Erin said no.

Peter said that Wisconsin, New York, and California all have lists of qualified turbines. Those were narrowed down to turbines that fit with the NW's wind regime.

Carel asked about urban turbines. Erin said that if Energy Trust were to fund a rooftop installation in downtown Portland, it would not come through the standard program. They are completely different machines. We would probably pay on production over time to minimize risk. At this time we don't have a project we are comfortable with.

3. enXco 3MW Solar Proposal

Jed presented a proposal for a 3MW utility scale solar project.

In April of 2008, PGE issued a competitive RFP for renewable energy resources to help comply with the Oregon Renewable Portfolio Standard and diversify its mix of renewable resources.

PGE reviewed the bids and in August of 2008 forwarded to Energy Trust an initial short list, including four utility-scale solar proposals. Energy Trust and PGE narrowed the list to two least-cost options. The bids were updated after the 2008 financial sector collapse.

PGE and Energy Trust reviewed the revised bids, and both identified the enXco proposal as the top pick. Energy Trust's analysis indicated that the project would produce the most energy at the least incentive cost per watt.

This project would install 3 MW of ground-mounted solar panels.

Energy Trust determined an incentive based on the project's above-market cost: the difference between the cost of power from the project over its life and the market value of equivalent power. The analysis included tax credits and other benefits available to the project. Above-market costs are calculated as a net present value: the sum of the discounted value of the project's installation costs and lifetime operating expenses.

Staff reviewed the project design and costs and found them to be reasonable for a project of this size, type and design. The project's per-kilowatt up-front costs are less than typical, net-metered solar installations funded by Energy Trust. However, this project will pay property taxes and other expenses typically avoided by net-metered solar projects. The net result is an above market cost that is somewhat higher than the largest, standard, net-metered project Energy Trust funds.

The above-market cost, on a net-present value basis, is $3,945,467 over 25 years, including installation and operating costs and assuming state and federal tax benefits.

Staff proposes an incentive capped at $3,450,000, equating to the minimum standard offer in the PV program of $1.15 per watt for a stand-alone net-metered project.

Although there are occasionally projects at $0.80/watt, these are not the norm due to market conditions, higher financing costs and tighter restrictions on BETC funds.

Staff proposes to pay the entire $3,450,000 upon project commissioning. If for some reason a smaller project ends up being installed the incentive would be proportionately decreased. Installed capacity is the prime determinant of output for PV projects.

enXco would be required to repay a portion of the incentive if installed capacity and production ability is not maintained. Risk is directly related to operating capacity.

The project's power would be sold to PGE under a long-term power-purchase agreement. Market rates for the project's power reflect the value of peak-period delivery of the power and are in line with PGE's updated IRP forecasts.

Energy Trust's incentive is 87.4% of the full above market costs. PGE's RFP required respondents to provide 100% of a project's green tags (environmental attributes of renewable energy that can be used to meet renewable portfolio standards and/or sold apart from the underlying energy). enXco has agreed to PGE's requirement.

All the green tags will go to PGE for the benefit of PGE's ratepayers to comply with the RPS or as otherwise directed by the OPUC.

Funds to support the project are within the 2009 budget for Open Solicitation Program. This program had originally anticipated a project from the PGE RFP in 2008 and that expectation was carried forward to the 2009 budget.

Carel asked how many acres the project will take and where it is located.

Jon Miller responded that it is 12 acres per 1.5MW, so 24 acres total. He did not wish to divulge the project's location publically other than it is in the southern part of PGE's service territory.

Peter noted that when the project goes to the board we will have to tell them where it is, and the board meeting is a public meeting.

John Reynolds asked what will grow underneath the panels. Jon Miller responded that they will plant native ground cover with low maintenance that grows only 6-8 inches high. The area will be completely fenced. It will look like the PGE site on 205/I-5 interchange.

Carel asked if the project was using tracking.

Jon responded that the panels are stationary with tilt optimization for peak-power production in late afternoon. The thin film panels produce at a higher level than many others being installed. Information is available about that higher production. It is 10% higher than crystalline models.

Joe Eberhardt noted that the panels are optimized for power production during peak periods for economic reasons, not necessarily the highest possible kWh production.

Carel asked if the PPA was a standard rate or a negotiated rate.

Joe replied that it is a negotiated contract.

Carel asked if the prices will be public.

Jon said that they will not reveal the PPA rate.

Joe said that is confidential information.

Peter noted that Energy Trust checked the negotiated prices for consistency with IRP rates, and they are consistent with that.

Bill Eddie asked if the money comes from Open Solicitation will it drain the budget.

Jed replied that it will not drain the PGE budget, but it will use up a significant portion of it.

Peter said that by this point in the year most all large projects will have come in the door. We will likely see only small proposals from this point forward. There is budget left for those small proposals.

Carel asked how this project compares with the large solar demonstration PacifiCorp is considering. He said it is fascinating to see that we may have two large projects after thinking they couldn't go.

Peter noted that PacifiCorp has not come to Energy Trust with a specific, defined proposal. They have contacted us and we have sent them the data we need to evaluate a project. We might bring something to the next RAC and shoot for the July Board Meeting, depending on what Pacific proposes and when.

Thor asked if PacifiCorp has a list of projects.

Peter said he doesn't know but his assumption is that it's one specific project.

Sandra noted that at the last RAC PacifiCorp said they had 3 projects submitted under their RFP.

Carel said he remembered thinking the projects were on the east side of the Cascades.

Bill asked if the panels for this project are thin film and what company is providing them.

Sandra asked if they model the degradation on the panels.

Jon said the panels are thin film, made by First Solar. They do model the degradation and those numbers are embedded in the project's financials. enXco has installed about 12 -15MW of these panels so far. They feel they have a good idea of what they produce. They have installations in France, California, and New Jersey and just broke ground in Ottawa.

Carel asked why they are not using tracking.

Jon said the panels look like architectural grade but they are glass on glass so it is hard to track with them. He noted it is not as important, since they are thin film they are not as directionally constrained.

Carel asked about the panel's efficiency.

Jon said it is around 10%.

Jon noted that taxes on the system are a big deal and should be of note to other RAC members. In 2016 property tax exemptions will disappear for net metered systems. It makes a huge impact.

Peter noted that the sense of the group is very positive and asked if anyone disagreed. For the record, he noted the RAC supports this project. Staff will go with this to the Board during the strategic planning session. If the Board approves we will sign a contract. Then the project goes to PGE's Board in August for their approval. If that happens we'll see it come online by the end of the year.

4. Legislative Update

Suzanne noted two other bills moving through the legislature.

HB2472 deals with the BETC. It would drop the BETC from $20 million to $15 million for projects greater than 20MW.

HB2940 allows for pre-1995 biomass to be included in the RPS. If included one year's worth of generation from these projects would be equivalent to 60% of the first compliance target in 2011. RNP is concerned that this will dilute the RPS.

5. Public Comment

Carel noted that he is concerned about the combination of BETC, ITC, USDA, and Energy Trust grants that makes it look like a wind project is getting more than its costs. Carel is concerned this will make BETC look bad. ODOE dos not look at the stream of BETC payments as a net present value, only as an undiscounted total. While we are not paying more than costs on the basis of the net present values, we could be paying more as a nominal total. The circumstance is rare, but needs to be watched. ETO and ODOE staff agreed to look at incentive design to identify what could be done to avoid the issue.

Peter noted that Ed Kennel will join the RAC as a new member.

6. Adjournment

Peter adjourned the meeting at 11:00 am.