RENEWABLE ENERGY ADVISORY COUNCIL
Notes from meeting on September 15, 2010

Attending from the Council:
Megan Decker, Renewable Northwest Project
Troy Gagliano, enXco
BJ Moghadam, Pacific Power
Frank Vignola, University of Oregon
Ed Kennel, Clean Energy Services
Margie Gardner, Bonneville Environmental Foundation
Deb Malin, Bonneville Power Administration
Hannah Hacker
Erin Johnston
Jed Jorgensen
Betsy Kauffman
Darrin Kite
David McClelland
Elaine Prause
Thad Roth
Lizzie Rubado

Attending from Energy Trust:
Kacia Brockman
Pete Catching

Others attending:
Theresa Gibney, member of the public
Kip Pheil, Oregon Department of Energy

1. Welcome and introductions

Betsy Kauffman called the meeting to order at 9:33 a.m. Everyone introduced themselves. The minutes from July were approved and the September agenda accepted after moving the small wind update to be the first topic.

2. Update on the small wind initiative

Erin Johnston presented on the Small Wind program's activity and outreach and marketing efforts, including a Geographic Information Systems mapping project used for targeted outreach. Erin introduced Darrin Kite who is managing the GIS project and helping potential customers determine if their site has enough wind resource to be viable. GIS helps the program create maps, analyze data and pinpoint candidates for small wind systems.

Erin went on to describe the specific GIS features Energy Trust is using: wind speed data (as the program requires at least 10 mph at hub height of turbine), Portland General Electric and Pacific Power territory boundaries, tax lot (publicly available data on property size and customer contact information) and land use (land type, i.e. irrigated, forest, agriculture). The main goal of using GIS is targeted outreach to contact and invite to informational workshops those landowners with a property that may be suitable for a small wind system.

Energy Trust's wind map (which inputs into GIS) was developed by AWS True Wind, a company based in New York. The wind map is based on both measured and modeled wind data (200 meter grid size), and decreases staff and customer time and funds spent on a previous year-long process of monitoring wind speeds at a potential site. In 2010, the program started offering a bonus incentive when customers installed an anemometer attached to the small wind system. The goal is to use the data to check our wind map and can be used by the customer and Trade Ally to troubleshoot problems with the system.

The program offers small wind workshops and so far in 2010, workshops have run in Polk, Yamhill and Marion counties plus the Better Living Show in March at the Portland Expo Center. The workshops have been well received, with a few recent customers mentioning they would not have installed a system without having attended a workshop.

The program is newly offering potential customers a Wind Resource Assessment, which serves as a record of communication for both the customer and Energy Trust. The assessment gives the customer a written document on the latitude, longitude, wind speed, wind rose, and other information on the potential site. The Wind Resource Assessment is similar to a pre-site assessment, as micro topography does vary from the modeled data. A trade ally will still provide the complete site assessment.

Erin mentioned a Small Wind Permitting Considerations document was recently completed, and includes information on what is a small wind system, the benefits of small wind and addressing common concerns and misconceptions. The audience is counties and governments, but the resource is suitable for contractors to use, as well as for customers to provide to their county representatives. The permitting considerations document was created to offer information for local governments wanting to learn how others are approaching small wind systems and existing ordinances. For example, counties may have a low height restriction disallowing for the installation of a small wind turbine that exceeds the restriction.

The program has expanded the qualifying turbines list to include larger turbines (100 and 150 kW) and increased the maximum incentive cap. Erin said the program is now offering development assistance funds to help customers hire contractors to do an in-depth site assessment, help with interconnection, or help with other development activities. Those customers can still receive matching grant funds from Energy Trust.

To date, the program has seen 16 projects completed since launching in Q4 of 2007. In 2008, two projects were completed (29,100 kWh); in 2009, six projects were completed (93,182 kWh); and in 2010, eight projects have been completed (111,858 kWh). The program pipeline currently has 20 pending projects.

Eighty percent of the systems are in PGE service territory. Energy Trust has a larger customer base, and therefore budget, with PGE. Also, most trade allies are in the metro area (and the program requires the customer to use a trade ally to receive an incentive). Pacific Power may have places with a better wind resource, but, for example, the coast is a very hard place to get a system permitted; also, the Gorge has a lot of pockets that are not good wind candidates.

BJ Moghadam asked if there are any trade allies promoting in the rural areas. Erin said there is one trade ally in southern Oregon and one or two in eastern Oregon. A trade ally in Pendleton did a lot of leg work, but found that there are not a lot of people in those areas and the best wind resources are generally not where people live. The GIS system will help, but we don't have GIS data in every county. As we get better and more data, we can start outreach and workshops to garner interest.

Betsy mentioned from a staffing and budget perspective, we can get significant number of larger projects, much more easily, in Pacific Power by using other renewable energy technologies. Energy Trust is pleased with the projects completed thus far.

Margie Gardner asked if the projects are producing what was expected. Erin said the majority are, though one isn't (which was installed in a marginal wind area anyway). Contractors are getting better at estimating production.

Margie asked how difficult is it to get net metering agreements signed. Erin said the agreement is pretty smooth, the delay comes when PGE or Pacific Power need to come out and hook up the meter. Erin also mentioned the billing cycles of PGE and Pacific Power are April to April

which is not ideal for wind systems because it is generally windier in the winter. There have been PGE customers who have negotiated a different net metering annual billing cycle.

3. Overview of 2011-2012 budget

Elaine presented on the 2011-2012 Renewable Energy sector draft budget. This presentation was prepared while keeping in mind previous requests by RAC members to provide more context around the budget numbers. The discussion is taking place in September because there are key areas where Energy Trust needs RAC input before making recommendations to the board of directors. Elaine made the presentation based on budget themes:

Leverage Business and Residential Energy Tax Credits and other resources while available

- Tier 1 (less than $500,000 in project costs)
    - 2011: Likelihood of Tier 1 funding being available looks good
    - Will most likely affect smaller solar, wind or hydro projects. Projects will probably still be able to utilize the Business Energy Tax Credit
- Tier 2 ($500,000 to $6 million in project costs)
    - Five Energy Trust projects moved on to the second Oregon Department of Energy technical review (need to pass this next review to receive a pre-certification)
    - Fifteen Energy Trust projects did not make it to the second review round, nine were solar and the rest included biopower, hydro and wind. Many of those projects are planning to resubmit Oct. 1
    - "Energy Trust projects" means Energy Trust has been talking with the project owner and funds may or may not be committed
- Tier 3 (more than $6 million in project costs)
    - Extremely competitive round, $190 million requested for a $30 million pot
    - Energy Trust in discussions with about 13 projects
    - Decisions made second half of September
- Next allocation
    - January 2011
    - Schedule not released, nor allocation by tier
    - Approximately $150 million total

Less funding available due to less carryover

- 2011
    - Revenue estimate: $8 million PGE and $5.2 million Pacific Power
    - Uncommitted carryover: $8.7 million PGE and $1.1 million Pacific Power
        - Carryover funds are getting progressively smaller each year as Energy Trust spends down the funds. "Carryover funds" are the public purpose charge funds that accumulated while the programs were being set up.
    - 2011 available funding: $23 million total
        - Dedicated funds (to 8 projects in PGE territory and 4 projects in Pacific Power territory) are not reflected in that total as those funds are considered to no longer be available to disburse
- Comparing 2011 to 2010
    - $34.2 million budget in 2010 compared to $23 million budget in 2011
    - For 2010, expecting to spend approximately $31 million
    - 2010 activity exceeds the funding available for 2011 and we are experiencing increasing activity in the renewable energy markets. This will lead to choices needing to be made in 2011. Specifically the Pacific Power solar budget — in

2010, the Pacific Power solar budget was $6.4 million, which is slightly more than the total Pacific Power budget available in 2011 ($6.3 million).
    - Margie Gardner asked about Energy Trust's overall strategic goals. Elaine said the goals are very broad: i) provide funds for a range of technologies and markets within those technologies; ii) market development further upstream; iii) expand markets and leverage other funds and iv) achieve at least 3 aMW installed (minimum performance metric from Oregon Public Utility Commission). Elaine said we have limited funds but want to work within many segments. Energy Trust is looking for feedback from the council on prioritizing.

Solar policy and reduced budget impacts

- 2010 was a big year for Energy Trust in terms of the growth primarily in residential solar, but an uptick on commercial solar, as well. Kacia led the council through the graphs on slide 6, which showed the solar market growth and projected growth between 2007 and 2012.
    - Total projects were further broken out by projects going through the feed-in tariff pilot and those receiving an Energy Trust incentive. The feed-in tariff pilot goes through 2013. Kacia's graph ends in 2012 because of the scheduled sunset date of the Business Energy Tax Credit in the summer of 2012. Graphs are assuming Business Energy Tax Credit /Residential Energy Tax Credit are continuing at present rates.
    - Kacia said the feed-in tariff has the potential to absorb the growth in the market that Energy Trust is unable to fund. Kacia pointed out that the growth does flat line in Pacific Power territory (smaller feed-in tariff capacity). PGE has a small budget decline in 2011 and 2012, but not as much of a decline as Pacific Power.
- 2011 solar policy impacts
    - Residential Energy Tax Credit rules reduced value on small residential systems
    - Business Energy Tax Credit competition for funding will mean less activity on the 75 kW system size
    - Feed-in tariff rates vary with each enrollment period
    - Significant growth in the past three years
    - The challenge is to support the market with less funding
        - As previously said, the feed-in tariff may absorb some demand
        - Energy Trust could focus on delivery market support instead of incentives
        - Tier 1 Business Energy Tax Credit seems stable
    - Tight management with milestone reviews and flexible shifting of funds

Custom project pipeline continues to grow

- Energy Trust talks with projects, sometimes for a few years, before they are ready to apply for funding and negotiate a specific incentive. The pipeline is like a funnel, not every project we work with in the planning phase end up being completed
    - Still high level of uncertainty if projects will go through to completion
    - Not something new, but as Energy Trust sees greater interest and activity adding more projects to the pipeline without increasing funds, there's less room to fund all viable projects.
    - The challenge is again to continue supporting the markets without shutting down
- Pacific Power custom project pipeline ($6.8 million) is exceeding available Pacific Power funds ($6.3 million), don't know what projects will be completed but shows success in market development, hydro initiative and biopower target markets. Plus short-term urgency with Business Energy Tax Credit competitive application. We still have flexibility in custom offers, the pipeline incentive estimates assume a typical $M/aMW we have

offered, may need to lower or increase that offer to get projects move yet stay within the budget.

- Custom pipeline: If all projects go through, 13.76 aMW at a cost of $12.8 million (assuming a Business Energy Tax Credit).
    - However, a few of those projects are large and depend on the highly competitive Tier 3 Business Energy Tax Credit and the outcome of the next Tier 2 round.

Demand/funding imbalance strategies

- Given that there's less funding, a Pacific Power custom pipeline exceeding total Pacific Power funding, and a greater demand for projects (custom and solar), Energy Trust staff presented their 2011 Program Allocation Proposal
    - Continue to support a range of markets, and leverage the Business Energy Tax Credit as we can
    - Enough PGE funds to cover custom projects in the pipeline plus a few more. There is enough Pacific Power budget to cover a range of projects (though not enough for the pipeline), balance goes to solar.
    - The council asked for more clarification on why there is less money in Pacific Power:
        1. Little over $5 million in revenues from Pacific Power
            - Fewer customers than PGE, always will be less revenue
        2. Less carryover built up to use
        3. More big projects (needing larger incentives) would occur in Pacific Power territory (more hydro and geothermal resources)

Short-term options to match funding/make choices

- This section is where Energy Trust is specifically looking for RAC feedback and thoughts
- The main question is there are $6.3 million in funds available for PAC, but the pipeline demands exceed funding. How should Energy Trust proceed? The following options are not exclusive; Energy Trust staff believes the solution lies within a mix of the options below.
    - PGE
        1. Shift even more PGE funding to solar — follow known demand, but less generation as projects are smaller
        2. Where possible, increase focus of custom efforts
    - Pacific Power
        1. Support custom project wheeling (>1 MW) from Pacific Power to PGE and use PGE funds
            - Have tried this in the past, project just didn't end up going through
            - Will increase above market costs
            - Becomes a cost and feasibility question
            - Deb Malin said it also becomes a Balancing Authority question
            - Could include wind and biopower
            - Energy Trust has offered an incentive recently to a wind project outside PGE territory which is planning to wheel to PGE and receive standard QF contract rates.
            - BJ Moghadam asked if this is the best deal for ratepayers? Couldn't you go out on the market and purchase RECs? Why inflate project costs?
                - Betsy said she likens Energy Trust as being in the REC making business, not the REC buying business. The benefits we bring are more than just the RECs. We are

adding renewable energy capacity to the system and helping create and move projects forward
    - Kip Pheil said to use the cost-effectiveness test, and mentioned that PGE and Pacific Power buy some of their power out of state
    - Margie said she heard Energy Trust staff saying cost effectiveness isn't the primary goal for the sector, but that it's market development
    - Deb recommended the staff look at the California Public Utility Commission decision on RECs, as they grappled with very similar, tough questions

In summary, wheeling would add to costs and may be technically challenging depending on location and existing congestion but is not of political concern.

2. Transfer RECs from a project in Pacific Power territory to PGE, generation not included
    - Staff asked the council if this is the right policy decision and way to utilize public purpose funding
    - Megan Decker asked to know more about the barriers Energy Trust needs to work within. Are there any legal challenges to implementing Pacific Power solution 1 or 2?
        - Betsy mentioned that SB 1149 requires 17 percent of the funds to be spend on renewable energy development
        - Lizzie said the Energy Efficiency sector has some flexibility with fund allocation for NEEA-related electric efficiency activity. She said 80 percent of the funding from a utility must be spent in that territory on NEEA efficiency projects, while 20 percent of the funds are left for flexibility (may be transferred to the other utility). Lizzie said RECs may pose a similar situation.
    - Megan said it seems you should do Pacific Power option 2 instead of Pacific Power option 1 if, you can do either
    - The council felt that the staff should do more work around the feasibility and timing of Pacific Power options 1 and 2. Can they be done? When would they be considered? What criteria will be used to determine whether to implement an option?
    - Deb asked if PGE's and Pacific Power's wants should be considered, specifically an energy independence principle. Would the utilities want the projects in their own territories?
    - Theresa Gibney said to keep in mind the Public Utilities Regulatory Policies Act, which forces utilities to purchase power from non-utility electricity producers at the avoided cost. She said Energy Trust's role is to make projects viable. While the role of the utilities is to develop the market, and reduce the costs of meeting the Renewable Portfolio Standard. She asked if Pacific Power option 2 helps PGE meet RPS requirements.
    - Kip said a qualifying facility in Oregon retains its RECs, the utility purchases the energy at standard avoided cost rates. RPS treats any QF REC as an unbundled REC. If the QF chooses to sell the RECs to the utility who need to meet their RPS requirements, they would be unbundled.

- Kip said to note that with the wheeling option, are we in effect giving preference to a project in Clark County (Washington) which the added projects costs are less than to wheel in a project from Morrow County, or some other remote Oregon county.
- Frank Vignola said he needs a compelling reason for doing these options. Not can we do them, but what are the benefits to doing them?
- Kip asked if this would lead to Energy Trust competing against itself for purchasing RECs for Pacific Power or PGE?

  In summary, the transfer of RECs prompts many questions and raises complexities. If Energy Trust seriously considers this in the future, much more discussion would need to take place.

3. Drive projects to the feed-in tariff and lower incentives
   - Unsure of our capability to do this. First round sold out in 15 minutes and it didn't take any projects from our books, they were all new projects generated specifically for the pilot
   - Would be a short-term solution as the pilot ends 2013

- All
  1. Formalize project review process (mainly for Pacific Power)
     - How do you make the choice between two projects in the same territory competing for limited funds?
     - Hesitant to move to a formal review process, would look at a more informal way to do that, via:
       - Set minimum threshold criteria for application
       - Rank competing projects by categories most important to Energy Trust's mission
       - Business Energy Tax Credit outcome known prior to Energy Trust incentive
     - Feedback from RAC
       - Business Energy Tax Credit might require Energy Trust funding to go forward
       - Frank mentioned Energy Trust has adjusted incentive levels down in the past to ensure we aren't overspending. There's a lot of staff work to review and customer work to do the minimum criteria
       - Troy Gagliano said it seems reasonable; maybe even just ensure they are in the first communications with the utilities. These are fair things to ask and maybe some should be required already.
       - Deb recommended permitting to be complete. BPA won't touch a project unless permitting is acquired.
       - Troy said permitting is daunting and expensive, and recommended pre-permitting conversations
       - Kip asked if there should be any questions about investors
       - Frank said to incorporate what you've learned from past projects that have failed or not been completed
       - Troy said to add environmental/hazardous material compliance to the permitting standard
       - Kip said to work on a bundle of projects at a time
       - Margie said to use past projects to set a comparative scale

Year of transition to long-term sustainable strategies

- Given steady funding, current approach is becoming less workable
    - Large project incentives can be half of program budgets
        - Deb asked if is that a problem
        - Elaine asked if it is okay to fund a small amount of projects, does that help develop markets. What if a larger project utilizing the majority of the funds falls through?
        - Deb mentioned requiring a deposit and enforcing revenues
    - Commitments don't always see through to completion, but they tie up funds in the meantime
    - Above market costs expected to increase, not decrease
    - Goals may need to be adjusted
- Next steps
    - RAC feedback, Energy Trust staff will give RAC members prep materials for the October 13 meeting
    - Review of Energy Trust objectives, what is our number 1?
        - Objectives are on slides 15 and 16
    - How to meet objectives with limited funding
        - Deb: suggested adding an objective with capacity….summer vs winter peaks?
    - Criteria for when to pull out of a market?

4. Public comment

Theresa Gibney told the council:

> Last year at this time, the Oregon Public Utility Commission opened the door to the concept of resetting the 3 aMW performance metric. The question was around why would Energy Trust fund projects the utilities must fund to meet RPS requirements? As an example, large solar projects utilities need to satisfy HB 3039. Should an Energy Trust objective be to focus funding on projects that would not happen and to specifically not fund a utility-funded project owned by the utility?

5. Meeting adjournment

Betsy thanked all RAC members for their participation and adjourned the meeting at 11:43 a.m. **The next meeting is October 13, 2010**. Energy Trust tentatively has scheduled a joint RAC and CAC meeting, in addition to the regular RAC and CAC meetings, during the lunch hour for NW Natural to present on solar thermal systems. Energy Trust invites the council to attend and will confirm with RAC members if the meeting is a go.