Renewable Energy Advisory Council

Wednesday, January 13, 2010 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** **Action**

- *Review agenda*
- *Approval of November minutes*

9:35 **RECs and WREGIS** **Information**

Claiming ownership of RECs for retirement, sale, or transfer involves registering them with WREGIS (Western Regional Energy Generation Information System). Staff will explain how this works and discuss the implications for administrative and project costs.

10:00 **Update on recommended changes to the BETC and impact on Energy Trust incentives and procedures** **Information**

ODOE's report to the governor regarding the BETC recommended several changes that would have an impact on projects' above-market costs and Energy Trust's methods of determining incentives. Staff will outline the impacts of the recommendations.

10:20 **Break**

10:30 **Wave projects – discussion about issues and roles** **Discussion**

Does it make sense for Energy Trust to consider providing an incentive to a wave power project? Staff will present cost comparisons across technologies, a review of applicable Energy Trust policies, and a set of questions to discuss.

11:15 **Update on solar budget** **Informational**

At the November meeting, the RAC discussed ways to handle the large number of solar applications received before the incentive decrease. Staff will provide an update about to how the situation was resolved and where the budget currently stands.

11:30 **Public Comment** **Informational**

11:45 **Meeting Adjournment**

The next scheduled meeting will be on February 17, 2010 -- the third Wednesday of that month.
You can view this agenda and meeting notes at: http://energytrust.org/About/public-meetings/REACouncil.aspx.

RECS, WREGIS, and ETO
Presentation to RAC
January 13, 2010

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Energy Trust policy on RECs

- We take title to some RECs for every project we fund
- Specified as part of our contract with project owner
- We can sell 50% -- We have not… yet

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REC allocation by project types

- Utility Scale -100% direct to utilities through Master Agreement

- QF/on-site –Customized contracts with portion to Energy Trust and balance to project owner

- Net metered solar/ small wind– 1st 5 years to owner, balance to Energy Trust

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ETO REC ownership by project type

- Utility Scale – N/A

- QF & on-site annual estimates
  - 2010 35,413
  - 2015 143,600

- Net metered annual estimates
  - 2010: 1,404
  - 2015: 9,350

Note: PGE 2015 RPS requirement = 3.4M RECs (Source: 2009 IRP)

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Energy Trust REC policy

Our policy predates the existence of:

- RPS
- WREGIS

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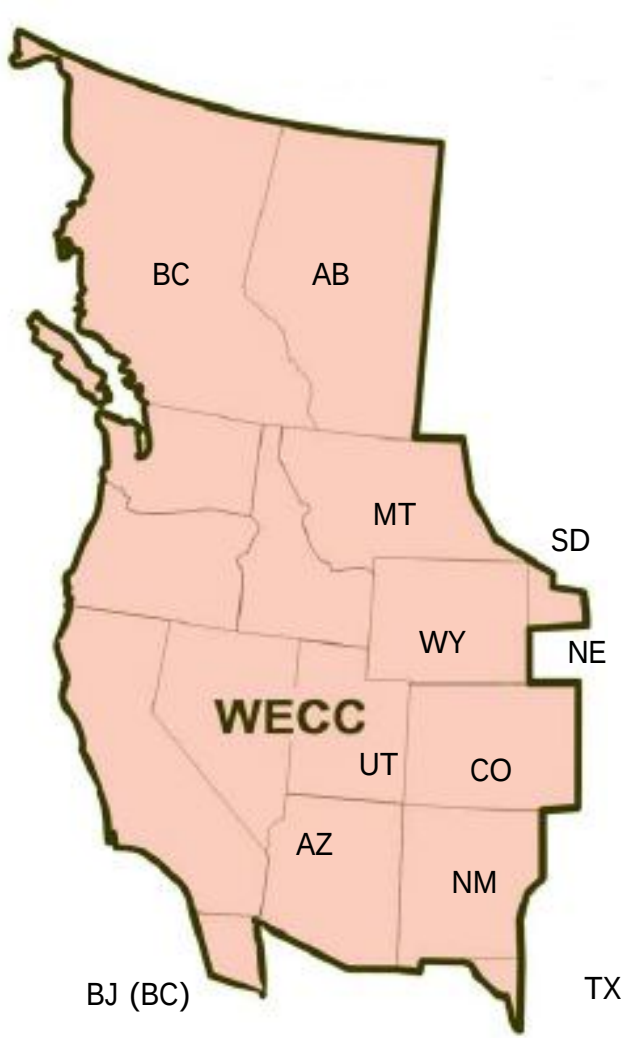
What is WREGIS?

A. Western Grid



Western
Electricity
Coordinating
Council

WECC manages grid via North Am. Electric Reliability Corporation (NERC) via FERC.

Western
Renewable
Energy
Generation
Information
System

WREGIS tracks RECs associated with renewable generation & operates within WECC.

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WREGIS REC - sample

Certificate Data

WREGIS Generating Unit ID: **W12**
Generating Unit Name: **CPS Unit 1**
Primary Facility Name: **KG**
Vintage Year/Month: **2007/7**
Certificate Serial Numbers: **12-ID-52-211 to 215**
Total Certificates: **5**
Generation Period Start Date: **NA**
Generation Period End Date: **NA**
Certificate Creation Date: **10/15/2007**

A

Static Generating Unit Data

Facility County: **Boise**
Facility State or Province: **ID**
Facility Country: **US**
Multi-Fuel Generator Indicator: **No**
Generation Technology/Prime Mover: **Solar Thermal**
Fuel Type/Energy Source:
Solar
Fuel Source/Other Criteria or Eligibility Characteristics:
Solar-Solar*-Solar*
Date when Generating Unit first commenced operation: **07/17/2001**
Nameplate Capacity: **0.875**
Facility Operator Info: Company or Organization Name: **CPS**
Customer Sited Distributed Generation (Y/N): **Yes**
Reporting Entity Company or Organization Name: **QRE Test1**
Reporting Entity Type:
Balancing Authority
Non-Balancing Authority Reporting Entity
Generating Unit in WECC Region Declaration Indicator (Y/N): **Yes**
Utility to which the Generating Unit is interconnected: **Idaho Power Company**
Qualifying Facility Indicator (Y/N): **No**
Facility Ownership type:
Other Non-Utility
California Supplemental Payment Received (Y/N): **No**
Facility receives state/provincial public benefit fund support indicator (Y/N): **No**
Federal Tax Credits received indicator (Y/N): **No**
Most recent FERC Hydro license date, or: **NA**
One of the following from the following valid values: Non-jurisdictional, application pending, or not applicable.: **NA**
Repowered Indicator (Y/N): **No**
Repower date: **NA**

B

State/Provincial/Voluntary RPS Selections

State	Eligible	Certification Number
Arizona	**No**	**NA**
British Columbia	**No**	**NA**
California	**No**	**NA**
Colorado	**No**	**NA**
Nevada	**No**	**NA**
New Mexico	**No**	**NA**
Montana	**No**	**NA**
Texas	**No**	**NA**
Washington	**No**	**NA**
Oregon	**No**	**NA**
Alberta	**No**	**NA**

California SEP Eligibility: **No**
California Qualifying Facility Qualified to Claim Non-Renewable: **No**
Green-e Eligible: **No** Certification Number:**NA**
Ecologo Certified, **No** Certification Number:**NA**
Low Impact Hydro Certification: **No** Certification Number:**NA**

C

A REC is too large for this view!

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[Source: PacifiCorp]

Important fact:

If the REC isn't registered with WREGIS, it can't be sold, bought, transferred or retired.

Therefore…

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Important fact:

…Energy Trust does not really have any RECs, only the contractual language to enable the perfection of contractually-obligated RECs.

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REC certification-related benefits

- WREGIS provides the industry with a rigorous accounting system
- Transparent, known criteria and standards
- Would give us the ability to officially retire, transfer, and sell our RECs
- Would enable project owners to officially retire, transfer, or sell their RECs

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WREGIS Requirements

WREGIS requirements

- The project owner owns the RECs – but can designate an agent
- Account registration – different for individual generators, utilities, and companies that aggregate RECs
- Revenue quality meter output
- Regular reporting – Qualified Reporting Entity (self reporting if <360kW)

Ø Hard for small scale projects to play(<1 MW)

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REC certification-related costs

To WREGIS

- Annual flat fees - $200-$1,500
- Transaction fees – for issuance, transfer, retirement, or export of RECs - $0.005-$0.01/certificate

To QRE

- Set up fee ($297)
- Monthly fee ($59/mo)

Compliant metering

Administrative costs = staff time

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Examples

How various projects would incur fees
for registering RECs with WREGIS

Stahlbush Island Farms biopower

Annual fees for registering and reporting RECs:

$708/yr - $1,558/yr (depends on type of account holder)

Cost per REC: $0.12 - $0.26

1.6 MW
Energy Trust claims 6,000 (52%) RECs per year

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Hypothetical residential PV system

3 kW nameplate
Produces 3 RECs per year
(100% claimed by ETO after 1st 5 yrs)

Annual costs for registering and reporting:

$200/yr - $908/yr
(depends on who reports)

Cost per REC:
$67 - $302

Option:
ETO or 3rd party as an aggregator for small systems

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The important issues to think about

Additional complexities

• Each custom project agreement is different (% RECs, term)
–To retain this flexibility, a cookie cutter approach may not fit

• Project owners have a variety of motivations
  – Retire only
  – Sell as additional revenue stream
  – If we claim all the RECs project owners have no additional motivation to participate with WREGIS

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Important issues to think about

- What could our role look like? Best least cost way to go?
- Who would pay the costs of registering, reporting, administration, equipment?
- Do the benefits outweigh the costs? From whose perspective? For which projects?
- Are there options to mitigate the costs, especially for small projects?
- How does timing impact costs and benefits?

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BETC changes: Impacts to Energy Trust incentives and procedures

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Areas of change

ODOE Goal: Reduce BETC Fiscal

- Temporary Rules (11/09 – 5/10)
- “Pass-Through” Rule Making
- Recommendations to the Governor

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Temporary Rules

Temporary Rules - History

- Gov. vetoed HB2472
- Told ODOE to “tighten” rules
- Temp. rules released 11/3
- Further legislative action expected

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Temporary Rules - Impact

Most changes don't impact Energy Trust projects, except --

- Final BETC limited to 100% of pre-cert (not 110%)
- "Separate and distinct" facilities may limit $20MM / developer / year, not per project`

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Pass Through Rule Making

Pass Through Rule Making - History

- HB2068 required ODOE to establish new formula, tied to “inflation and market real rate of return”

- Process timeline:
  - Announced 11/13
  - Public meeting 11/30
  - Formal comments 12/16
  - New rule 1/11

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Pass Through Rule Making - Impact

- New formula based on T-Note and inflation
- Increases pass-through rate to:
  - Public entities: 36.8%
  - For-profit entities: 41.18%
- New rate started January 1. Pre-certs get old rate.

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Pass Through Rule Making - Impact

- May make finding partners difficult for for-profit customers
  - Risk : Rate of Return

- May necessitate changes in project deal structures, potentially increasing costs

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ODOE's Recommendations to the Governor

ODOE's Recommendations - History

- 8/26 - Gov. asked ODOE to study and implement changes for:
  - Single/Multiple facilities
  - Address Permitting / Licensing
  - Back taxes
  - Job creation and facility operation
  - R&D projects, cost-overruns
  - Any other area at ODOE's discretion

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ODOE's Recommendations - History

- Many areas addressed in temporary rules
- ODOE sends recommendations to Governor on 11/30

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ODOE's Recommendations

- Tighter application requirements
- Deduction of public purpose funds prior to eligible cost calculation
- Program cap of 1-4% of 2008 operating revenues of OR energy suppliers
- Alternative incentive cap – Wind
- Priority Setting
- Retroactivity

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ODOE's Recommendations

- Tighter application requirements
  - More detailed information will be required for preliminary certification
  - Favors well thought-out, feasible projects
  - Unknown Energy Trust impact

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ODOE's Recommendations

- Deduction of public purpose funds prior to eligible cost calculation
  - Initial concern about circular math
  - ODOE's goal: Project must not receive more than 100% of (eligible?) costs through incentives or tax credits.
  - Poor projects may see incentive cap

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ODOE's Recommendations

- Program cap: 1-4% of 2008 operating revenues of OR energy suppliers
  - Limits BETC funding based on energy usage
  - Range for 2008: $73MM – $292MM
  - Potentially less money allocated to RE projects
  - Energy Trust above-market costs may increase

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ODOE's Recommendations

- Alternative incentive cap – Wind
  - Projects with costs >$100,000: 5% BETC, up to $200MM eligible project cost
  - BETC reduced 1% each year until zero
  - Big cut for projects between 10kW and 20MW
  - If projects can move forward, Above Market Costs may be greater – projects may need more funds from Energy Trust

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ODOE's Recommendations

- Priority Setting
  - ODOE allowed to prioritize projects based on jobs, generation, and market readiness
  - Unknown impact as only select projects would be funded

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ODOE's Recommendations

- Retroactivity
  - Apply Program Cap and Alternative Incentive Model to all pre-cert projects back to at least July 1, 2009
  - Accountability measures to all projects without final certifications.
  - No known impact to any projects working with Energy Trust

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Discussion…

Wave Energy Discussion
January 13, 2010

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During our last discussion…

Examined state of the industry

- Still young – less than 1 MW worldwide
- Stakeholder engagement underway
- Fewer companies than a couple of years ago

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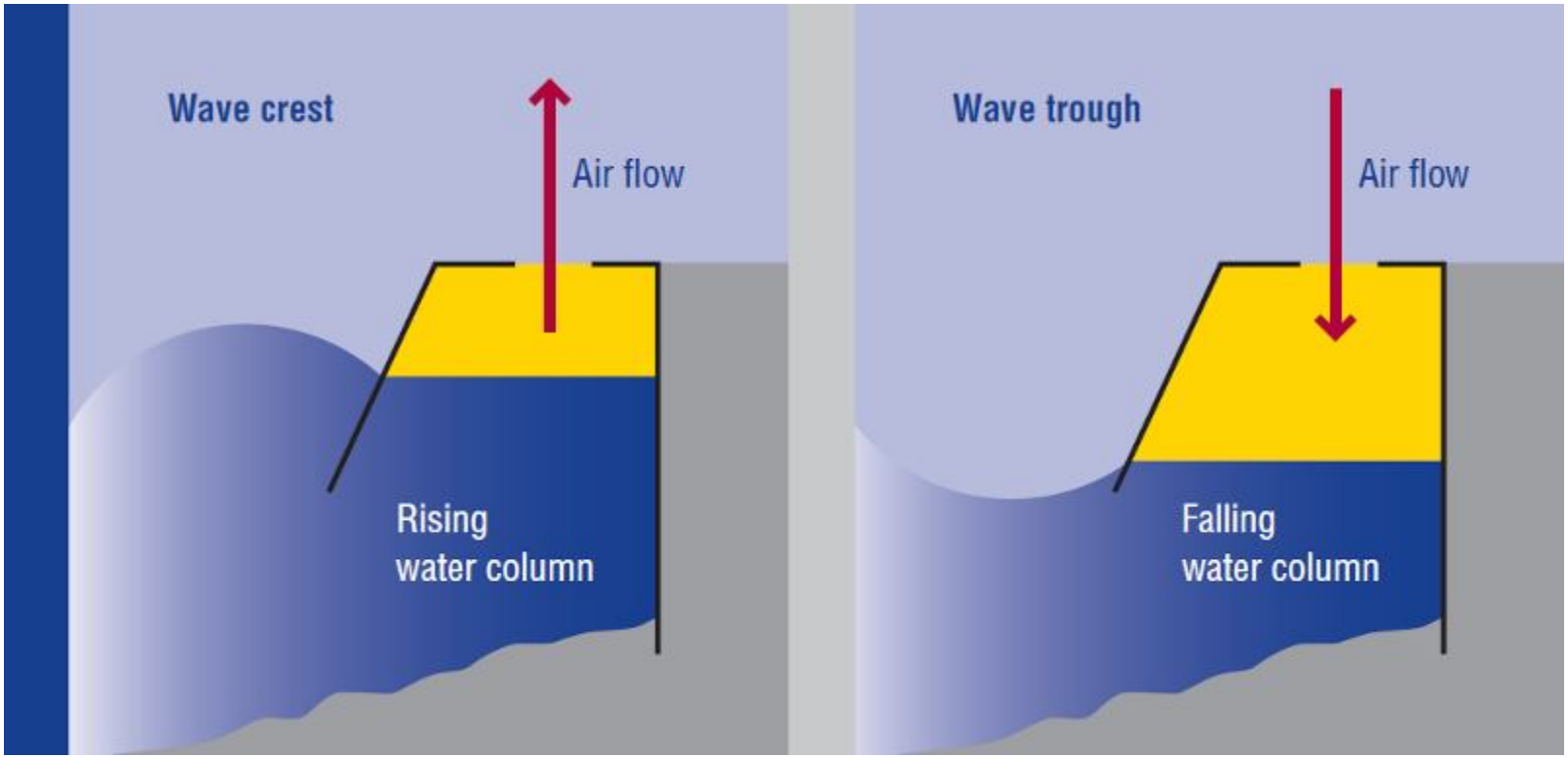
Looked at technology



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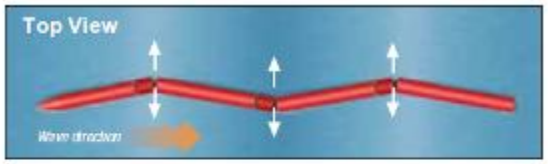
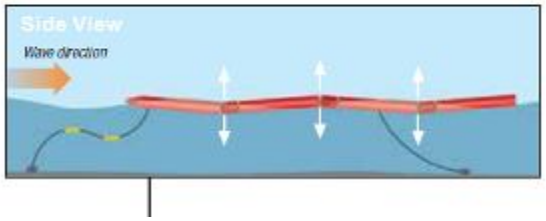
Looked at technology

The Pelamis Wave Energy Converter is a semi-submerged, articulated structure composed of cylindrical sections linked by hinged joints.



The wave-induced motion of these joints is resisted by hydraulic rams which pump high pressure fluid through hydraulic motors via smoothing accumulators.



The hydraulic motors drive electrical generators to produce electricity. Power is fed to the seabed via a single dynamic umbilical connected to a transformer in the machine's nose.

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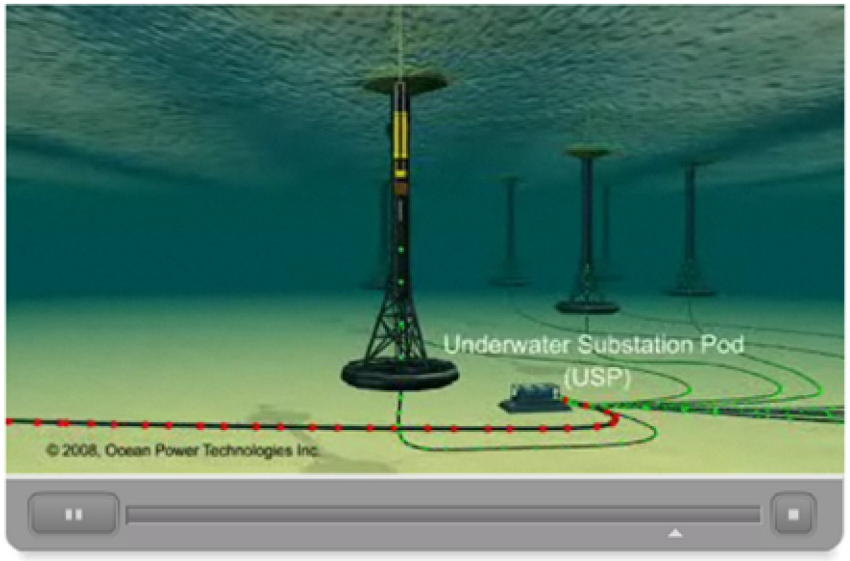
Looked at technology



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Examined options for involvement:

- Wait until one or more wave technologies has a proven commercial track record
- Support Oregon Wave Energy Trust
- Examine the idea of providing financial support to a project

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Took a quick look at OPT project

- Phase I – 150 kW, $20 million
- Phase II – 1.5 MW, $45 million
- Phase III – 100 MW

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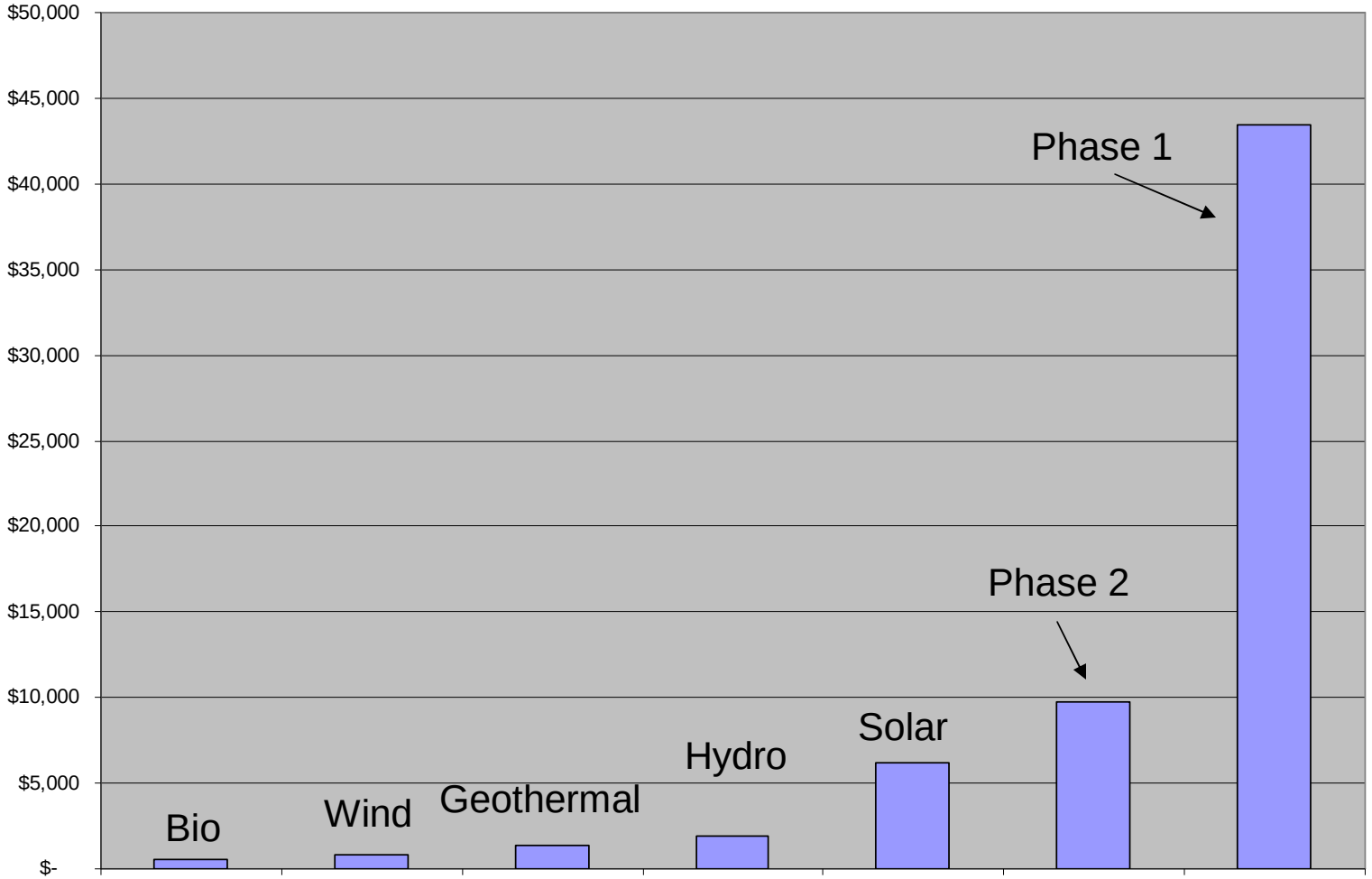
Discussion of issues

Cost comparison (project cost/MWh)



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What we do:

- Fund projects using commercial technology
- Evaluate and pay above-market costs
- Expect a project life of 15-20 years
- Take title to some tags
- PGE or PAC ratepayers derive direct benefits from the project via electricity sales and tags (kWhs and RECs created)
- Projects use replicable technology
- Projects are under 20 MW

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Wave projects don't fit our model

Commercial?	Not yet
Above-market costs	Difficult to determine
Project life: 15-20 yrs	Unclear
Tags?	Unclear
Sell to PGE or PAC	Unlikely in short term
Replicable technology?	Unclear
Under 20 MW?	Yes, in the short run. Unlikely later.

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What we do under demo policy:

- Demo project must lead to projects in PGE/PAC territory
- Must have a plan for what will be demonstrated and to whom
- Incentives are calculated using above-market cost methodology
- Must deliver benefits (RECs) to PGE or PAC.

- more -

What we do under demo policy (cont.):

- Demonstrations must be in realistic conditions
- Designed to deliver power for at least five years, preferably more.
- Ownership by a stable entity
- Technology needs to be important for the market

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Demonstration project model

Lead to PGE/PAC	Likely
Demonstration value	Unclear
Above-market cost	Difficult to determine
Tags	Unclear
Realistic conditions	Yes
Timeframe of more than 5 years	Unclear
Stable owner	Unclear
Important for whole market	Unclear

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Would need a compelling reason:

1. Are we essential? What value do we bring?
2. What direct benefit do we (and ratepayers) receive?
3. What role will these early projects play in developing the market as a whole?
4. What precedent are we setting?
5. Can we live with all outcomes?
6. Do the economics of our incentive make sense?

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Complexities in evaluating

- How do we evaluate a project that has no internal rate of return (IRR)?
- What is the benefit to investors? Is it an appropriate benefit for us? What role is funding playing?
- If our funds are used to guarantee a rate of return for the venture capitalist investors, are they still venture capitalists?
- There is likely no break-even time for this project. How do we determine above-market costs?

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Links to demo project and commercial policies
E:\BOARD PACKETS\Policies Adopted by the Board\4.13.0002A_Protocol for Considering RE Demo Projects.doc

E:\RENEWABLE RESOURCES\PROGRAM POLICIES\RE_programs_CommercialTechnology_guidelines.doc