

Renewable Energy Advisory Council

Wednesday, November 18, 2009 9:30 a.m. – 12:00 p.m.

<http://energytrust.org/About/public-meetings/REACouncil.aspx>

Energy Trust Conference Rooms

851 SW Sixth Ave., Suite 1200

Portland, Oregon 97204

AGENDA

- | | | |
|--------------|---|-------------------------------|
| 9:30 | Welcome and Introductions <ul style="list-style-type: none">• <i>Review agenda</i>• <i>Approval of October minutes</i> | Action |
| 9:35 | Wave energy update <ul style="list-style-type: none">• <i>Presentation by staff on the state of the wave industry</i>• <i>Discussion about several options for future involvement by Energy Trust</i>
<i>Note: Justin Klure from Pacific Energy Ventures will join us to answer questions and provide perspective</i> | Information and Action |
| 10:00 | Solar budget update
<i>Staff will provide an update on the unprecedented number of applications received before the recent reduction of the solar incentive levels. Staff will discuss the implications for the 2009 and 2010 budgets and ask for feedback.</i> | Discussion |
| 10:30 | Break | |
| 10:40 | Update on strategic plan comments
<i>Staff will provide an update on comments received from the PUC regarding use of Energy Trust funds for large solar projects and projects that help utilities meet RPS requirements.</i> | Discussion |
| 11:30 | Effect of changes in QF rates on above-market cost projections
<i>The generation we can expect for each dollar we spend next year is likely to decrease because of recent changes to QF rates. Staff will discuss how this will affect the proposed 2010-2011 budget.</i> | Informational |
| 11:45 | Public Comment | Informational |
| 12:00 | Meeting Adjournment | |



Wave Energy and Possible Roles for Energy Trust November 18, 2009



In our last episode...

- Industry still in its infancy - R & D
- Projects were a long way from being in the water
- No federal incentives to help defray the large costs
- What the industry really needed was being provided by OWET (stakeholder engagement, environmental baseline studies)



Since then...

- Industry is still young; no grid-tied buoys in the water in the U.S.; less than 1 MW worldwide
- OPT is planning to put a buoy in the water this summer
- PTC & ITC available for wave projects
- Stakeholder engagement is in place and environmental studies are underway





- “Goldrush” has been replaced by paced deliberate activity on multiple fronts
- “Thinning of the players
- Oregon is considered an national leader





2007: 8 preliminary permits filed

Astoria (Tillamook PUD/County)

Lincoln County

Ocean Power Technologies (3)

Oceanlinx

Douglas County

Finavera Renewables



2009 - 4 engaged in federal licensing

OPT Reedsport

OPT Coos Bay

Douglas County

Tillamook (TIDE)

Technologies

Three main kinds of technologies being
tested



Technologies vary by:

- Relative amount of ‘smart parts’ in the water
- Size
- Distance from shore
- How the wave energy is converted to electricity

Get involved?



Options for involvement

- Take a serious look at providing some funding for demonstration project(s)
- Support OWET through a membership of some sort
- Support industry development – provide specific support to efforts on utility, environmental, regulatory issues, e.g.
- Continue to monitor and wait



Provide project funding – may involve issues and questions:

- Criteria on how we get involved with wave projects
- Are we picking winners? Too early?
- Methods for decision-making on funding projects: e.g. competitive process, case by case
- Spreading out dollars: fund some projects early and hold money for later projects



Provide project funding

PROS

- A way to provide direct project support
- A lot of people in Oregon feel wave power is a critical part of our future
- Energy Trust will be “on the train”

CONS

- Early projects may not feed PGE or PAC; we would need to acquire RECs
- Costs will likely drop in the future
- We may not be supporting the “winning” technology
- Carries risk
- Our funding may not be significant enough



Membership in OWET

PROS

- OWET is providing what the industry needs
- We have precedent for supporting trade groups
- Enables us to stay involved and assist while industry matures
- Low risk

CONS

- No kWh or RECs for our money
- Assistance to project(s) is indirect



Provide industry support

PROS

- A way to help the industry move forward
- Low risk

CONS

- No kWh or RECs for our money
- Different from the usual way of using our dollars.



Continue to monitor and wait

PROS

- Very clearly in line with our policies/procedures
- No risk
- Leaves us the option to jump in later

CONS

- Energy Trust may not be “on the train” when it leaves the station.
- We are absent from a renewable energy field

Ocean Power Technologies' project



OPT's project

- Closest to having equipment in the water
- 2 phases for Reedsport
- Large project near Coos Bay



Reedsport – Phase I (2010)

- One 150 kW buoy
- Build and install undersea substation
- Install transmission cable (~5 miles; ~half on-shore)
- Connect to the grid, but not initially
- \$20 million cost; looking for \$3 million from outside parties



Reedsport – Phase II (2011)

- Add nine 150 kW buoys for a total of 1.5 MW
- Grid-tied; Agreements with publicly owned utilities
- \$45 million cost; looking for \$5 million from outside parties



Coos Bay

- 100 MW
- 2.7 miles offshore
- 2.5 mile onshore transmission line to PAC substation; off-taker is still to be determined
- 4 arrays of 50 buoys each

Draft RE 2010 Budget and Action Plan

October 14, 2009





2010 Rd 2 Draft RE Activity Summary

	PGE	PAC
2010 Activity Budget	\$21.4M	\$11.6M
Previously Dedicated	<u>\$ 7.5 M</u>	<u>\$ 4.8M</u>
	\$28.9M	\$16.4M
New Revenues 2010	\$8.5M	\$4.9M
Carryover 2009	<u>\$21.1M</u>	<u>\$12.1M</u>
	\$29.6M	\$17.0M
Remainder	\$0.7M	\$0.6M

Expenditures as a share of total budgets

– Incentives	86%
– Delivery & Management	4%
– Other costs	10%



2010 Rd 2Draft RE Activity Budget and Generation

Programs	Total costs		Range in aMW	
	\$ Million	% Total	Conservative	Best Case
Biopower	\$4.8	14%	1.31	3.04
Open Solicitation	\$7.8	24%	2.07	4.14
Solar Electric*	\$20.5	62%	1.02	2.37
Total Renewable Energy	\$33.1	100%	4.40	9.56

* Includes large solar funding: \$2.3M Pacific, \$5.0M PGE RFP



2010 Rd 2 Draft RE Activity Budget Pacific & PGE

Programs	Pacific Power		PGE	
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Biopower	\$2.0	17%	\$2.8	13%
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Impacts of New QF Rates Presentation to RAC November 18, 2009



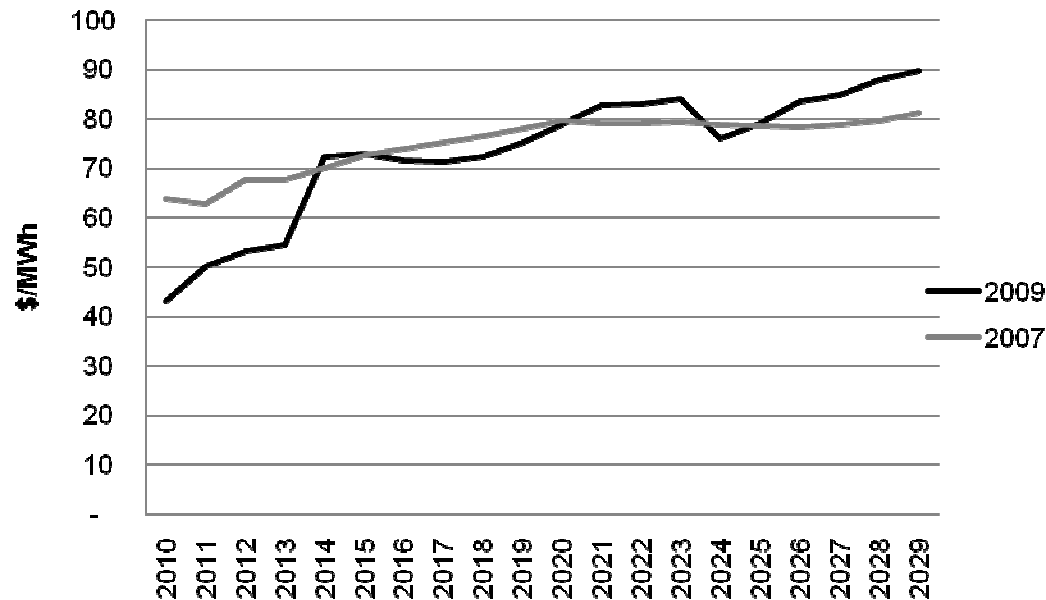
Avoided Costs Impact Above Market Costs

- Schedules 37 (PAC) and 201 (PGE), effective 8/26/09
- Above market costs directly impacted
 - NPV of revenue streams
 - BETC eligible cost limited to 15 yr payback using 1st yr revenues
- Impacts to our budget



2007 vs. 2009 Avoided Cost Rates

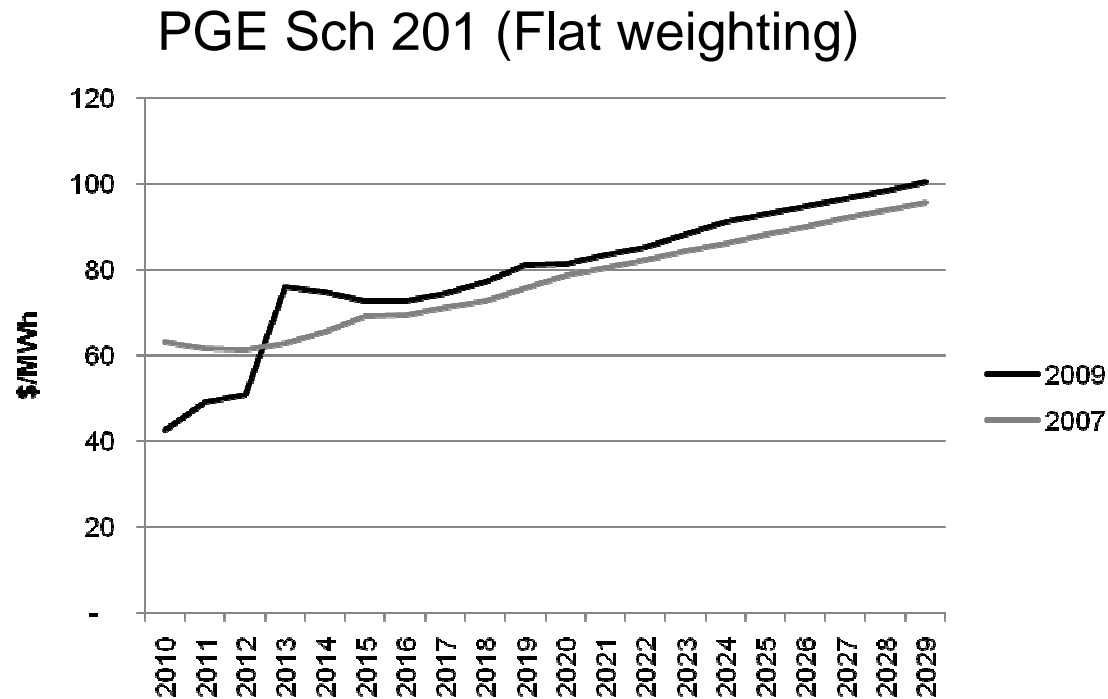
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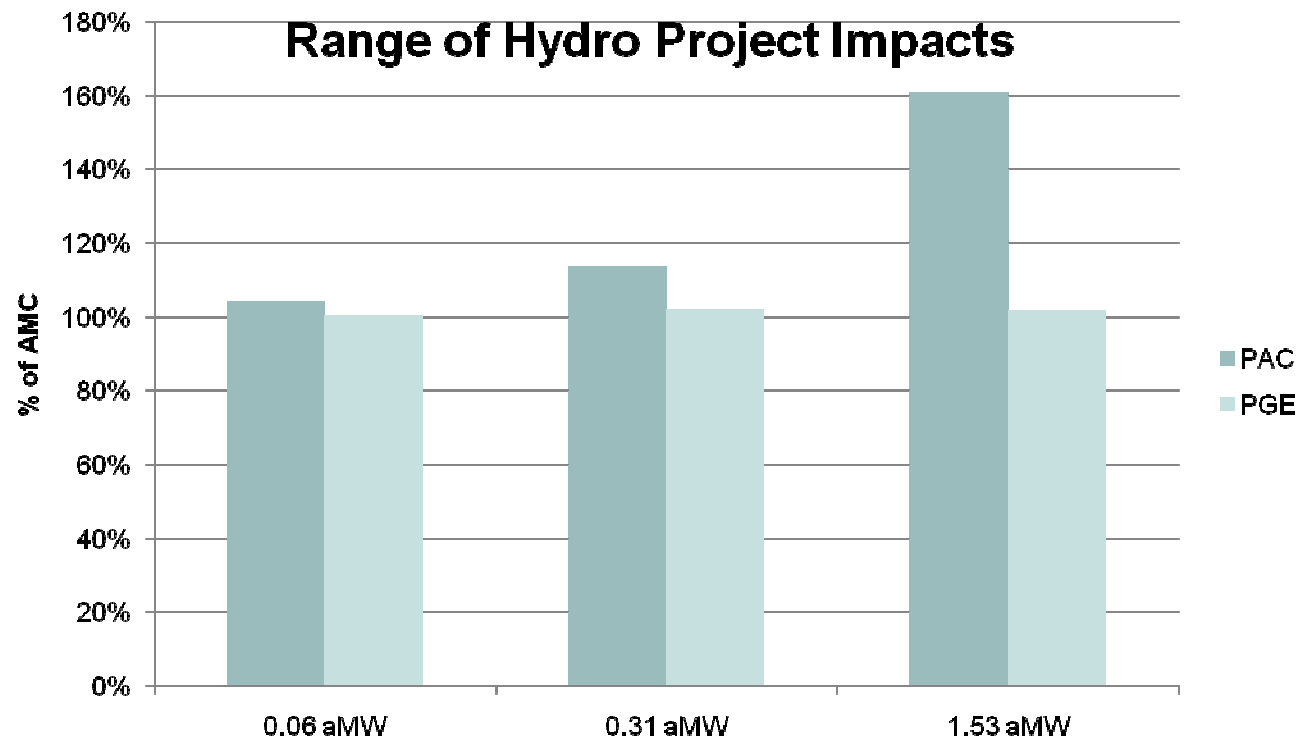
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20-yr NPV of 2009 rate is 99% of 2007 rate



Range of impacts



Wind 0.2-3 aMW ~ 101%-179%

Biopower 1.0-1.3aMW~107%-165%

Impact on 2010-2011 budget:

Biopower

- Limited impact if any
- Non-QFs or in PGE

Hydropower

- Means choices, one large project/yr

Community Wind

- 8-10% increase in incentive

Impact on 2010-2011 budget (aMW):

2010 Activity Basis

Programs	2010 Conservative		2010 Best Case		Difference	
	Rd 1	Rd 2	Rd 1	Rd 2	Conservative	Best
Biopower	1.31	1.31	3.04	3.04	-	-
Open Solicitation	3.37	2.07	4.50	4.14	(1.30)	(0.36)
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Total Renewable Energy	5.70	4.40	9.91	9.56	(1.30)	(0.36)

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Biopower	1.32	0.96	3.06	2.24	(0.36)	(0.83)
Open Solicitation	2.18	1.06	2.90	2.11	(1.12)	(0.79)
Solar Electric	0.20	0.20	0.46	0.46	-	-
Total Renewable Energy	3.69	2.22	6.43	4.81	(1.48)	(1.62)

BETC impacts to AMC



15yr payback limit

- Eligible project cost for the BETC is limited to 15yr payback
- 1st year full operations revenue used for this calculation
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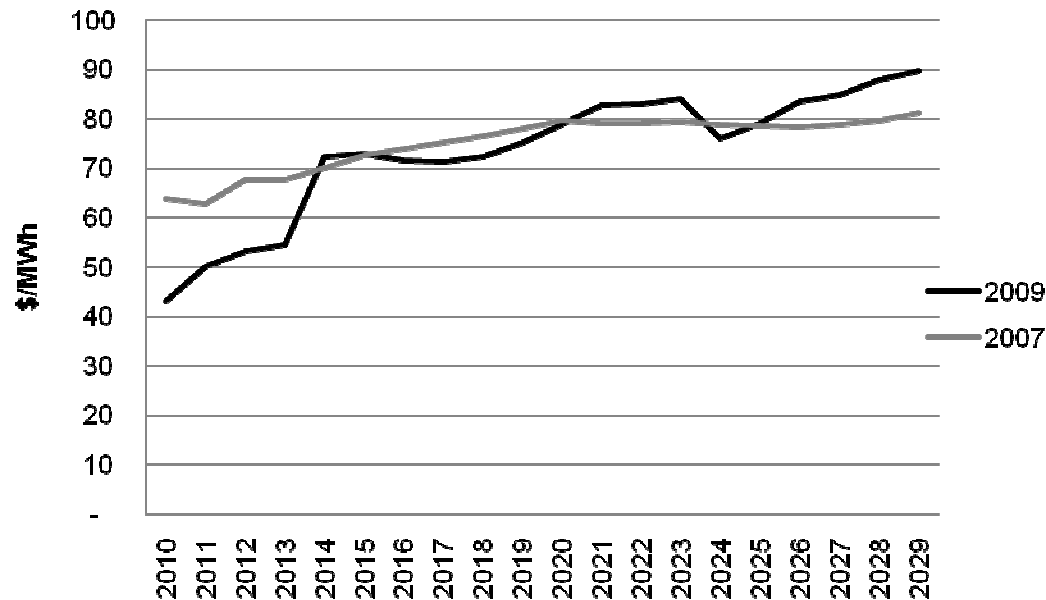
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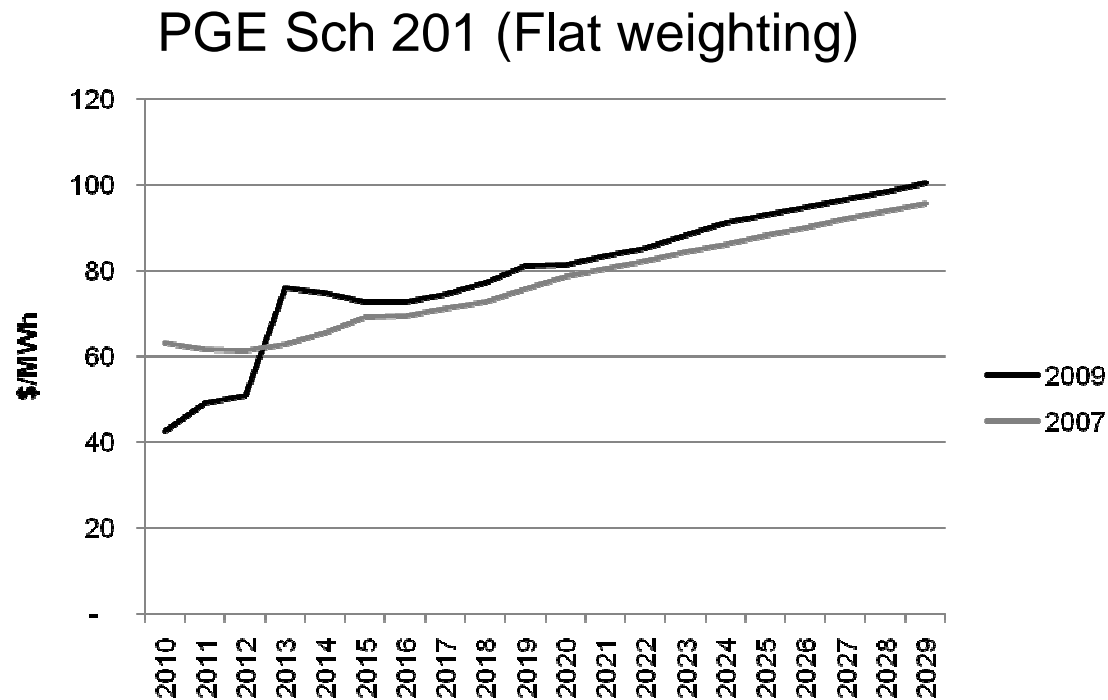
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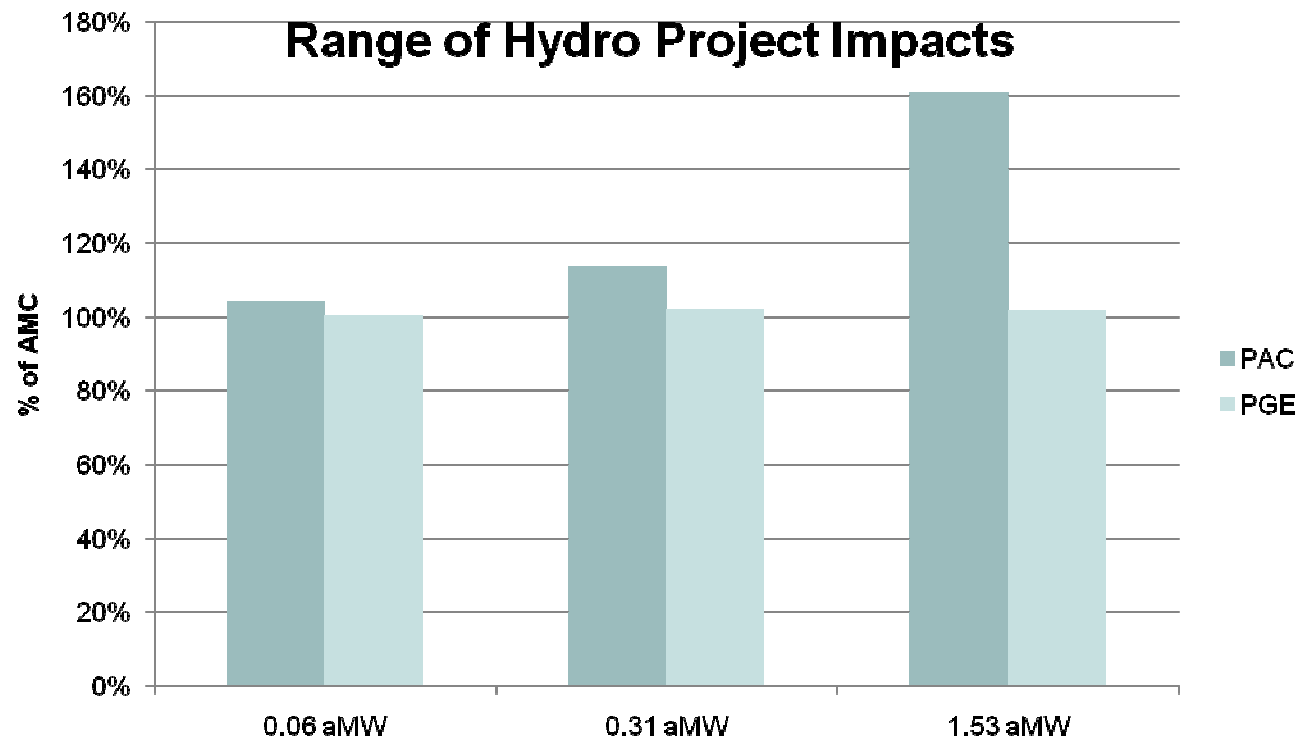
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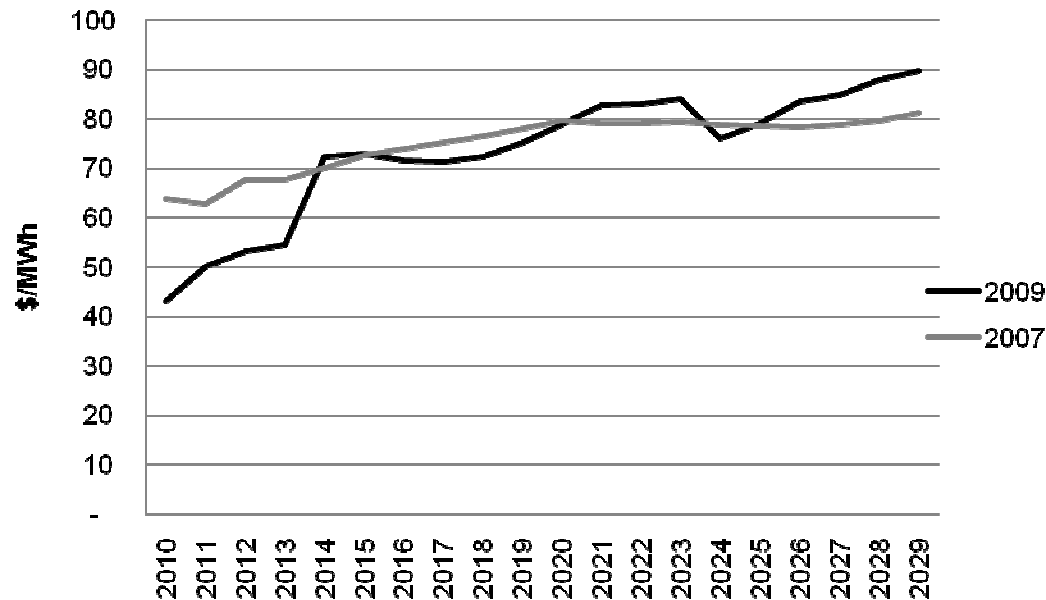
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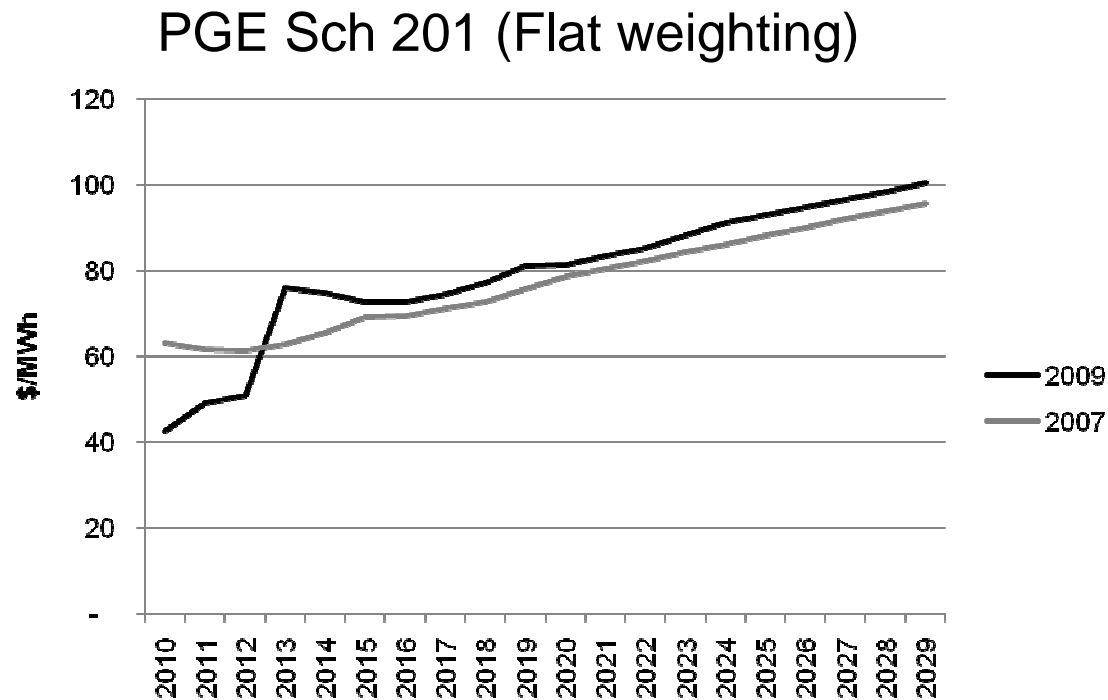
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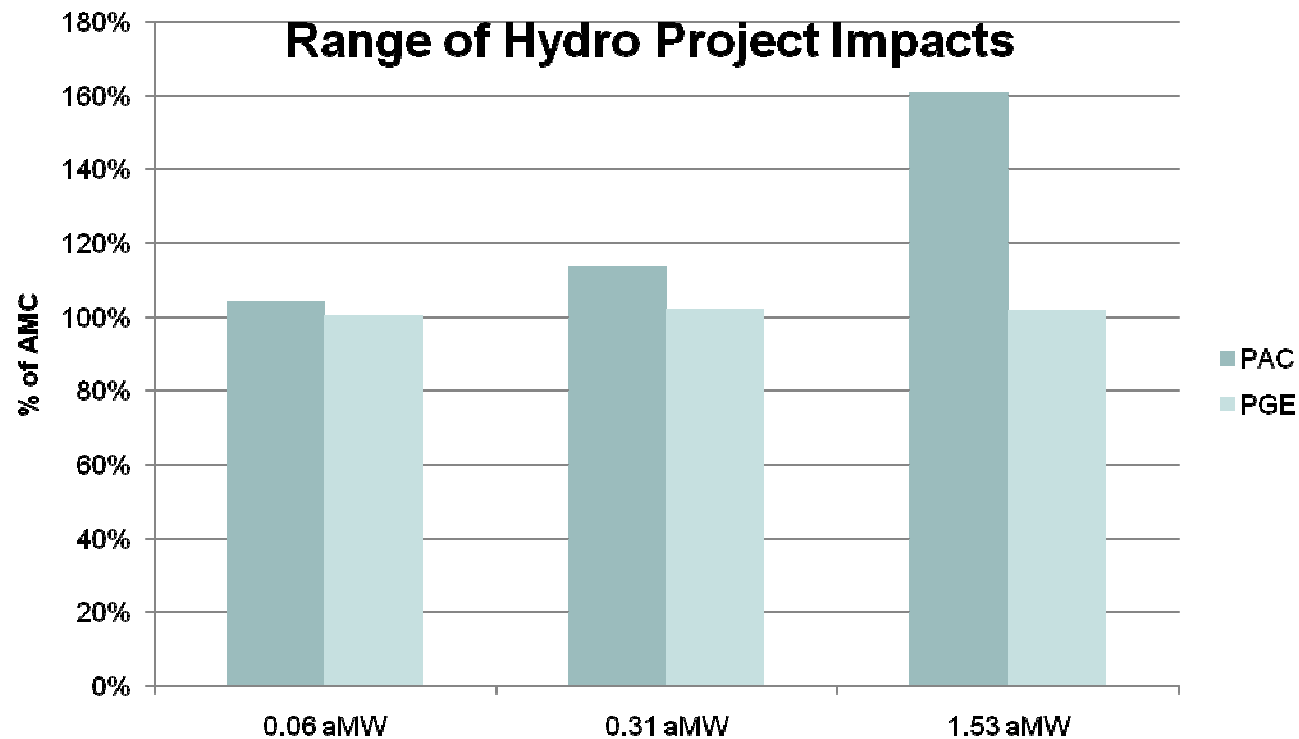
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RAC Briefing

Utility RPS Project Funding

November 18, 2009

Summary

Energy Trust staff will be requesting feedback from RAC members at the November 18, 2009 meeting on the topic of whether public purpose funds should be used to support renewable generation projects which count toward utility RPS requirements.

Background

- In October, Energy Trust released both a Draft Strategic Plan and the 2010-2011 Draft Budget followed by an open comment period for both documents.
- Our proposed renewable energy strategy emphasizes continuing our efforts to support a portion of the above market costs for projects which respond to utility RFPs.
 - This allows smaller projects to be competitive and offers to Energy Trust projects that can be better options for ratepayers.
 - The RECs from such projects are directed to the utility to help meet their RPS requirements.
- The 2010-2011 draft budget specifically allocates funding towards large scale solar projects.
 - By using public purpose funds, these projects would not be eligible to count towards the HB3039 solar PV capacity standard mandate for 2020.
 - The near-term efforts would be designed to establish momentum and create information as the utilities gear up to meet the mandate later in the decade.
- We have received comments from stakeholders with significantly divergent opinions regarding our role in support of these projects.
 - PGE is supportive of the proposed role and suggests the possible use of a Master Agreement between organizations.
 - The OPUC questions whether Energy Trust should fund projects that enable the electric utilities to meet RPS requirements or other mandates.
 - As of November 17th, we have not received comments from PacifiCorp.
- Due to the conflicting responses and the significance of either outcome on our renewable energy 2010/2011 budget and strategy going forward, Energy Trust would like to open up this issue for further discussion by all stakeholders.

Issues

- Utilities are now required to meet a capacity mandate of 20MW statewide by 2020.
 - Should public purpose funds be used to support going beyond the PV mandates?
 - The utility mandate is for projects of 500KW and above. Does this mean Energy Trust has no role anymore for such projects?

- Utilities have to meet the state's RPS obligation. Energy Trust funds projects and receives RECs in exchange. The practice has been to make these RECS available to the utilities to help meet the RPS requirements.
 - The OPUC suggests Energy Trust end this practice. Does Energy Trust have any role in aiding the state's RPS goals?
 - If no role, should Energy Trust even acquire RECs?
 - If Energy Trust continued to acquire RECs, should they be retired or should they be sold as needed to fund more projects?
 - Would this put Energy Trust in a competitive position with utilities for projects?
 - Would ratepayers end up funding renewables through two avenues, in rates to support the RPS and through the public purpose charge to support voluntary market development?