

A Programmatic Approach to Wave Energy Planning:

Opportunities for the Oregon Wave Energy Trust



Stephen Padula
Finlay Anderson



Gail Achterman



College of Oceanic and
Atmospheric Sciences

Michael Harte

Wave Energy Development Activity in Oregon

- 7 preliminary permits issued or pending
 - Approx 540 MW capacity proposed
- 1 PAD/NOI submitted (OPT Reedsport)
 - Proposing Traditional License Procedure (TLP) with settlement agreement
 - Proposing 50 year license application for 14 Buoys (fall, 2008)
 - Most “effects” studies to be conducted after first license issued
 - Future amendment for full build out to reach 50 MW

Other 2007 Legislative Activity

- Senate Bill 838 Renewable Energy Portfolio Standard (RPS)
- Senate Bill 875: Ocean Energy Rules
 - Authority for the Department of State Lands to develop rules relating to wave energy facilities.
 - Requirements for site restoration
 - Requirement for operator of a wave facility has evidence of financial assurance to meet the site restoration requirements.
 - Clarifies that ocean wave energy is distinct from hydroelectric energy and qualifies for the Business Energy Tax Credit as a separate form of renewable energy.
- House Bill 2925: Small Wave Energy Facility Licensing Exemption
- House Joint Memorial 22: Wave Energy

Oregon's Competitive Advantage for Wave Energy

- Tremendous wave resource and coastline transmission capacity
- Presence of coastal communities presents ready market for power
- World class research & development centers at Oregon State University and Hatfield Marine Science Center
- Governor and legislature that is active in promoting this resource
- Skilled workforce and complementary industries

Challenges to Development of Wave Energy Industry

- Uncertainty about technology and impacts
- Uncertain regulatory landscape
- Implications of exclusive use of project areas
 - Competing and traditional uses (fishing & recreation)
 - Cultural sensitivity to “closing” what has always been viewed as a public resource
 - Overlay with questions about marine reserves and marine protected areas
- Financial or market uncertainty

Brief overview of permitting and licensing processes

- Federal
 - Federal Energy Regulatory Commission (FERC)
 - Mineral Management Service (MMS)
 - US Army Corps of Engineers
 - Coast Guard
- State
 - Water Quality
 - Coastal Zone Management
 - Leasing regime
 - Shoreline management
 - Aquatic and near shore resources
 - Historic Properties
- Tribal

The Opportunity

- Many of these challenges can be addressed through a comprehensive planning process
- There are currently no firm plans to conduct such a process; but some discussion at the state and local levels
- There is a an opportunity through the creation of the Oregon Wave Energy Trust to organize and facilitate such an effort.

Oregon Wave Energy Trust

Vision: Oregon will become the global epicenter of the wave energy industry. This industry will create high-paying jobs and economic opportunity in Oregon, attract new investment and talent to the state, and provide reliable, low-cost, clean, and renewable power to Oregon customers.

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Vision: *Oregon will become the global epicenter of the wave energy industry. This industry will create high-paying jobs and economic opportunity in Oregon, attract new investment and talent to the state, and provide reliable, low-cost, clean, and renewable power to Oregon customers.*

- Will be the central entity for all wave energy related development (directed by stakeholders)
- Build and share expertise to accelerate the industry's development in a responsible manner

Oregon Wave Energy Trust

- Organization
 - Proposed as part of Oregon Innovation Council's 2007 initiatives
 - Established as a 501(c)(6) private not-for-profit organization.
- Status
 - Legislature has approved \$ 4.2 M in funding for
 - Research & Development
 - Regulatory Streamline, Environmental Assessment Planning
 - Production Incentives
 - Coordination
 - Board recruited
 - Strategic planning nearing completion

Oregon Wave Energy Trust

- OWET Benchmarks
 - Establish non-profit entity to lead initiative
 - Begin permitting and deploy new OSU wave generators
 - Two commercial projects engaged in FERC licensing process (50 MW each)
 - Site a 2 MW pilot project to be complete in 2008
 - 500 MW total installed in Oregon by 2017.

Statewide Planning Efforts

- Policy Initiatives
 - Financial
 - Regulatory / Legislative
 - Organizational
- Stakeholder Processes
 - Oregon Solutions
 - Stakeholder organization (various)
- Comprehensive Planning ??

So what's the problem?

- Uncertainties over environmental effects
 - “Chicken & Egg” dilemma
- Uncertainties over regulatory requirements / jurisdiction
- Questions over bonding and decommissioning
- Impacts on local communities
 - Economic benefits unclear
 - Traditional economic base feels threatened

Opportunity and need for Comprehensive Plan

- Assist with FERC process
 - FERC includes determination of a proposed project's consistency or inconsistency with comprehensive plans.
 - mitigative measures to reduce a proposed project's conflicts with the goals of accepted plans.
 - When there are conflicts that cannot be resolved with mitigation, FERC may recommend an alternative project design or license denial.
- Facilitate a coast-wide discussion among interest groups about future of exclusive vs non-exclusive use of Territorial Sea

Possible Elements to Include in Oregon Comprehensive Wave Energy Siting Plan

- Baseline Information / protocols for information sharing
- Performance Standards & Long Term Monitoring
- Programmatic Assessment
- Model agreements for lost gear
- Dispute resolution and problem solving
- Prioritization of available ocean “real estate” (as identification of “hands off” areas)

Possible Vehicles for Comprehensive Plan

- Stand-Alone
- Amendment to Territorial Sea Plan
- Amendment to Coastal Zone Management Plan
- Others?

Other considerations

- Timing: Comprehensive planning will take some time, so what happens to ongoing preliminary permit investigations and license applications in the meantime?
- Related ocean planning efforts are underway – how to be efficient without derailing or slowing down efforts
- Likely similar effort and discussion needed outside of Territorial Sea (MMS)

Discussion