



**Joint NWA and NHA Northwest Regional Meeting  
Portland, Oregon  
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**Resource Guide for New Hydro Opportunities**

**Panel moderated by:**

**Finlay Anderson**

**Long View Associates**

**[fan@longviewassociates.com](mailto:fan@longviewassociates.com)**

**P: (503) 335-5806**

The following lists are intended to provide interested conference attendees with a starting point for further exploration of the opportunities discussed in this forum. The list is not meant to be exhaustive.

**I. Wave Energy Opportunities (Presented by Kevin Banister, Oregon Wave Energy Trust)**

1. Inventories and assessments:
  - EPRI (2007) Assessment of Waterpower Potential and Development Needs
  - EPRI (2004) Assessment: Offshore Wave Energy Conversion Devices
2. Federal regulations or policies of specific interest
  - FERC's pilot licensing process for hydrokinetic that are small, aimed primarily at generating information for environmental and technical assessment, and not located in "sensitive areas". It is an effort to reach a licensing process that has a study burden that is an appropriate size for these small, unproven projects.
    - White paper on Hydrokinetic Pilot Project Licensing Process
    - Hydrokinetic Pilot Project Criteria and Draft Application Checklist
    - Hydrokinetic Pilot Project Licensing Procedures (Pre-Filing Activity and Post-filing Activity)
3. Any state specific policies or regulations that might be unique to the resource:

- ORS 543.014 is an exemption for Wave Energy Projects from requirements of ORS 543 (minimum standards for development) if
  - i. The project generates electricity from wave energy;
  - ii. The project is located within Oregon’s Territorial Sea;
  - iii. The nominal electric generating capacity, as defined in ORS 469.300, of the project does not exceed five megawatts; and
  - iv. A license under the Federal Power Act is not required to construct or operate the project.
- OAR 141-140 requires an Ocean Energy Facility Lease from DSL for a person to use a specific area of state-owned submerged and submersible land for one or more ocean energy conversion devices comprising a commercial operation.
- OAR 141-140 also provides for a Temporary Use Permit to use a specific area of state-owned submerged and submersible land for placement of ocean energy monitoring equipment or energy conversion devices for a research or demonstration project.
- ORS 390 requires an Ocean Shore Alteration Permit for a structure, appurtenance or other addition, modification or alteration, including habitat restoration, constructed, placed or made on the ocean shore; a permit for a pipeline, cable line, or conduit placed on or under the ocean shore; or a permit for the removal of products from the ocean shore.

4. Policy/regulatory/permitting overviews, guidebooks, templates:

Oregon Wave Energy Trust, 2009. Wave Energy Development in Oregon: Guide to Permitting and Licensing

5. Example Projects / dockets to watch:

- Reedsport OPT Wave Park – P 12713
- Oregon Wave Energy Partners (Coos Bay) -- P12749
- Douglas County – P-12743
- Tillamook Intergovernmental Development Entity (TIDE) – P-13047

6. Who to contact for additional information:

- Oregon Wave Energy Trust (OWET)

www.oregonwave.org  
 Oregon Wave Energy Trust  
 PO Box 8626  
 Portland, OR 97207-8626  
 Phone: 503-224-1966

## II. Tidal Opportunities (Presented by Adam Lewis, Snohomish PUD)

### 1. Inventories and assessments:

2006 EPRI assessment of tidal potential identified significant U.S. resources in AK, WA, CA, MA, and ME. Updated EPRI assessment in April, 2009 indicates over 94% of US tidal resource is in Alaska.

### 2. Federal regulations or policies of specific interest:

FERC created the pilot licensing process for hydrokinetic projects that are small, aimed primarily at generating information for environmental and technical assessment, and not located in “sensitive areas”. It is an effort to reach a licensing process that has a study burden that is an appropriate size for these small, unproven projects.

### 3. Policy/regulatory/permitting overviews, guidebooks, templates:

None that are separate from wave. It is worth examining prior permitting documents and environmental analyses, such as Snohomish PUD PAD for Admiralty Inlet (available through FERC) and report from the Scottish Executive (at [seaenergyscotland.net](http://seaenergyscotland.net)).

### 4. Example Projects / dockets to watch:

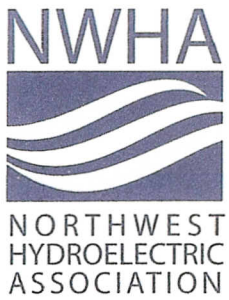
- P-12679 ORPC---Cook Inlet, AK
- P-12680 ORPC---Western Passage, ME
- P-12690 Snohomish County PUD----Admiralty Inlet, WA
- P-12611 Verdant Power---RITE project East River, NYC

### 5. Who to contact for additional information:

- NHA Council on Ocean, Tidal and New Technology  
Chair: Cherise Orman, Stoel Rives - [cmoram@stoel.com](mailto:cmoram@stoel.com)  
NHA Support Staff: Jeff Leahey - [jeff@hydro.org](mailto:jeff@hydro.org); P: 202.682.1700 x.15
- Ocean Energy Renewables Coalition  
[www.oceanrenewable.com](http://www.oceanrenewable.com)  
Sean O’Neill, President (301) 869-3790

### III. Incremental hydropower at non-power producing federal Projects (Presented by Julie Keil, Portland General Electric)

1. Inventories and assessments:
  - Idaho National Laboratory: Hydropower Resource Assessment  
<http://hydropower.inl.gov/resourceassessment/>
  - Eight Maps of Existing Hydro & Hydro Potential in the US  
[http://www.hydro.org/Jobs%20Study/11x17\\_US\\_HydroelectricPotentialResources\\_092409kec93\\_Maps1-8v4.pdf](http://www.hydro.org/Jobs%20Study/11x17_US_HydroelectricPotentialResources_092409kec93_Maps1-8v4.pdf)
  - Combined Map of Existing Hydro and Hydro Potential in the US  
[http://www.hydro.org/Jobs%20Study/US\\_HydroelectricPotentialResources\\_092409kec93\\_41x62\\_rotated.pdf](http://www.hydro.org/Jobs%20Study/US_HydroelectricPotentialResources_092409kec93_41x62_rotated.pdf)
2. Federal regulations or policies of specific interest:
  - On Nov. 6, 1992, FERC and BuRec signed an MOA establishing procedures and methods of determining whether FERC or BuRec has jurisdiction over projects at BuRec Dams.
  - Sections 4(e) and 4(f), 16 USC Sections 797(e) and (f), give FERC the power to issue licenses and preliminary permits, respectively, for hydro projects to be located at federal dams and facilities, unless Congress has withdrawn the site for federal development.
  - Section 10 of the River and Harbor Act of 1899, 43 USC Section 403, prohibits the creation of any obstruction to navigation not authorized by Congress, but Section 4(e) of the FPA is construed as such an exception.
3. Example Projects / Dockets to watch:
  - P-13527 Portland General Electric – Crooked River Hydroelectric Project
  - P-12965 Symbiotics, LLC. – Wickiup Dam Hydroelectric Project
4. Who to contact for additional information:
  - NHA Small Hydro Council  
Vice-Chair: Jessica Matlock, Snohomish PUD [jdmatlock@snopud.com](mailto:jdmatlock@snopud.com) P: 425-328-4985
  - Oregon Department of Energy Small Hydro Working Group  
ODOE Staff: Karen Chase, [Karen.Chase@state.or.us](mailto:Karen.Chase@state.or.us) P: 503 378-4298



## INCENTIVE PROGRAMS REDUCING COSTS OF SMALL HYDRO DEVELOPMENT

Jan Lee, Executive Director  
Northwest Hydroelectric Association

The time to save money on a project is up front!! With fewer dollars going into construction and development, funding costs will be reduced. If there are borrowed dollars, reducing costs up front is even more critical.

In Oregon we have developed a system of programs to provide incentives and reduce the cost of small hydro projects and other renewables. I'm sharing the range of incentives we have developed as examples, in case you see merit in duplicating these tools in your area.

### **SMALL SCALE ENERGY LOAN PROGRAM (SELP)**

Some of these programs, like the Small Scale Energy Loan Program (SELP), have been available for a couple decades. SELP was voted in by the people of Oregon through the initiative process – the first loan was in 1981 to the Confederated Tribes of the Warm Springs who developed a 15 MW hydro plant that has now been in production for 28 years. Loans are provided using the state's bonding authority and are collateralized by project revenue. Loans may vary from \$20,000 to \$20 million.

[www.oregon.gov/ENERGY/LOANS](http://www.oregon.gov/ENERGY/LOANS)

### **BUSINESS ENERGY TAX CREDIT (BETC)**

Both public and private entities can participate in the BETC (Betsy) program.

[www.oregon.gov/ENERGY/CONS/BUS/BETC.shtml](http://www.oregon.gov/ENERGY/CONS/BUS/BETC.shtml)

Unlike the federal production tax credit (PTC) which is only available to private for-profit entities, the BETC can be used by private and public entities. Those with no tax liability can "pass-through" the tax credit to a for-profit taxable entity. The BETC equates to 50% of the project cost for private entities and for pass-through transactions, 33.5%. The project owner must apply and be certified before the project starts and then the tax credit is awarded upon project start-up.

### **ENERGY TRUST OF OREGON (ETO)**

The Energy Trust of Oregon is an independent non-profit corporation. It is under contract to the Oregon Public Utility Commission (OPUC). ETO is funded by the Oregon customers of Portland General Electric, Pacific Power and three natural gas companies. Projects assisted by ETO must be located within the service areas of these utilities. Funding is available for:

- Scoping studies
- Feasibility studies
- Cash incentives or investments in projects
- Grant-writing assistance

**JAN LEE**  
*Executive Director*

PO Box 2517  
Clackamas, OR 97015

**(503) 545-9420**  
(503) 631-7299 Fax

[www.nwhydro.org](http://www.nwhydro.org)  
[jan@nwhydro.org](mailto:jan@nwhydro.org)

*For a list of Directors,  
please visit our  
website.*

The project must generate electricity using commercial technology. Project incentives are paid when the project is complete and operating. Multiple technologies can be funded—wind, solar, bipower, hydro and geothermal.

<http://www.energytrust.org/hydro/index.html>

### **OREGON ECONOMIC AND COMMUNITY DEVELOPMENT DEPARTMENT (OECD)**

The department provides feasibility funds for projects developed by public entities, including special districts and tribes. The program was set up by the Governor's Executive Order in 2006. Feasibility study funding is limited to projects from 25kW to 10MW. Funds are available both as grants and loans. The maximum grant award is \$50,000.

<http://www.oregon.gov/ECDD/CD/REFF/home.shtml>

### **RENEWABLE PORTFOLIO STANDARD (RPS)**

Oregon's RPS was enacted by the legislature in 2007 and requires the state's larger utilities to purchase 25% of their retail sales of electricity from newer, clean renewable sources of energy by 2025.

[www.oregon-RPS.org](http://www.oregon-RPS.org)

### **GREEN TAGS (Renewable Energy Credits – RECs)**

The "green tag" program promotes clean renewable energy by providing renewable energy credits (RECs) or tradable renewable certificates (TRCs). The Bonneville Environmental Foundation is one of the purchasers of green tags within the service territory of the Bonneville Power Administration (the Northwestern states). The tags are then resold to utilities and others.

<http://www.b-e-f.org/renewables/>

### **WATER CONSERVATION PARTNERSHIP WITH POWER PRODUCTION**

A number of projects are being constructed in Oregon within irrigation districts and city water systems, using existing conduits. The Oregon Water Resources Department, which administers the licensing program for the state, has an expedited process for providing water right approval for conduit exemption projects. Legislation passed in 2007 allows an entity filing a conduit exemption application with the Federal Energy Regulatory Commission (FERC) to use that application as the basis of the state application. Then the applicant can use its existing water right for power as a supplemental use (same time period, same amount of water) when an appropriate fishscreen is in place at the project's diversion. (Oregon Revised Statutes Chapter 543.765)

[http://www.wrd.state.or.us/OWRD/PUBS/forms.shtml#water\\_right](http://www.wrd.state.or.us/OWRD/PUBS/forms.shtml#water_right)

Entities like the Oregon Water Trust (OWT) and the Deschutes River Conservancy (DRC) provide public funding and grants to purchase conserved water from pipeline projects and then permanently allocate the conserved water instream. This is another funding source for water district projects as the funds offered by OWT and DRC can help pay for the conduit that then is enhanced with hydropower.

<http://www.thefreshwatertrust.org/projects/oregon-water-trust>

<http://www.deschutesriver.org>

ENERGY TRUST OF OREGON

Download Workbook at [www.energytrust.org](http://www.energytrust.org)

# SMALL HYDROELECTRIC PERMITTING HANDBOOK

VOLUME ONE: SELECTING THE PROPER STATE  
AND FEDERAL PERMITTING PROCESSES

Energy Trust recognizes the value and potential of Oregon's untapped hydropower resources and provides assistance to eligible project proponents to help move their ideas from concept to completion. Through our work we see often the challenges that project developers face in attempting to secure the necessary hydropower permits from multiple federal and state agencies.

For first time developers, the complex permitting processes for hydropower projects can seem especially daunting. This series of guidebooks has been written for both new and experienced developers and is intended to serve as a roadmap to state and federal permitting requirements.

There are six guidebooks in total:

- Volume One: Selecting the proper state and federal permitting processes
- Volume Two: The FERC Conduit Exemption process
- Volume Three: The FERC 5MW Exemption process
- Volume Four: The process for Existing Water Right Holders in Oregon
- Volume Five: The Oregon Minor Hydroelectric Project process
- Volume Six: The Oregon Major Hydroelectric Project process