EnergyTrust of Oregon, Inc.

RENEWABLE RESOURCE ADVISORY COUNCIL
Notes from meeting on January 23, 2008

Attending from the Council:
Thor Hinckley, PGE
Robert Grott, Northwest Environmental Business Council
Lori Koho, OPUC
Frank Vingola, UOSRML
Jeff King, NWPCC
Jon Miller, OSEIA
Suzanne Leta Liou, RNP
Doug Boleyn, Cascade Solar Consulting

Attending from the Trust:
Lizzie Giles
Peter West
Kacia Brockman
Pete Catching
Betsy Kauffman
Adam Serchuk
Brian Thornton
Pati Presnail
John Volkman

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

Others attending:
Dave Tooze, City of Portland
Steve Johnson, Central Oregon Irrigation District
Rob Delmar, ODOE
Bruce Barney, PGE
Joe Esmonde, IBEW #48

1. Welcome and Introductions

Peter convened the meeting at 9:40 am. The November notes were adopted without change. Peter introduced new RAC members Suzanne Leta Liou from RNP and Robert Grott from the Northwest Environmental Business Council. Troy Gagliano will likely return to the RAC representing EnXco, his new employer.

Jon Miller announced he will be leaving his position as executive director of OSEIA at the end of the month for a new position at EnXco.

Thor Hinckley announced that PGE is looking at solar as a business opportunity and considering how best to promote solar more than they historically have. They are at the beginning of this process, but the RAC can expect to hear more as plans develop.

2. Open Solicitation Project: Central Irrigation District

Betsy presented the Central Oregon Irrigation District (COID) project proposal to build and operate a 3.27 MW hydro project in Bend, Oregon. The project is expected to be on line in 2010. A project summary is available on the Energy Trust web site for RAC meetings.

Central Oregon Irrigation District's Pilot Butte Canal is an open canal runs for 22 miles from Bend north to the Terrebonne area. As part of this project, COID is piping approximately 2.25 miles of the canal. COID is proposing to install a 3.27 megawatt (MW) hydroelectric project at the terminus of the pipe seven miles north of Bend.

The project, scheduled for completion in April of 2010, is expected to generate 13,435 megawatt hours (MWh) of electricity per year, which will be sold to Pacific Power under a standard QF contract.

The project site is owned by the Oregon Parks Department, but the department has agreed to sell the site to COID. The project will run for 180 days during the irrigation season from mid-April to mid-October.

The total project cost is $22,305,593. Because the piping portion of the project carries watershed benefits beyond the ability to generate hydropower, COID has $7 million in grants either pending or secured in support of the project from sources including the city of Bend and the Oregon Watershed Enhancement Board.

Energy Trust's incentive of $1,000,000 will cover 73.8% of the above-market costs of the project. The incentive will be paid upon project commissioning. Energy Trust will take title to the first 75% of the tags for the project over 20 years.

Alan Meyer asked what the incremental cost was of adding the generation facility to the system. Steve replied that is was approximately $8 million of the $22 million cost. However, without the pipe, there would be no hydro. Betsy added that some of the best opportunities for hydro power are at existing diversions for irrigation projects. It is also another example of a way to do hydro in a fish-friendly fashion that carries a great deal of community benefit.

John asked when the project will operate, and if the flow is constant during the irrigation season. Steve that operation is April to October, the standard irrigation season. There is some ebb and flow with the river, but basically it is constant throughout the day. Frank asked if the green tags were being sold to the benefit of the project. Steve said that they are, to minimal gain, and are incorporated into the financials.

Steve said that there will be future opportunities for expanding upstream, where more head could be captured, and downstream, as additional piping is added. This location was chosen because of elevation and the distance of pipe needed to capture the drop. Rob asked what the flow was, and Steve replied 325 cfs over 107 feet of drop. Jeff asked if the draw was constant through the irrigation season, and Steve replied that it was.

Suzanne asked what other, similar hydro opportunities are on the horizon for Energy Trust. Betsy replied that there is a possibility with the Talent Irrigation District, as well as expansion at COID. Municipal hydro, within water systems, is also an opportunity for the future. The State of Oregon also received an application from Southern Oregon for an irrigation project.

Thor asked if there is a way to monetize the water savings to the benefit of the project. Steve said that there is, and that is part of the $7,000,000 in grants.

Frank asked why the project needed to receive funding from Energy Trust. If 25% of the Energy Trust incentive was equivalent to 25% of the green tags, then they could use 100% of the tags to fund 100% of the costs. Peter responded that Energy Trust's funding is more than the real market value of the tags and provides value to the project as capital up front.

Dave asked Steve if there are any issues with adjacent landowners. Steve said that the City of Bend owns the land, and there is no existing development. They are not anticipating any conflict, and they have authority with their right of way.

All RAC members said they were in favor of funding the project. The next steps will be to go to the board with the recommendation on February 13th.

3. Green Tag Referent Prices

Peter summarized research that attempted to define and forecast a set of prices for renewable energy credits (green tags). The final report done by Think Energy is available on the Energy Trust web site for RAC meetings. The purpose of this analysis was to define prices for Renewable Energy Credits (REC) by technologies Energy Trust would fund. Energy Trust wanted to know this for compliance markets, as opposed to voluntary markets, over the near and long terms.

The motivation for this analysis was to provide market-based referent prices for a measure of market clarity. The programs need to understand more to be able to flex quickly in a rapidly changing set of possibilities. Staff wanted to determine if a systematic approach to updating these prices could be developed, reducing some of the contentiousness around this issue. And, ultimately, staff could incorporate this knowledge as part of the revised green-tag policy.

Staff needs to be able to compare Energy Trust's offers to firm market prices to ensure competitiveness and provide clarity to reduce contention with project owners. This will also allow Energy Trust to adjust a project offer or share of owned tags to meet market prices and provide an upside.

The result of the survey was regionally and nationally inconclusive. They had a generally poor response rate due to confidentiality concerns and the fact that we were asking an impossible question. Currently, this is a short-term market with no long term. Additionally, there is limited regional and national experience in compliance markets.

Despite being unable to answer the question about the long-term value of tags, Think did acquire a limited set of prices from the few respondents, which secondary information confirms these set of prices, including a national expert, leading broker (confidential), and PGE.

The impact of an RPS on REC prices is unknown. The regional market lacks experience and settled rules and national comparison is limited, at best, and more likely meaningless because the rules for RPS in other states highly varied. In response, banks discount the price of green tags three years out because the rules are so volatile. The experiences are shallow, in-state delivery requirements push up prices, and it is an untested end-game.

The study's conclusions provided a range of credible near term prices, from $2.50 to 5.00/MWh for <20 MW projects. However, they found that you can't forecast long term prices because the markets are new and volatile, particularly in the Northwest.

The upward price pressure will be modest, and near-term compliance in Oregon and Washington is easy. PGE is over 4% to its 5% requirement by 2015. PaicficCorp is at 3.8%. The demand for RECs without power delivery is limited (to 20%), and the geographic scope is large (WEC). The ability to bank RECs makes it easier and smoother for meeting the 2015 goal.

California is a wild card for the Pacific Northwest, and it all depends on allowing RECs independent of generation. Currently, you must deliver power and, within the year, deliver an associated REC. The future may see allowances for delivering RECs without power.

For staff, this all means increases somewhat greater than inflation rate. Prices will not solidify until the market becomes more experienced so projects know what to expect, with the California rule in particular being settled.

The next steps will be to work with the utilities to regularly update prices, and try not to overreact to California and do more research on their current offers. There is $20 to $25/MWh premium for power delivered with REC, but what is the net after transmission, scheduling and losses?

We will need to start with a new Energy Trust discount rate (5.2%) as an increase. A $5 REC in 2008 would be worth $11.83 in 2025, and quoted prices for 2010 have annual increases of 4.7% – 7.7%. The market appears to have a speculative component and the reality of actual demand by utilities not well known. We will need to use bi-lateral negotiation to help inform and adjust.

Energy Trust must engage other venders for price quotes. As a last resort, Energy Trust would use the buy/sell market if utilities are precluded by confidentiality issues.

Alan said that this market is completely arbitrary, subject to legislation, and it would be impossible to look long term. Using the price per tag on a project provides a frame of reference that is useful. It is difficult to apply the

Frank said that the premise that Energy Trust should be determining what is pays on the REC value should be questioned. As the REC market emerges, Energy Trust shouldn't put itself in the place of competing for the projects, it should be seeking for projects that need the upfront funding or the power outstrips the value of the tags.

Peter replied that it is the nature of the dual objectives of the renewables programs (making renewable projects happen and acquiring RECs for the benefit of the ratepayer) to muddle this issue.

Jon said that he believes that Energy Trust should compare its contributions to the market rate as a reality check.

Suzanne said that banking in the RPS means that, unless there is significant change in California, there will be no real activity until 2015.

Robert said that there is no need to compete in the market on price alone. It is the value of Energy Trust's package (money up front, brokering services, etc.) that should be compared. The value of the tag for a small project that demands the kinds of services the Trust provides will be much less than the market standard.

Thor said that PGE has had a lot of opportunity to watch the tag activity in the last six years they have been in the market. This report seems very solid. There is increased volatility, but it appears to be in an upward trend, and the discount rate seems to take that into consideration. Over the next seven years, northwestern RPS will play a significant role in driving the price.

Frank said that Energy Trust has limited itself to above-market cost, but if it opened the door to at-market projects, there would be a lot more opportunity. Energy Trust needs to keep thinking

about the real end goal. Peter replied that the dual goals are contradictory, and they always have been.

Alan said that carbon credits will also be another topic to discuss. With Oregon legislation possible that is much more restrictive than the green energy policy, then projects will have to evaluate and decide whether to sell the carbon credits or green tags.

Suzanne agreed with Alan, and said that the volatility of solar RECs should also be explored. Peter said that Think Energy didn't specifically focus on solar. If you are in a compliance market that does not have a carve-out for solar, this isn't as much of an issue.

Jeff said that he believes Energy Trust is in the right place for the short to mid-term. In the long term, particularly if we get serious about climate change, this will change.

4. Opal Creek Hydro-Solar Project

Bruce Barney of PGE reviewed the recent work he led to develop a renewable energy system for the Opal Creek educational and retreat center that provides all electrical needs.

Opal Creek is an off-grid site that was an old mining community. It has a non-profit educational center featuring the old growth forest. The site was powered by a 20kW water turbine and a propane fired generator that kicked in low-flow times in the summer. The site has propane for water heating, which was not addressed by their project.

The project was conceived jointly with Opal Creek and several other entities around the redevelopment of an old commissary. PGE said that they could contribute funds from the Clean Wind Development Fund to get a smaller hydro system (900 watts) that would take advantage of lower stream flows and a 4 kW PV system up and running.

The goal was to have no fossil fuel use for electricity year round, and have extra power in the summer to power electric vehicles. So far, they have achieved the first goal and are nearly to the point of attaining the second.

5. Public Comment

Suzanne asked what PGE's ability is to fund projects like this, and if Pacific Power has something similar. Thor said that they do have appetite for projects from this fund.

Peter adjourned the meeting at 11:35am.