RENEWABLE RESOURCE ADVISORY COUNCIL
Notes from meeting on January 17, 2007.

Attending from the Council:
Frank Vignola, UOSRML
Thor Hinkley, PGE
Justin Klure, ODOE
*Kyle Davis, Pacific Power**
Doug Boleyn, Cascade Solar Consulting

Attending from the Trust:
Elizabeth Giles
Adam Serchuk
Alan Cowan
Kacia Brockman
Betsy Kauffman
Peter West

Attending from the Board:
John Reynolds, University of Oregon

Others attending:
Lori Koho, OPUC
Mark Hughey, NRCS/USDA
Sandra Walden, Commercial Solar Ventures
Jon Miller, OSEIA
Steven McGrath, Commercial Solar Ventures

**Italicized attendees were present via conference call*

1. Welcome and Introductions

Peter convened the meeting at 10:00 am. The November notes were adopted with no changes.

2. PHC 869 kW Solar Installation

Peter open discussion by identifying Doug Boleyn as the designer/consultant for the PHC project, and Sandra Walden and Steven McGrath of Commercial Solar Ventures as project developers.

Energy Trust has received a proposal for a PV system totaling 869.4 kW at Portland Habilitation Center's new 110,000 ft^2 manufacturing plant, capable of producing 858,500 kWh per year. This system would be the largest solar system in the state of Oregon.

Portland Habilitation Center is a non-profit corporation in Northeast Portland that employs approximately 1,000 people with disabilities. It broke ground on a new 110,000 ft^2 facility last September, the roof of which is scheduled to be completed late this spring. The two facilities will use more power than what will be produced by the proposed PV system.

A Limited Liability Corporation (PHC Solar LLC) is being formed between an outside investor and PHC to finance the PV system. Total installed costs are estimated at $6,610,178, including contingencies and costs to connect both buildings to a single meter.

The investor is contributing 76% of the installation costs and PHC 5.3%. They have approached Energy Trust to make up the remaining 18.7%, or $1,236,750. The project financing is structured along the lines of a standard investment model as used for most wind projects, known as third party ownership, or a flip structure. For the first five years, the investor will be the majority owner, owning 99.9% of the project, absorbing all the tax benefits, paying all costs and receiving all the energy sales revenue attributed to the project. After five years, owner percentages will flip with PHC becoming the majority owner (95%) and the majority investor becoming a minority owner (5%). PHC will then receive 95% of the benefits of the system and absorb an

equal share of any costs. At the time of the flip, PHC will have the option to buy out the investor at 5% of the fair market value of the PV system.

To support this installation, PHC Solar LLC requires up to $1,236,750 through Energy Trust's Open Solicitation Program. The briefing paper included with the RAC materials details the Energy Trust staff's review of the proposal.

Energy Trust is interested in this project because it would be the first project in the PGE or Pacific service territories to use this financing model, which allows not-for-profit agencies to take advantage of the tax benefits. The total installed cost of the PHC project is just over $7 million, but the value of the tax credits and benefits is over $4.6 million. Without this model, the project would not be possible. This project will be 7 to 8 times bigger than the largest project in the Northwest, and would demonstrate the viability of large PV systems in the Portland area. It takes advantage of an industrial-scale roof that is not being utilized.

Energy Trust will pay about 75% of the above-market costs, up to ~$1.2 million, and own all tags for years three through twenty of the project. Energy Trust's payment will be on commissioning and include a $150,000 incentive to PHC as a matching grant to help them raise equity to contribute to the project. To meet our contribution, staff proposes to shift $736,000 from the Utility Scale PGE budget to support this project. Fully funding the project through the OSP for PGE would consume all the funds budgeted for 2007.

The budget for the Utility Scale in 2007 includes $15.9 million in incentives, and staff recommends using $736,000, or 4.6%, for this project. This will not affect any of the master agreements. The remaining $500,000 will come from the Open Solicitation budget for 2007.

Betsy said this opens a whole new sector for pitching solar to those who cannot take advantage of the tax credits. It would serve as a replicable model that can be used to install large PV systems for non-taxable entities, opening the door for municipalities to use PV to meet sustainability goals.

Kacia asked when the system would go online. Sandra replied that the install will begin in May when the roof is prepared. It could run into first quarter of next year.

John asked about the chosen tilt and orientation, which is 14 degrees off horizontal and 17 degrees west of true south. Doug replied that this is the tilt and orientation of the roof, and the system will be mounted to the standing seams. Sandra added that the building was designed with this project in mind by architect Ernie Munch.

Justin asked for more detail on $4.6 million in tax benefits. Peter said it includes a 35% business energy tax credit (BETC), accelerated depreciation at the state and federal level, and a 30% federal investment tax credit. The accelerated depreciation is considered a benefit because it is tax deductible, not a credit. Peter added that if the BETC is raised to 50%, it would bring the project financing to the target return it is looking for. Justin asked if there had been discussion on the pass-through option. Steve replied that the investment partner will be claiming the whole value of the BETC, eliminating the need to use the pass-through option.

Thor said he is happy to see this project moving forward. Given the location and client of the project, he does not feel the re should be a problem with using Utility-scale funds.

Peter said the next steps are to move this to the board meeting Wednesday, February 14th. Once the board approves the up-to funding, Energy Trust will move toward contracting.

3. 42 kW Small Wind Projects

Robert Migliori is owner of VoltAir Wind Electric company and has been developing and testing wind turbines for 23 years. He has successfully operated two prototype wind turbines over the last twenty years at the project site. This prototype program has led to the development of a 42 kW machine, which is now commercial-ready.

Mr. Migliori approached Energy Trust for financial assistance with the installation of the first production run of this 42 kW product. He proposes to install the grid-tied system at his residence north of Newberg, Oregon in PGE service territory. The project site is in the Chehalem Mountains, an area known for some of the best winds in PGE's service territory.

The wind turbine has a rotor diameter of 14 meters and is mounted on a 100 foot galvanized lattice tower with service elevator. The tower was designed and produced locally and has been erected for over ten years. The power controls used to provide necessary start-up, line-syncing and shut-down functions are manufactured by Enerpro.

The turbine is unique for its size in the mid-sized, 50 kW scale. It is ideal for small to mid-sized ranches in the area that require something larger than the 10 kW residential turbines, but desire to net-meter. The project would also help support a new small wind manufacturer in Oregon.

The total installed cost of the project is about $90,000, with an additional $6,000 anticipated in operation and maintenance and taxes. Revenues are anticipated at about $40,000. There are roughly $18,000 in above-market costs, and Energy Trust is proposing to offer a production-bases incentive with a NPV of $14,600. Staff is proposing pay on performance over five years due to risk inherent in a first production run. Energy Trust will claim 100% of green tags, and Migliori will be required to operate the turbine for 15 years.

The system will be operated under a schedule 201, 10 MW and under Qualifying Facility (QF) contract, with an estimated annual production of 50,000 kWh. Migliori has already begun interconnection conversations.

Frank asked how the anticipated generation was determined. Alan said Migliori had an anemometer that collected data for one year. Doug asked if there will be an anemometer next to the turbine, and Alan said that an anemometer will be provided through the Energy Trust's Anemometer Loan Program. Monthly anemometer data collection will be required along with monthly energy production figures during the first year of the project. This will verify Migliori's power curve and estimates of annual energy production. Currently, there is an effort to develop a national certification system to ensure performance and safety.

Doug asked why the project has to be a QF. Alan said there are two meters at the site for the residence and a shop. Loads at the facility are much lower than the output of the machine. This would be an ideal candidate for net metering, if the loads are adequate.

Frank asked what would happen if it under performed. Alan replied that the incentive is being paid on production at just under $.10 per kWh. If it underperforms, the payment will be reduced. However, Energy Trust will still be acquiring green tags for the future. If it produces more, there is a cap for our funding, and he will make more on his QF agreement.

Peter adjourned the meeting at 10:50 am.