

RENEWABLE ENERGY ADVISORY COUNCIL

Notes from meeting on March 16, 2005

Attending from the Council:

Angus Duncan, BEF
Doug Boleyn, Cascade Solar Consulting
Frank Vignola, UO SRML
Jeff King, NPCC
Justin Klure, ODOE
Troy Gagliano, RNP
Thor Hinkley, PGE
John Reynolds
Virinder Singh, PacifiCorp

From the Energy Trust:

Adam Serchuk
Alan Cowan
Kacia Brockman
Maureen Quaid
Mike Laney
Peter West
Sue Meyer Sample
Char Rollier

Others attending:

Jon Miller, OSEIA
Sharon Baggett, Quantec
Sami Khawaja, Quantec
Jim Maloney, EWEB
David Parker, AES
Andrew Koyaanisqatsi, Solar Energy Solution
Joanna Thompson, BEF

Peter West convened the meeting at 9:30 a.m.

1. Introductions

2. Solar Commercial Incentive

Kacia presented the new incentive structure proposal for solar commercial installations. Last year's cap in Pacific Power territory led to smaller systems (the average was about 4.5 kW) being installed. The current incentives are \$2.25/Watt DC with a cap of \$15,000. To encourage installations of larger systems in this sector, the rate structure was modified and the cap raised. The proposed incentive is \$2.00/Watt DC for the first 10 kW and \$1.00/Watt DC for the next 15 kW, with an overall cap of \$35,000. Green tag ownership for participants would be based on system size: for systems up to 10,000 Watts, participants would own the tags for 2 years and then they would revert to the Energy Trust; between 10,000 and 15,000 Watts, tags would be owned for 3 years; above 15,000 Watts, the tags would be owned for 4 years.

Preliminary indications are that trade allies like the new design. Jon Miller of OSEIA supports the new incentives although he would prefer more green tags going to owners. Frank commented on the costs associated with the change and said the smaller systems are being penalized by the proposed green tag tier structure. Peter responded that we need to stay within bounds of above market cost requirements. David Parker said that the industry didn't realize that the old incentive was more than the total above market costs, and felt that smaller systems are penalized. Peter said we could offer \$2.25 without green tags or \$2 with green tags, and David said that green tags would be better financially for smaller systems. He proposed 4-year terms

for green tag ownership. Peter said that brings the total package to more than the total above market costs.

Jon said the simpler the better for the industry and 2 tiers would be better than 3. In general, most of the industry will support the proposal as written. Peter asked for written comments. Jon hasn't heard from OSEIA members that the current proposal is undoable. Angus said that it is not undoable from BEF's perspective. BEF won't be sourcing many tags from PGE/Pacific Power territory anyway. He asked why we have a policy to not incent systems above 25 kW because of net metering limits. Alan responded that larger systems will go through OSP. Capping systems creates a simpler standard offer for net metered systems. Kacia added that the cap means that contractors won't have to deal with interconnection agreements. David said the industry supports this, with the exception of the green tag issue. If we can make the change, we will likely see more systems installed.

SB 784 would allow the OPUC to raise the net metering limit, and Jon said the bill will probably pass, but he wasn't sure what the limit will be. Virinder said Pacific Power would like to see a hard cap, rather than dealing on a system by system basis. Thor said PGE would likely be flexible. Peter said that our offer should be consistent with other standard offers.

3. Solar Program Evaluation

Quantec, a consulting firm under contract to Energy Trust, did a process evaluation of the Solar Electric program. Peter said that staff will prepare a response to the evaluation report for the next board meeting. Sharon Baggett of Quantec presented the results. Study objectives were to get quick feedback on why incentives were selling out and also to study design and delivery issues. The study team did in-depth interviews with key informants, including 17 contractors and 18 others in the industry. The sample population was drawn from Oregon. Non-participants and people who installed before the Energy Trust program was implemented were also interviewed.

Residential participation spiked during the program phase when incentives were highest, although there was not a large drop off when incentives were lowered. For commercial systems, similar results were observed (about 90 percent of installations are residential). Percent of system costs covered by incentives were higher for solar electric systems than for solar water heating or pool heating. Outliers were explained as loss leaders for solar contractors. For commercial systems, incentives covered 21 – 30 percent of costs.

Median system size was 3.0 kW for residential and 4.8 kW for commercial installations. Median incentives for PV were about \$11,000, covering 58 percent of system costs. Lower percentages were reported for solar water heating and pool heating.

Key informant views include that the program has been successful, but more program marketing is needed by the Energy Trust; program requirements have improved system performance; and incentives should remain stable. Last year's instability made contractors' jobs more difficult, although more than half of contractors said the program had increased their sales and led to hiring. Contractors also felt that Energy Trust staff should be more knowledgeable about technologies and about how contractors do business.

Most participants (89%) used contractors to install systems, and most were satisfied with the systems and their performance, the incentives, and their program experience. About half were completely satisfied with the savings on their monthly electric bill.

Sami Khawaja of Quantec described an analytical hierarchy process analysis, which compares pairs of attributes to assess the importance of individual attributes to participants making purchasing decisions. It was used to explain the drivers and barriers for people considering the purchase of a solar system. Results show that one of the biggest drivers was the availability of financial incentives, followed by concern about long term energy bills, and desire to become more energy independent. Environmental benefits and interest in new technologies were not as important. Those who are likely to buy solar later are more concerned with costs and less concerned with environmental benefits than those who bought solar early, before the program was started. Innovators and early adopters tend to purchase for different reasons than those who choose to purchase later in the technology adoption curve.

Barriers include aesthetic/appearance concerns, upfront costs, and uncertainty about performance. Later purchasers are more concerned about upfront costs, and are less concerned about performance uncertainty, finding an experienced contractor, and lack of adequate information. Implications are that buyers will become more interested over time in incentives, and later buyers' views argue against performance-based incentives. Jon said the industry is concerned about the effect of performance-based incentives on market development.

Study conclusions are that the program has been effective in expanding the market capability for PV. Current levels of marketing and incentives can be expected to maintain that capability. Recommendations are to continue to implement the program at current incentive levels. To increase growth in market response, Energy Trust will need to increase its role in marketing solar options, since contractors do not have the capability to grow demand. Energy Trust can support contractors by providing marketing collateral, placing ads and offering co-branded materials. Virinder asked if more marketing will lead to more solar or more cost effective solar. Sharon said that was a good question, but that contractors report that additional help is needed for contractors.

The study recommended that Energy Trust continue adherence to its program standards and requirements, and to make those as simple as possible. There was a perception of inconsistency in inspections of solar installations. Another recommendation was to expand educational opportunities for contractors, inspectors and Energy Trust staff.

Jon said the industry does not want Energy Trust to engage in a large marketing campaign. He felt that would be expensive and not very effective. He recommended the Oregon Entrepreneur's Forum to help contractors. Home shows are good, but involved marketing is not as attractive as having money go to incentives, and will be more effective in increasing sales in the long run.

Frank said that marketing costs to contractors are very high, and Energy Trust marketing by itself will not be as effective as developing tools. Doug distinguished between marketing and sales, where marketing creates an environment conducive to sales, and Frank clarified that sales costs are the concern. David asked about co-op advertising support, and Kacia responded that it is under consideration. Peter said we are still exploring what the most appropriate role is for Energy Trust to play. Jon said that additional marketing should not come out of program budgets. Adam said that the Energy Trust has a limited life span and we should be looking at how to help the solar business community to develop skills and tools to create healthy, self-sustaining industries.

Peter said that staff response will include a challenge to contractors about allocating resources for marketing, continued work on the technical committee and needed communications between members of the forum. There is a wide diversity of opinion about technologies and

installation techniques. We recognize that inspections can be made more consistent by communicating more and rotating inspector territories. The analysis shows that our messages may be clarified – we don't need to talk about the environment, but we need to continue incentive support.

4. Open Solicitation Program Update

City of Gresham Wastewater Treatment Plant

Adam presented an update on the City of Gresham Wastewater Treatment Plant, which is planning to install a new generator to burn digester gas. Energy Trust proposes an award up to \$82,379 for a system that will cost \$1.1 million and will generate 3.4 million kWh/year net. There were questions about equipment sensitivity to dirty gas and expected lifetime of the installation. Jeff asked whether the City will sell green tags and whether REPP funds could be applied. There was discussion between Jeff and Angus about the reliability of that resource. Adam said we have not made an agreement yet about green tags. Adam noted there were many wastewater plants generating power in the US, and they have done it for some time. He noted that Gresham had already addressed the issue of cleaning the fuel

Dry Creek Landfill

Adam also gave an update for the Dry Creek Landfill gas-to-energy project, which will cost \$3.9 million to produce almost 19 million kWh/year. Energy Trust staff recommends an award of up to \$460,000, pending resolution of OPUC decisions on Qualifying Facilities.

Jon asked if funds for these two projects were coming from the Open Solicitation program. Adam said that the funding is coming from the Biopower program, but because that program will be launched later this year, the projects have gone through the Open Solicitation administrative process.

Angus asked about Roosevelt landfill, a new operation with a 10 MW system that's about 5 years old. He suggested that we may want to look at the project for comparative purposes to assess the feasibility of this type of project in dry environments. Adam noted there were over 100 landfills in the US generating power successfully. We will pay on production, so the developer takes operations risk. John asked about how this project compares to an EWEB project, which is close in size and also uses three engines. Adam said that there may be about a dozen landfills about this size. Jeff asked about the assumptions for green tag costs, which seem high. Adam said that the assumption is \$2-4 per MW.

At the end of the discussion, Peter verified that the council supports the two projects.

5. Community Energy Study

Maureen summarized community energy study.

Angus asked who is doing the study, and Maureen said that it is a group of contractors including Jeff Pratt and Dave Hewitt, supported by Efficiency Vermont, Center for Neighborhood Technology, and Conservation Resources Group. Peter asked if the study RFP was still up on our website. It was taken down when the contract was awarded, but Maureen will send it to anyone interested in seeing it. Virinder asked if there is a MW cap we are considering for this effort. Maureen answered that cost effectiveness is a concern and we are still facing the central issue about community energy programs - is this valued for PR or acquisition of kWh?

Virinder asked how we define community energy, and Maureen said there are as many definitions as there are people discussing the concepts. We asked the contractors to help define it, and upcoming staff and board workshops will clarify the definitions. We do plan to focus on geographic areas, possibly where there are T&D constraints. Rather than design a new program, we will bundle our programs with a new marketing push. Peter added that bundling this way avoids the silo effect of multiple programs that are not well integrated.

Virinder wondered if therefore this is an exercise to foster cooperation between programs. Maureen agreed and added that the Energy Trust is unique in combining efficiency and renewable energy programs, and the contractors were not able to find good examples that match our business model.

6. Program Ally Initiative Update

Maureen presented results from a survey of trade allies fielded in January 2005, and an update on the Program Ally Initiative, which plans to provide some centralized services for trade and program allies across programs, and to encourage cross-program marketing and participation.

Jon Miller reiterated that the Oregon Entrepreneur's Forum is a great resource for training that we should leverage (www.oef.org). Maureen commented that we don't plan to duplicate the effort of our individual programs or other organizations offering the same type of services.

7. Other Updates

Peter reported that ODOE and OPUC object to the green tag exemption for residential systems, because of the public perception that consumers would be paying twice for the same environmental benefit – the green tags and the premium for renewable power, which 60,000 customers are currently opting for. The council supported the decision made at earlier RAC meetings, but accepted that the policy should be consistent with how green tags are treated for other solar and renewable projects, which stipulates a 4-5 year duration for customer ownership with the tags reverting to the Energy Trust after that. We will have to go the board at the April meeting to make this last revision. RAC members supported this.

8. Public Comments

Peter asked for general public comments and there were none offered.

9. Adjourn

Peter adjourned the meeting at noon. Following was a lunch presentation by Frank Vignola on the Regional Solar Radiation Monitoring Project.