RENEWABLE RESOURCE ADVISORY COUNCIL
Notes from meeting on November 18, 2009

Attending from the Council:
Robin Straughan, Oregon Department of Energy
(sub for Carel DeWinkel)
Robert Grott, NW Environmental Business Council
Ed Kennell, Clean Energy Systems
Theresa Gibney, OPUC
Andy Noel (for Sandra Walden), OSEIA
Troy Gagliano, enXco
Suzanne Leta-Liou, Renewable NW Project
Kyle Davis, PacifiCorp
Frank Vignola, University of Oregon

Attending from the Board:
John Reynolds

Others attending:
Joe Barra, PGE
Michael Early, ICNU
Justin Klure, Pacific Energy Ventures
Herb Nock, Ocean Power Technologies
David Porter
Moshrek Sobhy, OPUC

Attending from the Trust:
Doug Boleyn
Kacia Brockman
Pete Catching
Ben Huntington
Erin Johnston
Jed Jorgensen
Betsy Kauffman
David McClelland
Nick O'Neil
Elaine Prause
Thad Roth
Lizzie Rubado
John Volkman
Peter West

1. Welcome and Introductions
Betsy called the meeting to order at 9:30am. Everyone introduced themselves. The agenda was adopted without changes. The October minutes were adopted without change.

2. Wave Energy Update
Betsy began with a presentation on the latest developments in wave energy.

About two years ago, John Reynolds asked what Energy Trust is doing with regard to wave energy. We hired a consultant to look at the state of the industry. At that time our decision was to wait and not yet take action. We considered projects to be R&D at that point. There were no federal incentives for wave projects and the projects were a long way from getting in the water. In addition, the Oregon Wave Energy Trust was providing help.

Since then some things have started to change even though the industry is still very young and there are no grid tied buoys in the water in the US. Ocean Power Technologies (OPT) is planning to put a buoy in the water in Oregon this summer. The PTC and ITC are now available for wave power. Stakeholder engagement is in place and environmental studies are underway.

Betsy went to the Oregon Wave Energy Trust (OWET) wave energy conference in Seaside in September. The fishing community is engaged and the companies are engaging all the people and stakeholders as they need to.

A few years ago there was a gold rush mentality in the industry. That has now subsided. There is paced, deliberate activity moving forward on a variety of fronts: technology development, financing, environmental studies. Things are going forward in a thoughtful manner so that when projects are ready to go in the water, the goal is that everything will be in place to allow that to happen.

There has also been a thinning of the players. Finavera is no longer involved.

Justin noted that Oceanlinx and Lincoln County have withdrawn their permits.

Betsy said that Oregon is considered a national leader because of its wave resource, the political climate, and good stakeholder engagement.

John Reynolds noted that Oregon State University's research has also been a factor. Justin clarified that OSU's research is now housed at the Northwest National Marine Renewable Energy Center. They were awarded funds as a national center. The other national center is in Hawaii. There was a $15 million package over a 5 year period to look at technology, environmental, and socioeconomic issues.

Betsy continued on. A few years ago there were 8 permits, now there are only 4 projects that are actively engaged in the licensing process to actually get something in the water. The permitting process only reserves a site.

Betsy showed several images of different technology types. They differ in size, how much is located in the water or on shore, and the way the kinetic energy is converted into electricity.

The Ocean Power Technology buoys would be in the water, about 2 miles off shore. They move up and down in the water and convert energy out there, sending electricity underwater back to shore via a cable.

Herb said each buoy would be 60' in diameter and about 130' down the spar.

Betsy showed an image of the Pelamis units which have a different structure from OPT technology, but still have their "smart parts" in the water and energy still goes to shore via undersea cable.

There is also the "Oyster". These use wave action to pump water to shore where it is converted to electricity much like a standard hydro project.

The Wavegen unit sits on shore and uses air compression to spin a turbine in both directions.

Justin noted that there are about a dozen well financed companies moving forward. There are others that are in demonstration phases. There are hundreds of ideas in people's garages.

Frank asked if any systems are in operation.

Justin responded that nothing has been permanently installed to generate. A handful have come on and offline. Pelamis had an installation off of Portugal with three devices. In Scotland there are several test facilities generating power, including an OPT device.

Herb said that his company's device off of New Jersey has been generating for about 30 months, but is not grid tied. He believes it is one of the longest operational periods in the world.

Suzanne asked if the four types shown were developed by the well financed companies.

Justin said yes, they are well capitalized.

John Reynolds asked if the hydraulic line model really is expensive. Justin replied that he is sure that it is, there is directional drilling involved.

Betsy moved on to discuss how Energy Trust can get involved. There are a few options.

1. Provide support for demonstration projects
    a. Pros:
        i. A way to provide direct project support
        ii. A lot of people in Oregon feel wave power is a critical part of our future
        iii. Energy Trust will be "on the train"
    b. Cons:
        i. Early projects may not feed PGE or PAC; we would need to acquire RECs
        ii. Costs will likely drop in the future
        iii. We may not be supporting the "winning" technology
        iv. Carries risk
        v. Our funding may not be significant enough
2. Support OWET through membership or financial support
    a. Pros:
        i. OWET is providing what the industry needs
        ii. We have precedent for supporting trade groups
        iii. Enables us to stay involved and assist while industry matures
        iv. Low risk
    b. Cons:
        i. No kWh or RECs for our money
        ii. Assistance to project(s) is indirect
3. Support industry development
    a. Pros:
        i. A way to help the industry move forward
        ii. Low risk
    b. Cons:
        i. No kWh or RECs for our money
        ii. Different from the usual way of using our dollars.
4. Continue to Monitor the Industry and Wait
    a. Pros:
        i. Very clearly in line with our policies/procedures
        ii. No risk
        iii. Leaves us the option to jump in later
    b. Cons:
        i. Energy Trust may not be "on the train" when it leaves the station.
        ii. We are absent from a renewable energy field

If we were to provide project funding there are many questions to think about: What criteria should we set for ourselves to get involved? Are we picking winners too early? What methods should we use for decision making – a competitive basis or a case by case? Should we spread out our dollars?

Ocean Power Technologies has a specific project on the table.

The first phase of their project will put one 150kW buoy and transmission infrastructure off the coast at Reedsport. It will connect to the grid, but not initially. The full cost is $20 million. They are looking for $3 million from outside companies. The second phase will have nine buoys added to same site. The full cost of the second phase will be $45 million and the company is looking for $5 Million from outside sources.

Their next project is slated to be 100MW off of Coos Bay. At that point the project is too large for Energy Trust to be involved.

John Reynolds asked if this is the same technology as the buoy that sank. Herb said he is not familiar with what Finevera did. He said they his company's buoys have been through hurricanes and are, or were, insured by Lloyds of London which requires proof of sea worthiness.

Frank asked what the maintenance period is. Herb said they are targeting a 30 year operating life. He thinks they are capable of that since the technology is the same as coast guard buoys. The buoys are monitored via fiber optic cable that runs parallel to the grid interconnection. He think the buoys may need to come in for maintenance every five years or so. The bulk of the construction work on the new buoys will be done here in state because they are too large to ship. They are awarding the contract to build the first buoy in the next few weeks.

Suzanne asked what other parties are they looking to for outside funding, and if the Energy Trust cannot provide financial support, what other support would be useful? Where is the company at in the federal licensing process?

Herb said the final license should be in place by the end of the year or very early next year. This is the culmination of about two years of hard work with Surfrider and the fishing and crabbing communities. His company will be providing 5 years of environmental studies as part of that settlement.

On the funding side, a lot is in place for the overall project. They have received BETC grants and would be looking at an ITC grant from the Federal government as well. The two pieces they are working on are DOE funding. They have letters from the Oregon legislative delegation to Energy Secretary Chu to try and free up some money there. They need matching funds for the DOE money though, and that is where he thinks Energy Trust can make a significant difference. He is talking to the public and private utilities, but he thinks there will need to be a group of entities stepping forward to make that funding package come together. He views Energy Trust as very important to putting that package together.

Frank asked over what time period this would be. Herb replied that they are spending money on phase one right now.

Frank asked when Energy Trust funds would be needed. Herb replied that sooner would be better. Three to six months would be ideal from his perspective.

John Reynolds asked if the abandoned Reedsport substation is being used. Herb replied that yes, this substation and other existing infrastructure are critical in keeping costs down.

John Reynolds noted that the PUC has been asking Energy Trust to broaden its portfolio of projects.

Betsy noted that Energy Trust typically needs to get power, as well as RECs to fund a project.

Herb said that in the short term Betsy is correct in terms of the current power sales arrangement but there is flexibility in the long run.

3. Solar Budget Update

Peter noted that we now have solar applications in the door for more megawatts than Energy Trust has done in the last seven years – and they all came in the last two weeks as a result of the coming change in solar incentives.

Had we known this would have been coming we would have done things differently obviously, but it wasn't just us driving the market. The news of BETC changes and our lowering incentives moved people to get their project applications in. We've culled the obviously bad projects, but the remaining projects are as credible as anything else that we've seen.

Peter asked Kacia to explain the situation in more detail.

Kacia said the background is that on October 19 we announced we were going to reduce our incentive based on the increasing rate of applications coming in. Apparently that deadline motivated a remarkable number of customers to make a purchase.

In the last week before the deadline we received applications for total capacity exceeding everything we've done in the program to date. The program has always operated on a first come, first served basis and incentives are subject to availability of funds.

The program has $15.1 million available to commit to projects in 2009. This amount includes the 2009 budget plus 25% of the 2010 budget. We intentionally strive to commit a portion of the 2010 budget in 2009, knowing that many of the projects we commit in 2009 will not be completed until 2010. This helps us achieve the 2009 generation goal by paying out the entire 2009 budget for projects installed and made operational in 2009.

The program's available funding became fully subscribed by Pacific Power applications on 11/2/09 and by PGE applications on 11/6/09. The project applications received after those dates requested an additional $7.2M of incentives. The largest gap is in the Pacific Power budget.

Kacia displayed the following chart detailing the issue:

	PGE ($M)	PAC ($M)	Total ($M)
2009 budget	9.2	3.2	12.4
Available to be committed in 2009	11.1	4	15.1
Previously committed or paid (as of 11/2)	5.9	3.7	9.6
2009 funding available (as of 11/2)	5.2	0.3	5.5
Incentive requests received during rush	7.8	4.9	12.7
Cutoff date after which incentive requests exceeded funding	11/6/09	11/2/09	
Outstanding requests after cutoff **(calculated at higher incentive rate)**	2.6	4.6	7.2
Outstanding requests after cutoff **(calculated at lower incentive rate)**	1.8	2.7	4.5
Utility RFP funds	5	2.3	7.3

The program is considering three different options for the situation:

Option 1. Honor applications received prior to the 11/9/09 deadline at the higher incentive rate.

Operate within the current 2009-2010 budget constraints.

There are insufficient funds in the 2009-2010 Pacific Power budget to support this approach. We would need to reject $2.1M in Pacific Power projects, and could not accept any new Pacific Power projects in 2010, because the 2010 budget would be fully committed.

The PGE budget could support this, but 2010 activity would be limited because the 2010 budget would already be 60% committed to projects received in 2009.

Suzanne asked if we are prohibited from spending 2011 dollars. Peter said that because we don't have those dollars, we are prohibited from spending them.

Option 2. Honor applications received prior to the 11/9/09 deadline at the higher incentive rate.

Apply funding being held for utility-scale solar RFPs to the backlog of project applications.

This approach would apply the entire $2.3M of Pacific Power RFP funds toward the $4.6M of outstanding Pacific Power applications. The remainder of the outstanding projects would be covered by the 2010 budget. All project applications received would be funded at the higher incentive level, but the 2010 Pacific Power budget would be 94% committed, and therefore we would not be able to offer a program in Pacific Power territory in 2010.

$2.6M of the $5M PGE RFP funds would be used to fully cover the $2.6M of outstanding PGE applications. This approach would allow normal PGE activity in 2010.

Under this approach, the utility RFP funds would acquire generation at a cost of $1.13 per watt for Pacific Power and $1.42 per watt for PGE.

Option 3. Apply the lower incentive rates to all applications received after the cutoff dates when the 2009 PGE and Pacific Power budgets became fully subscribed.

Apply funding being held for utility-scale solar RFPs to the backlog of project applications.

At the lower incentive rates, the cost to support the projects would be $2.7M less than at the higher rates in option 2. The entire $2.3M of Pacific Power RFP funds would be applied at the lower incentive rate toward the $2.7M of outstanding Pacific Power applications. The remainder would be covered by the 2010 budget. Projects received on or after 11/3/09 would be funded at the lower incentive level. We could support normal Pacific Power activity in 2010 because the 2010 Pacific Power budget would be just 36% committed, which is just over our normal target of 25%.

$1.8M of the $5M PGE RFP funds would be applied at the lower incentive rate to fully cover the outstanding PGE applications. This approach would allow normal PGE activity in 2010.

Under this approach, the utility RFP funds would acquire generation at a cost of $0.68 per watt for Pacific Power and $0.98 per watt for PGE.

What we haven't predicted is how many projects would walk away if we lower the incentive rates for those that came in. We don't think this will kill the market, but there will be some attrition.

Staff recommends Option 3, using RFP funds but at new lower incentive rate, setting us up for new, "normal" operation in 2010.

Peter said that we would also propose to set and use higher standards for any of the projects that would utilize incentive funds. That would mean setting milestones and require these projects to meet them in order to further screen out projects that are not ready. The money that

would get scrubbed out of this would go back towards doing a large scale project, pending discussion of the next item on the agenda.

Joe questioned whether these projects can actually be delivered within the next year. He thinks that a lot of these projects will fall out. He would hate to see changes that make it more difficult for some projects to happen while holding some others to a lower standard. On the RFP side he wanted to know if the $5 million included the funding for the enXco project.

Peter said that the funds Energy Trust has reserved for the second phase of ProLogis and the enXco project are separate from the $5 million of RFP funds for PGE projects. The $5 million is a going forward number that came out of discussions at prior RAC meetings regarding how the utilities can get involved in larger scale solar.

Peter noted that two of the ODOT projects are included in the pool that came in during the rush.

Joe reiterated his concern that some projects won't be able to go at lower rate, particularly because of the uncertainty with BETC and the limited supply of tax equity partners.

Kyle asked how many applications were for projects less than 500kW in capacity. Kacia responded that only three were larger than 500kW. Kyle notes that the majority of the projects will also be able to access the feed-in tariff. He feels that the rush was rational behavior, but once the feed-in tariff comes on line some projects may move to that. From PacifiCorp's standpoint either option two or three sound good. He thinks many projects will fall out but would request that using the utility scale funding be a temporary solution.

Andy commented that these incentives drops are the main drivers in other markets that he watches. He thinks the vast majority of these are projects that are tentative, regardless of size. He thinks the challenge is to identify which projects are real. On the third party side, a lowered incentive rate will probably be a bigger problem than for other projects. On the side of small to medium commercial projects, he feels a lot of contractors have had a tough year. If they have locked into contracts where the end customer is assuming a specific dollar amount, a lower incentive will cause a problem for them. He thinks there needs to be a way to figure out which projects are real.

Peter asked how new procedures to figure out which projects are real would help to create certainty.

Andy thinks few projects would be able to prove they are real if asked to provide specific types of information, such as signed contracts.

Michael asked what the value to ratepayers would be to bring these rush projects in versus what Energy Trust would be able to acquire through utility scale projects.

Kacia replied that under the new, lower incentive rates, Energy Trust's cost per kWh for projects in the standard solar program will be lower than the incentive rates requested by several utility-scale solar projects we have reviewed in the last year.

Kyle thinks that new utility scale projects would be able to come in at lower rates than what Energy Trust has acquired in the past.

Andy wondered if the utility scale projects are "real" – how fast will they be able to get in the ground?

Joe thinks PGE has backlog of about 10MW of solar projects they want to work through in the next two years. He also thinks the feed-in tariff is a big wild card. He suggests that a middle step would be to require BETC pre-certifications.

Frank thinks the changes that are going on with BETC are going to increase uncertainties for many of the projects as well. He asked how many of the projects are commercial versus residential.

Lizzie replied that 140 projects are residential and 120 are commercial.

Frank said we could give preference to the residential projects for the higher rate.

Peter said that might cause legal issues.

Suzanne asked how staff resources could be impacted by trying to scrub projects. She thinks the BETC pre-certs might not be a good tool anymore. If a project is real they should be able to get information to Energy Trust. But can Energy Trust process the information if it comes in?

Kacia says that is a good point. We only learned about this problem after the fact because the volume was so far beyond what the program can handle.

Andy thinks that any project that isn't contracted already at this point is almost impossible to interconnect by the end of the year.

Peter said there would have to be a very clear black and white process with a very high hurdle in order to scrub things out. We can't spend weeks trying to figure out if someone's contract is a real contract.

Andy thinks that few contractors will be in a situation to create a make-believe contract and then have their customers sign it. Most contracts are obligating and the BETC pre-cert is required before someone signs a contract. Asking for permits or non-refundable deposits probably won't work. He doesn't want to differentiate between 2009/2010 projects. To figure out which projects are real, Energy Trust should ask to see financial commitments from the contractors. The alternative would be to move everyone to the new incentive rates. He says this is a big drop in real money and the projects are going to fall off and wait and see about the feed-in tariff. He thinks this will hurt the contractors.

Peter noted that most of the issue is in PacifiCorp's service area.

Robert noted that adding a higher screen changes the way the program operates. An alternative would be to look at the data, estimate how many of the projects are likely to be real, and manage the risk within the budget. You could use the data to better evaluate which option to choose.

Kacia notes that until Nov. 1 projects have moved through the program normally. After that date only $300,000 of PAC money was unreserved. For PGE that strategy could work.

Fred wondered if you could prioritize projects with contracts that have financial penalties.

Peter reiterated that there is a legal question about doing that.

Kyle noted that a project has one year from enrollment to get completed. He wonders if there is anyway to differentiate projects by completion date in order to prioritize.

Peter said that completion dates are always general and optimistic. That's why we allow a year. It also depends on the time of year.

Kyle reiterated that the decision to reprogram the large scale funds should be tentative and that staff should review this situation in second quarter after the feed-in tariff is in effect and BETC changes have occurred.

Peter said that is a good suggestion.

Kyle added that Energy Trust should require that projects notify if they are going to use the feed-in tariff.

Peter said we will try to make a decision on this issue in the next 48 hours.

4. Update on strategic plan comments

Peter introduced this topic. The commission has commented on whether or not Energy Trust should participate in any project that a utility is involved in to meet RPS requirements or other mandates.

Elaine noted that the draft budget had money allocated to meet large scale solar from utility RFPs. The idea was that Energy Trust would work directly with the utilities and that the projects would not count towards the 20MW required under the HB3039 mandate for solar. The RECs from the project would go to the utility but not count towards the mandated requirement.

Comments from the OPUC suggested that Energy Trust should not have any role in meeting mandates from HB 3039 or the state's RPS. This calls into question doing any large-scale effort with PV, which HB3039 defines as 500 KW and larger.

Kyle disagreed. He doesn't think that is what is spelled out in 3039. If you do a large scale solar project, the past practice has been that any Energy Trust RECs have been transferred to utility for RPS compliance. If commission wants to change that, we would want to have an investigation and provide comments on that. He said Energy Trust should be able to do anything smaller than 20MW.

Theresa said there is a public record for the commissioner's comments. The simple argument for the commissioners is that the renewables program is designed to make something happen that would not otherwise happen through normal processes of the utility or through processes of the utility that are mandated by legislation. This is more of a strategic budget deployment argument than anything else. As Energy Trust is now in a place of demand exceeding funds, it calls for a change in strategies as to how money is deployed. If you make a strategic budget deployment decision or a strategic investment decision in a new world of insufficient funds you are going to shift your funds to things that are not going to happen without you. The commission expects ETO to live within the funds provided by 1149 going forward, so please look carefully at budgets going forward with regard to 3039 and offer a second path.

Kyle agreed, but noted this is a policy shift. He feels we should examine the unintended consequences of this shift, such as the impact on small projects that want to register through WREGIS. One of the policy rationales for the utility in taking on that responsibility is that its customers would be getting the RECs for RPS compliance. If they aren't going to receive the RECs, what is the rationale for registering those RECs?

Theresa asked if Kyle meant just net-metered projects.

Kyle said any project funded by ETO. He thinks utilities shouldn't be prohibited from utilizing Energy Trust for projects. He said his main point was that if this policy change is going to happen all parties should weigh in. Customers will pay for these RECs one way or another. PacifiCorp will wait to offer its position in some proceeding, but he feels the need to think through unintended consequences, especially when it comes to WREGIS costs.

Theresa said that the commission commented only on the strategic plan. The commission did not make a policy decision. There is a larger conversation that will take place. The commission thought this was straight forward, but it is clear that it is not.

Peter noted that we will ask for a clarification on the 3 projects in the queue bigger than 500kW.

Joe noted that Energy Trust is not in the practice of funding projects that are going to happen without it. The projects below 20MW legitimately need help to compete. If you pull Energy Trust funding, those projects don't happen. He didn't think larger projects were off limits for Energy Trust based on the language of 3039. Without Energy Trust funds those projects won't happen until the deadline gets much closer.

Michael noted that the OPUC comment that Energy Trust should not support projects that contribute to the RPS is a big shift from current understanding and further discussions need to take place on this topic where all stakeholders can weigh in.

Suzanne noted that RNP didn't comment on this issue. Her question is that this may take a while to be addressed, especially if it becomes an open docket. She wants to make sure that time frame will work for Energy Trust's planning time frame.

John Volkman said the goal was to finish the strategic plan about six months ago, but now we are shooting to adopt it in December.

Peter said, on the PV side, we can temporarily shift funding around within the same budget, pending the outcome of this discussion. If the larger projects are forbidden we will permanently shift funding away. For the RPS discussion, we have to proceed forward with what we are doing. The question will be who gets the tags and where we draw the line about what projects we will be involved in. The most risk will be for projects between 10-20 MW, or bigger than 500kW for solar. His feeling is that the commission isn't saying "don't require tags," it is just the disposition of the tags that is in question.

Theresa clarified what she thought the commission said: The commission said that going forward Energy Trust will not have increased ratepayer impact by raising SB1149 funding to try and do all the projects that are on the list. They said when Energy Trust is making tactical decisions about spending funds, do not systematically choose to fund things that are already going to happen under a legislative mandate: focus the strategy on a broad range of renewables and continue to build markets in new, near-commercially ready renewables, which is something the utilities can't do. Why would you fund something that is legislatively mandated already? We were specifically talking about the Energy Trust renewables strategy.

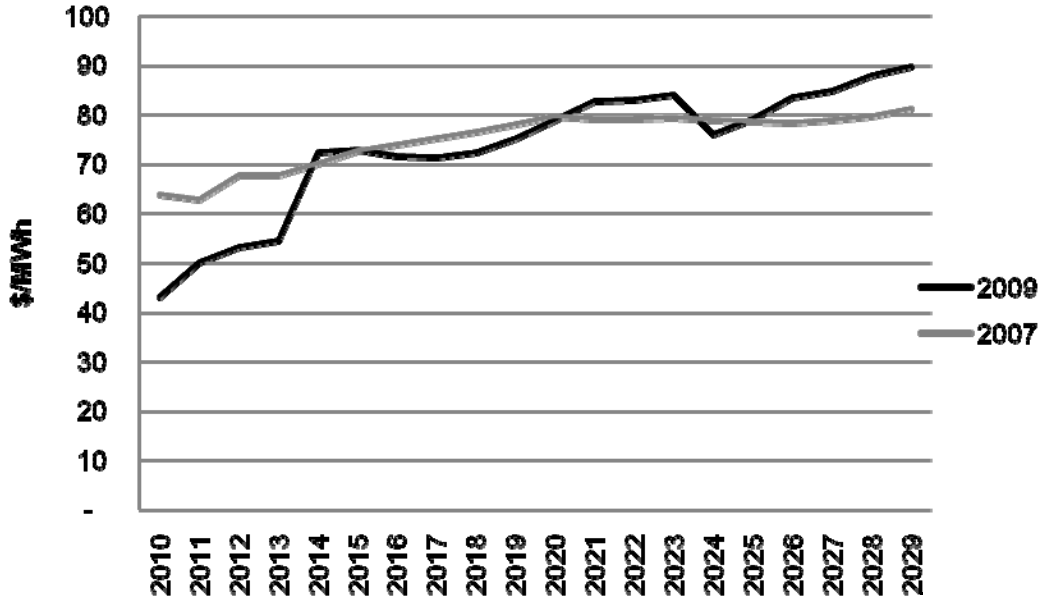
Several audience members noted that the general comments from the OPUC are not that narrow and need more clarification.

5. Effect of changes in QF rates on above-market cost projections

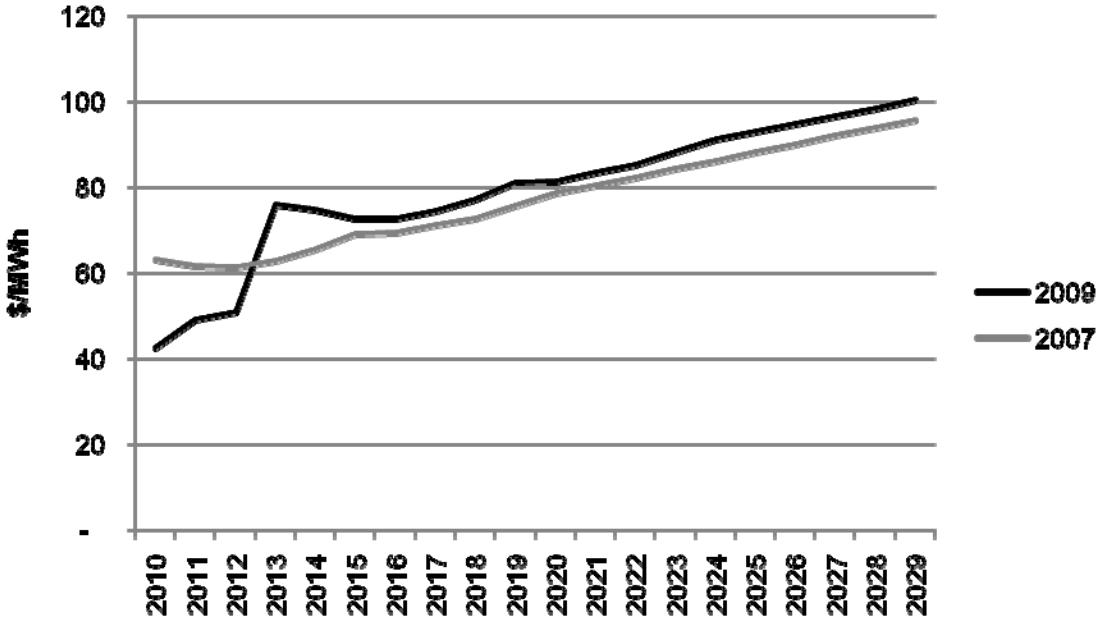
Elaine made a presentation on how outside influences impact our strategy and budget. The new utility avoided cost rates will have an impact on what we need to pay to have projects move forward.

The new rates became effective in late August and directly impact projects by changing the NPV of revenue streams and changing the costs that are eligible for the BETC.

She presented the following slide showing PacifiCorp's rate change:



The NPV on the new rate is only 93% of that of the old rate. PacifiCorp's rates are also much lower in early years during the utilities' sufficiency period. The next graph shows PGE's rate change.



For PGE projects, the NPV impact is negligible, but there still is an early year impact which may impact a project's ability to get financing.

Elaine took previous projects and modeled the effect of the new rates on above-market costs. Larger projects are impacted more.

How does that affect us? In Biopower the impact will be limited in 2010 because the projects' generation will mostly be used on site. In hydropower we will have to make choices, potentially

accepting fewer projects or shifting projects between years. In Wind there will be an 8-10% increase in incentives.

In 2010 the biggest change will be in Open Solicitation. In 2011 there is a bigger hit.

There are a lot of other changes in the BETC coming in the next few months as well. We didn't attempt to quantify those impacts but know we need to factor in changes as we go forward.

Theresa noted that this is exactly the point of the previous discussion.

Peter said the point here is that this changes our just what we can get on the generation side from the funds in place. Right now it is a marginal number of projects that could be impacted. If BETC goes away it is a completely different world and one that would cause us to revisit the entire budget.

6. Public Comment

There were no public comments.

7. Meeting adjournment

Peter thanked all RAC members for their participation throughout the year and adjourned the meeting at 11:45am.