RENEWABLE ENERGY ADVISORY COUNCIL
Notes from meeting on July 25, 2012

Attending from the council:
Thor Hinckley, PGE
Glenn Montgomery, OSEIA
Vijay Satyal, Oregon Department of Energy
Dick Wanderscheid, Bonneville Environmental Foundation
Tashiana Wangler, Pacific Power
Robert Grott, NEBC
Frank Vignola, OSU
John Reynolds, Board Member
Jason Busch, OWET
Suzanne Leta Liou – RES Americas
Juliet Johnson, OPUC

Attending from Energy Trust:
Kacia Brockman
Chris Dearth
Sue Fletcher
Pete Gibson
Betsy Kauffman
Peter West
John Volkman
Jed Jorgensen
Devonta Jackson
Margie Harris
Tara Crookshank

Others attending:
Bruce Griswold, Pacific Power
Nicole Demond, member of public
Alisa Davison, Pacific Power
Erik Anderson, Pacific Power

1. Welcome and introductions

Betsy Kauffman called the meeting to order at 10:30 a.m. No adjustments to the notes were suggested. The notes were approved.

Thad has been promoted to Renewable Sector Lead. This is a new position and will provide a single point of contact within the renewables group.

Robert: Will Thad still have a portfolio?
Betsy: No, he will not be managing biopower. We will likely be filling two positions in renewables, one to backfill for Thad and one to replace Doug Boleyn's position.

Frank announced the release of his book *Solar and Infrared Radiation Measurements*. The book came out June 28 and Energy Trust is acknowledged in the book. He is also working on a contract with NREL for PV testing with high quality data that will start at Florida Energy Center and then move to University of Oregon.

The Harvesting Clean Energy conference will be in late January 2013 in Corvallis and will be focused on renewable energy and energy efficiency in rural areas. Several RAC members are on the steering committee.

At 11:45 there will be a joint session of RAC and CAC, at which Margi Hoffman from the Governor's Office will discuss the Governor's 10-year energy plan.

2. Blackcap 2 MW Solar

Kacia presented on this topic. Energy Trust proposes to offer a $600,000 incentive for a 2 MW (AC) solar electric project in Lakeview. It will be owned after 10 years by Pacific Power and help

Pacific Power meet its state renewable mandate. The project was among several proposals submitted in response to a Pacific Power competitive RFP. The top proposal did not get a Business Energy Tax Credit, making this one more competitive. The land will be owned by Pacific Power. The project is being developed by Obsidian Finance Group and then sold to an investor. Pacific Power will lease the equipment from that investor and maintain the system for a minimum of 10 years. It will be a ground-mounted solar photovoltaic installation with single axis trackers.

Pacific Power approached Energy Trust and asked for funding for this project. Initially Energy Trust did not have funding available. In addition, as Energy Trust has a constrained 2012 budget in Pacific Power territory, solar incentives have been scaled back and a competitive process instituted for non-solar technologies. In the second quarter two large custom projects were canceled, restoring some Pacific Power funds and allowing Energy Trust to consider funding this project. Energy Trust evaluated the project, looked at above-market cost, project financials, and determined which projects would not be funded if this one were to be approved. Energy Trust staff determined that a $600,000 incentive would allow the project to proceed while also permitting a competitive RFP process to move forward this fall with sufficient funding.

All of the renewable energy credits will be owned by Pacific Power and will count two-to-one toward Pacific Power's renewable energy standard mandate. The project has a 50 percent Business Energy Tax Credit precertification and will use a pass-through partner.

The project was evaluated with a 25-year life. The original request was for a $4.5 million incentive. Energy Trust staff trimmed capital costs and applied a higher value to the revenue than Pacific Power did. The financial summary was provided in the council review document.

Energy Trust favors the project, the first large-scale solar electric project to be owned by Pacific Power, in part because it will help Pacific Power meet its mandate to install 8.7 MW AC of solar electric capacity by 2020. Energy Trust support for projects like this one helps Pacific Power accelerate compliance with that mandate.

Energy Trust considers the decision to support the Blackcap project to be an exception to its standard process. Typically Energy Trust is involved early in a project development cycle, and projects under utility master agreements are discussed as part of Energy Trust's budget cycle.

John: Is this is a visible location?
Bruce: It is in Lakeview within the city boundaries near buildings. The site is zoned for agriculture use. It is a good location.

Frank: How does it match the load in the Lakeview area?
Bruce: The panels are mounted on single access trackers. It will generate during peak hours, so it will track the residential and commercial load in the area. It is going into Pacific Power's general distribution and will be moved elsewhere if not used there. We will be tracking that data and want to get some operating and monitoring experience.

Juliet: Has rate recovery has been requested?
Bruce: The project was part of the recent general rate case. The full cost was included in the rate case. Pacific Power's regulatory folks are working on this issue so that it will not double count. The portion of the costs covered by the incentive will need to be removed.

Juliet: How will we know how that is going to happen?
Bruce: They are aware of this issue and are working on it.

Peter: There is a standard way of addressing this. Any payment that Energy Trust makes lowers the amount allowed in rate recovery. Energy Trust took this approach with past wind and PGE projects. Pacific Power needed to file its rate case first but acknowledged this in the process.

Juliet: The filing included the full amount.
Peter: Pacific Power didn't know the full amount of Energy Trust's incentive at the time of filing but it will be adjusted.

Juliet: I want to make sure that it will true-up.

Juliet: Is it typical with this type of project that Energy Trust wouldn't get the renewable energy credits?
Kacia: Yes, this is how Energy Trust approaches renewable energy credits, RECs, in the case of projects in which a utility has an interest. This is equivalent to Energy Trust obtaining the RECs and turning them over to the utility. They are registered and count toward the renewable energy standard.

Bruce: Pacific Power retires them for the benefit of the Oregon ratepayers.

Suzanne: You said this process is not ideal because Energy Trust would like to have been involved earlier. What would have been the difference if Energy Trust would have been involved earlier?
Kacia: Energy Trust didn't have the money available when we were approached. Conversations were taking place and it was awkward for us to get involved until resources were available. Likely nothing would have been different in terms of the project.

Vijay: Can you describe the sale/lease-back ownership and end-of-year-10 buy back?

Bruce: Pacific Power will own the land. The equipment will be owned by the bank. The bank can take advantages of tax benefits that Pacific Power cannot. The lease company, the bank, will take advantage of those benefits and compensate us for them.

John: What will be done with the money that was released through project cancelations and delays that won't go to this project?
Kacia: We are going to run another competitive process this fall for non-solar projects. This incentive would leave sufficient funding for that process.

Dick: You said that if you had known about this project sooner it could have been part of the budget process. Do the master agreements get priority in the budget process?
Kacia: Not necessarily, but having the opportunity to consider them during the budget process allows Energy Trust to develop priorities among all competing projects.

Juliet: Did previous projects, such as Christmas Valley, come in under a master agreement?
Kacia: Christmas Valley was brought in through the master agreement with PGE. Although it was approved in December, funding had been approved in the 2012 budget for large-scale solar in PGE territory.

Peter: Master agreements came about as a request from the OPUC nine years ago. The OPUC wanted Energy Trust to consider those master agreements in coordination with the other project plans, so that money could be set aside for projects like these. OPUC used this approach to

drive more utility investment in renewable energy before the renewable energy standard was established.

Tashiana: This project was a good learning experience for Pacific Power and will guide our approach to future project development, which will include bringing projects to Energy Trust earlier in the process.

Robert: When will the system go on line?
Bruce: October.

Robert: Are the panels Chinese?
Bruce: The system uses PV Powered inverters. The panels are Yingli. The substation will be completed September 10. It will be tested in October.

Robert: What is Energy Trust's preferred process for approval?
Kacia: Energy Trust prefers approving funding before equipment is purchased so it is clear Energy Trust is influencing the process.

Dick: It appears this project was going to happen with or without Energy Trust.

Juliet: Yes it will be approved in the rates. It seems odd to me to be approving this incentive now.

Tashiana: This project gets 200 percent of the output through renewable energy credits. This seems to be a customer benefit.

Juliet: It doesn't appear that Energy Trust dollars are having an impact on the project. They are just another source of funding for the project. The reduction will happen either through rate recovery or through a direct incentive. What's the benefit of doing it this way?

Peter: From Energy Trust's perspective, the proposed incentive will reduce necessary rate recovery by $600,000. There is an additional $2.8 million available for projects selected through the next RFP process. Legislation clarified that Energy Trust can fund projects that have a renewable energy standard benefit. Energy Trust enters into this project in the spirit of that legislation.

John: The OPUC also gives Energy Trust benchmarks to meet and this project helps meet them.

Juliet: Not this year, as OPUC did not establish an Energy Trust performance measure for renewable energy for 2012. But it would assist in the future. I hear what you are saying and it makes good sense.

Peter: If the project had come in another way, Energy Trust would have funded it. Even though Energy Trust is coming on board a little late in the process, it is a good project, follows the precedent that we have with Pacific Power and other utilities, and the achieves the spirit of the enabling legislation.

Juliet: It sounds like the precedent is a PGE example. PGE had above-market cost, the project was evaluated and Energy Trust provided an incentive. Other projects in the past have supported the renewable energy standard. Ratepayers are paying one way or another, either through Energy Trust or through rates.

Peter: Energy Trust is accelerating the utilities' involvement. Utilities don't have to meet the standard until 2020. Energy Trust's action aids early compliance. This was the case for wind projects and is true for this solar project as well.

Bruce: Pacific Power looked at this really hard, recognizing that compliance with the standard is not required until 2020. Panel prices were coming down; they dropped twice during negotiations. The decision to get the Business Energy Tax Credit in 2012 was what pushed the project forward. We didn't execute until after our first request to Energy Trust.

Juliet: To whom does the incentive go? In the rate case how was the capital cost put forward?

Bruce: Pacific Power will pay for the land. The bank will pay the developer. The utility will lease the equipment from the bank, be responsible for operations and maintenance, and operate the system. The $600,000 incentive will be used to reduce the capital cost.

Vijay: What is the total Business Energy Tax Credit package from the pass-through and the tax benefits?
Kacia: $2.8 million is the pass through value.

Vijay: This action supports state policy. It would be helpful to know if future projects like this come up and how they will impact available resources for other projects.

Kacia: If Energy Trust knows in advance, then we can consider a given proposal with all others. It was the coincidental cancellation of the other projects that made this project possible. Initially it didn't appear that Energy Trust would be able to support this project but the funding became available, supporting this project helps Pacific Power's interests and Energy Trust gets the money out the door.

Juliet: I am not comfortable. If the project goes forward I want to make sure the rate recovery piece is worked out.

Dick: I wasn't comfortable but am more so now. I trust the staff to look at the pipeline. For the future it would be nice if the master agreements were plugged in early. I applaud Pacific Power for stepping up and supporting this project.

Suzanne: Are there other projects like this? Do we know that Energy Trust incentives were needed?

Kacia: Renewable projects are difficult to move forward because of the above-market cost. Energy Trust's incentive is generally needed to reduce that barrier.

Peter: There could be some projects through commercial solar where Energy Trust has the opportunity to make those projects better through its involvement.
It may be time to discuss above-market cost again.

John: What is the tilt angle?
Bruce: It is horizontal, flat.

John: There is winter sun in Lakeview.

Frank: It won't get as much as the summer but it will get sun in the winter.

Glenn: Is there a pass-through partner?
Bruce: The bank has the pass-through partner.

Suzanne: Was that a challenge, to line up a pass through partner?
Bruce: Pacific Power utilized some folks to give us contacts and turned those over to the bank, which found an entity with a 2012 tax appetite. That partner signed on at the end of April.

Kacia asked for a show of hands in support of this project. All council members were in support, except Juliet, who abstained, and John Reynolds, who said he is not a voting member of the council.

Kacia acknowledged that there is work to be done on rate recovery matters between now and the August 22 board meeting, when this recommendation will be considered.

The board will be informed about this discussion during presentations at the meeting and through these notes.

Juliet: I will take this back and others at the OPUC might be more comfortable than I am today. I may become more comfortable after further consideration.

Pacific Power said that it will provide rate recovery information to Juliet.

Margie: I want to reinforce the importance of early notification and engagement. The timing, in part, resulted in this lengthy discussion today.

Betsy: When the council schedule is planned for the year it dovetails with the board schedule so that we can bring these topics forward and meet deadlines.

3. Public comment
No public comment.

4. Meeting adjournment
Betsy thanked council members for their participation and adjourned the meeting at 11:27 a.m. The next full council meeting is September 12, 2012.

RAC Review
Funding for Pacific Power Black Cap 2MW solar PV project
July 25, 2012

Summary
Staff proposes to offer $600,000 toward the above-market cost of a 2MW_{AC} (2.56 MW_{DC}) ground-mounted solar photovoltaic facility in Lakeview, developed by Obsidian Finance Group for Pacific Power.

Background

- This 2 MW_{AC} project will help Pacific Power meet its mandate to install 8.7 MW_{AC} of photovoltaic capacity by 2020, as required by the solar capacity standard established in 2010 by Oregon House Bill 3039.

- The project was selected by Pacific Power through a competitive RFP that began in November 2010. PacifiCorp began contract negotiations with the project developer and secured a financial investor in 2011. Those contracts were finalized in Q1 2012, and Pacific Power requested rate recovery for this project from the PUC in Q2 2012.The project is currently under construction and scheduled for commercial operation in October 2012.
- Pacific Power approached Energy Trust requesting funding this project January 2012, after a financial incentive was approved for a similar large solar project that will deliver power to PGE and count toward PGE's solar capacity mandate.
- The Master Funding Agreement allows Energy Trust to accept such a request.
- The Master Agreement process calls for funding requests to be submitted by October of the year preceding funding. As such, Energy Trust's 2012 budget did not include opportunities for large scale solar in Pacific Power territory. In fact, due to budget constraints in Pacific Power territory, Energy Trust's 2012 strategy includes significant reductions to the standard residential/commercial solar incentives and a new, competitive process for non-solar projects.
- In Q2 2012, additional funding became available in Pacific Power territory when two previously dedicated non-solar projects (one hydro, one biopower) were canceled or postponed. This provides an opportunity for Energy Trust to fund Pacific Power's solar project in 2012.

Project description

- The project will consist of crystalline PV modules totaling 2.558 MW_{DC} of nameplate capacity installed on single axis trackers near Lakeview, Oregon. It is expected to generate 4,984 MWh (0.57 aMW) in its first full year of operation.
- The project is being developed by Obsidian Finance Group, and will be acquired by Pacific Power, which will be the long term owner/operator. The project interconnects directly with Pacific Power's system, so there is no transmission or Power Purchase Agreement.
- 100% of the RECs will be owned and registered by Pacific Power, and will count two-to-one toward Pacific Power's renewable energy standard mandate.
- The project has a coveted 50% Business Energy Tax Credit precertification, and will use a pass-through partner.
- Pacific Power will own the property and utilize a sale-leaseback ownership arrangement with a bank for the equipment. The bank will provide the capital and claim the federal investment tax credit, the BETC pass through value and the 50% bonus and 5-yr accelerated depreciation. Those credits and benefits are passed back to Pacific Power through a reduced lease rate. Pacific Power will make lease payments to the bank for 15 years, with a buyout option in year 10. Pacific Power will pay ongoing operational costs throughout the life.
- The project was evaluated with a 25 year life.

Project Financial Summary - NPV Basis

Project Capacity (MW_{AC})	2.00
Annual Output (MWh)	4,984

	Evaluated Resource Life (Years)		25
NPV Revenues			
	Power and energy value	$	5,259,146
	BETC pass through	$	2,881,005
	Tax benefits	$	3,387,134
	Total NPV revenues	$	11,527,285
NPV Costs			
	Capitalized construction cost	$	9,920,517
	Operations expense	$	952,376
	Maintenance Expense	$	182,066
	Property tax	$	974,948
	Transmission Expense	$	-
	State and federal taxes	$	114,640
	Total NPV Cost	$	12,144,548
Net Above Market Cost		$	(617,263)
Net Above Market Cost After Tax Adjustment		$	(1,001,335)

Discussion

- Pacific Power requested a $4,500,000 incentive for this project, which is significantly higher than incentives we have paid for past large solar projects and than the current standard residential/commercial per-watt rates.
- Staff proposes an incentive of $600,000, which is (i) supported by the above market costs calculated by staff for this project, and (ii) an amount that retains sufficient funding ($2.8 million) for a robust competitive process in Q4 2012 to acquire non-solar projects in Pacific Power territory to make up for the lost generation from the canceled hydro and biopower projects.
- This incentive equates to $0.23/watt$_{DC}$, which is 40% of the upcoming residential rate for Pacific Power customers of $0.60/watt$_{DC}$ and less than the incentive rates provided to previous large scale solar projects such as $1.15 per watt for enXco (3 MW, 2009), $1.00 per watt for Baldock (1.75 MW, 2010), and $0.85 per watt for Christmas Valley (5 MW, 2012).
- Energy Trust funding for this project would be considered an exception to our normal funding process. This exception is made possible by the coincident cancelation of other projects. Future utility projects utilizing the Master Funding Agreement will be expected to approach Energy Trust earlier in the project's development and during our budget planning cycle, prior to October 1.
- Funding for this project offers several benefits: 1) it allows Energy Trust to immediately repurpose some of the funds that recently became available, 2) it acquires that generation at a lower cost than all previous solar projects, and 3) it supports Pacific Power in its compliance with the solar mandate.