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2011-2013 BIENNIAL REPORT

An unending supply of ocean energy. A unique intersection of powerful waves, wind and vast ocean. A field of technological knowledge to harness this energy. Strong port infrastruc- tures, renewable energy policies and electrical grid capacity to make Oregon a global leader in clean, sustainable ocean energy.

Cover photo: Mena Rota

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OWET is a nonprofit public-private partnership funded by the Oregon Innovation Council since 2007, with a mission to promote the responsible development of ocean energy in Oregon.

Our members range from fishing and environmental groups, to industry and government.

We are a connector for all stakeholders involved in wave energy project development – from research and development to early stage community engagement, to final deployment, energy generation and job creation – positioning Oregon as the North American leader in this nascent industry and delivering its full economic and environmental potential for the state.

The ocean is the largest, most concentrated supply of renewable energy on earth. It could provide 10 percent of the world's energy.

Americans consume 25 percent of the world’s energy, even though the U.S. holds only 5 percent of the world’s population. At the same time, demand for energy is growing. In addition, conventional fossil resources (oil, coal and natural gas) face supply constraints and volatile markets. While we search for new sources of energy, concerns about economics and climate change have become widespread. This has led to the search for new sources of renewable energy.

Ocean energy is always available Unlike other renewable power sources, ocean energy has the potential to be available all the time. In winter, when the region uses the most energy, even more energy is available in the waves off the Oregon Coast.

Ocean energy is predictable Wave patterns, height and strength can be accurately predicted days in advance.

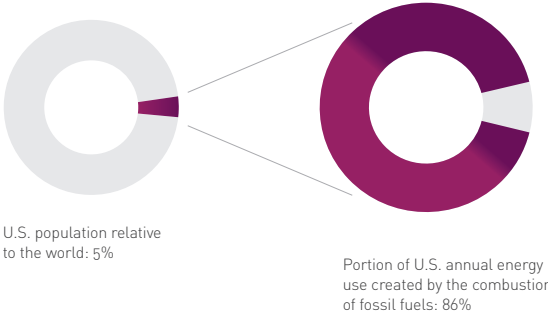
Ocean energy is reliable In Oregon, ocean energy will be generated close to where most of the power is consumed. This increases the reliability of the transmission grid and reduces the inefficiencies of transferring power from the eastern parts of the state and beyond. The entire Oregon Coast is connected to Bonneville Power Administration transmission lines, so the power can be easily moved to where it is needed.

Ocean energy reduces our reliance on fossil fuels Adding ocean energy into the resource mix will help the state reach greenhouse gas emission targets, including carbon reductions of 10 percent by 2020 and 75 percent by 2050.

Ocean energy is clean and renewable The ocean is the largest, most concentrated supply of renewable energy on Earth, and has the potential to provide 10 percent of the world’s energy. Ocean energy is clean, predictable and renewable. It has no greenhouse gas emissions, produces no pollution and requires no major drilling or mining.

OWET is working to diversify the energy mix The best energy solution is one that encompasses many different kinds of renewable energy. No one source will be enough. If one energy source is offline, unavailable or experiencing price shocks, other sources can meet demand and maintain price stability.

While harnessing the ocean’s power, we are also protecting it The ocean energy industry is working closely with existing user groups and community leaders to identify ways to ensure the least impact to present and future ocean users. Robust environmental study and monitoring plans are a critical part of all energy projects. OWET works with highly qualified researchers to study the impacts, if any, on ocean ecology.



We need new sources of energy. Ocean energy is clean, predictable and renewable. Unlike other renewable resources, it has the potential to be available 24/7. It produces no greenhouse gas emissions or other pollution, and requires no major drilling or mining. The Oregon Coastline is among the few places in the world that possess the five key elements necessary to tap into this clean, renewable and sustainable source of energy: an abundance of energy generated by ocean waves border-to-border, internationally recognized experts leading the effort to develop the technologies to capture and convert wave power, the infrastructure to supply that power to the grid, sea ports ready to build, maintain and deploy ocean energy conversion devices and political support and strong policies at state and local levels.

Oregon and OWET have a strong partnership geared toward achieving economic benefits for the state. OWET reduces barriers to getting ocean energy projects into the water for both prototype deployments and commercial installations. OWET-sponsored programs seek to support the responsible development of the ocean energy industry. Since the industry is at an early stage in its development, technology design concepts are still being studied and tested.

By the end of the 2011-2013 Biennium, OWET had funded over 80 projects. These projects have:

- Engaged stakeholders
- Independently answered important questions about the human, economic and environmental impacts of the ocean energy industry in Oregon
- Offered shared expertise to map out and streamline the permitting process
- Driven demand
- Brought regional utility partners to the table

Balancing the use of the ocean OWET works with stakeholders, industry and local communities to explore the balance among existing ocean uses and ocean energy projects.

Regulation OWET has commissioned the creation of information tools for developers and stakeholders navigating the ocean energy regulatory environment, including the most relevant state and federal requirements, as well as having identified the lead and participating agencies for each authorization required.

Environmental impact OWET has sponsored research projects to better understand the potential impacts of ocean energy projects on the environment. The execution of these studies has been informed by the study plans generated by ocean energy project development on the Oregon Coast.

Applied research and development OWET has initiated applied research projects that provide information and guidance for developers seeking to deploy – or prepare to deploy – prototype and commercial ocean energy installations in Oregon.

Partnering with OWET To assist companies interested in controlled testing of their technologies, Oregon boasts a strong university system that includes the facilities at Oregon State University, like the O.H. Hinsdale Wave Tank and Wallace Energy Systems & Renewables Facility. OWET will continue to work with its partners and sponsor initiatives that provide opportunities to advance ocean energy.

For companies who are ready to deploy scaled prototypes in uncontrolled environments, the Northwest National Marine Renewable Energy Center (NNMREC) and its ocean test facilities can provide the guidance and expertise needed to advance technologies through this phase.

Development in Oregon OWET continues its work to reduce the barriers to entry and answer key questions in assistance towards commercial scale ocean energy projects. Companies interested in commercial scale projects should look to OWET for guidance as they begin to consider their projects.

ANNUAL AVERAGE OCEAN ENERGY
FLUX IN KW PER METER

Ocean energy is created by large storms hundreds of kilometers offshore that generate and transmit huge amounts of energy. This energy travels great distances (via swells) and mixes with local influences (seas) to arrive on shore.

The World Energy Council has estimated that ocean energy could produce as much energy in a year as 2,000 oil, gas, coal, and nuclear power plants.



Education and Outreach

As an information hub for industry, identifying and resolving barriers, OWET links groups to provide a forum for ocean energy stakeholders.

Energy and the Environment Initiative

The *Energy & the Environment Initiative* educates the public about renewable energy, sustainable technology and the role ocean energy will play in both. *Partnered with Oregon Museum of Science and Industry (OMSI).*

Wave Energy Education Exhibit

An exhibit was created at the Hatfield Marine Science Center (HMSC) in Newport, Oregon to educate the public on the benefits of wave energy, different wave energy converter technologies, project development status, and political and economic considerations. *Partnered with Oregon State University and Oregon Sea Grant.*

Fishing Industry Engagement

Organized groups of fishermen work directly with the wave energy industry. Outreach activities have included coast-wide meetings for all fishermen, public community forums, and public workshops on marine spatial planning and fishing grounds mapping. *Partnered with Oregon Sea Grant.*

Market Development

Market development activities prepare the utility market for the ocean energy industry.

Coastal Infrastructure Inventory

The needs of the ocean energy industry and infrastructure in Oregon to support them were assessed. *Partnered with Advanced Research Corporation.*

Incentivizing Ocean Energy

Methods of bridging the gap between the cost of ocean energy and the price it can command in the marketplace, especially for early-stage technologies, were studied. *Partnered with Robert K. Harmon & Company, LLC and Carbon Solutions Northwest.*

Socio-Economic Perspectives of Wave Energy Development

A multidisciplinary research program was undertaken to understand how economic cost and benefits are interdependent and linked to values, perceptions, policies and decisions. *Partnered with Oregon State University.*

Economic Impact Analysis of Wave Energy

A baseline estimate of the economic impact of wave energy development in Oregon was established. The readiness of specific coastal communities will be analyzed for both present and future capacities to integrate, sustain, and retain wave energy development. *Partnered with Portland State University.*

Applied Research

Applied research projects answer questions surrounding development. As a core component of OWET’s efforts, its significant support for research and development of technology has helped propel the industry toward commercial readiness.

Advanced Anchoring and Mooring Study

An industry knowledge base for existing anchoring and mooring techniques was established, along with providing potential solutions that eliminate or minimize the conflicts with other public and commercial users of the coastal waters including the fishing and crabbing industry. *Partnered with Sound & Sea Technologies and Bittner-Shen Consulting Engineers, Inc.*

Electromagnetic Field Measurements Study

Methods, protocols and measurements for acquiring reliable and affordable Electromagnetic Field (EMF) measurements for wave project sites were determined. *Partnered with Science Applications International Corporation.*

Ambient Noise Assessment

A methodology for measuring the existing environmental conditions for comparison to the noise spectra generated by ocean energy devices was documented. *Partnered with JASCO Applied Sciences.*

Wave Energy Converter Array Far-Field Effects Analysis

Laboratory experiments were performed using five 1:33 scale, commercially-designed, point-absorber wave energy converters (WECS). Multiple array configurations were subjected to a range of wave conditions in order to better constrain models for simulating the environmental effects of large-scale arrays of WECs. *Partnered with Oregon State University and Columbia Power Technologies.*

Environmental Research

These projects examine any potential environmental effects of wave energy conversion.

Dungeness Crab & Fish Baseline Study

Consistent baseline data for sub-adult and adult Dungeness crab and fish species in and around potential project sites was established. Tagged crabs were recaptured in order to study migration patterns. *Partnered with H.T. Harvey and Associates and Oregon Sea Grant.*

Baseline Seabird Assessment

A seabird count and species distribution survey in the Coos Bay region was implemented. *Partnered with National Oceanic and Atmospheric Administration (NOAA).*

Bird Radar Study

Consistent baseline bird data in and around potential project sites utilizing bird radar was established. *Partnered with Geo-Marine, Inc.*

Green Sturgeon Study

An acoustic telemetry study assesses the potential impacts of a pilot-scale wave energy development on green sturgeon migration, behavior, and habitat use, covering three migratory periods. *Partnered with Blue Dot Research, LLC.*

Dungeness Crab Genetic Study

This study’s findings will be a key component of the evaluation of wave energy devices and the potential effects on potentially genetically distinct sub and source Oregon Dungeness Crab. *Partnered with Oregon State University.*

Regulatory

This research assists developers in navigating the financial and permitting process on both federal and state levels.

Wave Energy Regulatory Analysis and Framework

A team of experts developed a coordinated siting protocol to enhance state and federal licensing processes to encompass renewable wave energy development, identified existing regulations and provided recommendations for better coordination among stakeholders, including ocean users, environmental regulating bodies and wave energy developers. *Partnered with Pacific Energy Ventures.*

International Standards Development for Marine and Hydrokinetic Renewable Energy

OWET assisted in the development of marine energy industry standards, provide consistency and predictability to their development, and increase U.S. industry’s collaboration and representation in the development process. *Partnered with Science Applications International Corporation (SAIC).*

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	<div>SELECTED FUNDED PROJECTS UP CLOSE</div>				
	<div>Education and Outreach</div> <div>As an information hub for industry, identifying and resolving barriers, OWET links groups to provide a forum for ocean energy stakeholders.</div>	<div>Market Development</div> <div>Initiate and support market development activities for the ocean energy industry.</div>	<div>Applied Research</div> <div>Applied research projects answer questions surrounding development. As a core component of OWET’s efforts, its significant support for research and development of technology has helped propel the industry toward commercial readiness.</div>	<div>Environmental Research</div> <div>These projects examine any potential environmental effects of ocean energy conversion.</div>	<div>Regulatory</div> <div>Supports regulatory framework development to advance the ocean energy industry.</div>
	<div> <div> <div>Oregon Fishing Community Mapping Project Outreach</div> <div>Working with coastal governments and community groups, OWET funded the gathering of community-information needed to create an Oregon ocean plan. The overarching goal of this project was to compile the first-ever comprehensive maps illustrating the commercial, charter, and recreational fishing use patterns and values along the entire Oregon coast. That information, along with other overlays of information showing sensitive marine ecosystems and other existing ocean uses, was used to identify areas in the ocean optimal for commercial-scale wave energy sites. A coastal community wide effort, 244 commercial fishermen, 63 charter operators/ owners, and 237 recreational fishermen participated by sharing their knowledge and experience. <i>Partnered with The Oregon Coastal Zone Management Association, Oregon Department of Land Conservation and Development, and Ecotrust.</i></div> </div> <div> <div>Fishermen’s Information Services</div> <div>OWET provided grant funds to support the formation of the Fishermen’s Information Services for Housing Confidential Release and Essential Distribution (FISHCRED). FISHCRED was formed to serve as a central decision-making entity to guide, review, and approve of how fisheries data will be presented, utilized, or applied in the Territorial Sea Plan and other planning/policy processes. More broadly, FISHCRED seeks to ensure that the diversity of commercial fishing interests across the coast of Oregon are sufficiently represented and communicated in Oregon’s Marine Spatial Planning efforts. <i>Partnered with Oregon Sea Grant, Ecotrust, and the Oregon Department of Land Conservation and Development.</i></div> </div> </div>	<div> <div>Resource Characterization and Enhanced Value of Energy Model</div> <div>This project provided a thorough analysis of the variability and predictability of wave energy in to inform utilities and balancing authorities about the value of the resources, and the potential integration costs and methods for managing them. Specific objectives included: ocean energy resource characterization, forecasting analysis and recommendations for the predictability of wave energy in utility terms, and integration costs for wave energy based on the Bonneville Power Administration’s current integration cost methodology. <i>Partnered with Pacific Energy Ventures.</i></div> </div> <div> <div>Utility Market Initiative (UMI) and Roadshow</div> <div>To show electric utilities how ocean energy fits with the existing and future resource portfolio, the UMI project generated reports describing the regional energy picture and approach to long-term resource planning and acquisition. Outreach materials about technologies, the process for moving from pilot to commercial scale, and best practices for new project development were created and presented to utility companies and other entities throughout Oregon. <i>Partnered with Pacific Energy Ventures.</i></div> </div>	<div> <div>Sediment Transport Study</div> <div>To assess the potential effects of wave energy devices on sediment transport and on the morphology of beaches researchers monitored the measurements of the waves and currents, numerical modeling of the background wave climate and nearshore bathymetry and shoreline observations to document the baseline conditions. These techniques developed will be useful for assessing the effects of future wave energy devices established along the Oregon coast. <i>Partnered with Oregon State University, Pacific Energy Ventures and the Oregon Department of Geology and Mineral Industries.</i></div> </div> <div> <div>Oregon Deployment Best Practices</div> <div>Deployment best practices were established based on the successful deployment and recovery of the WET-NZ wave energy converter device deployed for six weeks at the Northwest National Marine Renewable Energy Center’s Newport test site. Described practices focus on the WET-NZ device, its related mooring system and the device’s connection to the Ocean Sentinel. The WET-NZ was connected to the Ocean Sentinel via an umbilical cable to transmit power and perform various data and instrumentation experiments. <i>Partnered with Northwest Energy Innovations (NWEI).</i></div> </div>	<div> <div>Marine Mammal Acoustic Studies</div> <div>Migratory routes and potential locational effects of ocean energy development on gray whale migration were surveyed. Experiments are underway for a successful deterrent device that could be used as a mitigation tool to keep gray whales away from potentially harmful situations, such as might arise with the development of hydrokinetic energy along the Oregon coast. <i>Partnered with Oregon State University.</i></div> </div> <div> <div>Baseline Characterization of Benthic Habitats and Organisms</div> <div>The Baseline Characterization of Benthic Habitats and Organisms assessed the baseline characterization via observations and sample collection of the habitat and biological assemblages on two Oregon coastal cities. The goal of this project was to assess sediment characteristics, infaunal invertebrates, epifaunal invertebrates and fish. Specifically, CTD casts, box cores and beam trawl collections were conducted. The project reports in detail on the spatial variability of the habitat features and biological assemblages. <i>Partnered with Oregon State University.</i></div> </div>	<div> <div>Cumulative Effects</div> <div>The Cumulative Effects Framework includes detailed modeling of coastal, mid-depth and offshore wave energy device suitability and the development of conceptual models and model algorithms for additional resources of value, including whales, sea lions, fishing and more. Phase II expanded capabilities and improved user experience. The final phase of development will include maintaining, updating and improving the data and models to improve and increase its applicability in siting marine renewable energy devices. <i>Partnered with Parametrix and Aquatera.</i></div> </div> <div> <div>Territorial Sea Plan</div> <div>The Territorial Sea Plan governs the locations and conditions under which a wave energy project may move forward in Oregon in a way that promotes the development of ocean energy, while protecting the ocean and its users. The plan establishes four areas in Oregon’s waters where ocean energy is incentivized by a clear regulatory pathway and minimal substantive standards, and provides secondary areas where ocean energy is permitted, providing flexibility and room for the industry to grow. <i>Partnered with Parametrix and Miller Nash.</i></div> </div>



Kevin Banister

In 2008, Oregon State University (OSU), with assistance from OWET, was awarded \$6.25 million by the U.S. Department of Energy (USD OE) to develop the Northwest National Marine Renewable Energy Center (NNMREC). NNMREC, a partnership between OSU and the University of Washington (UW), is one of only three USD OE-funded centers facilitating the development of marine renewable energy technology via research, education and outreach. While OSU focuses on wave energy, UW's emphasis is tidal energy and, in 2011, NNMREC's research agenda expanded to include offshore wind energy. In 2012, again with OWET assistance, NNMREC was awarded \$4 million by the USD OE to begin work on a grid-connected test facility for utility-scale wave-energy converters, the Pacific Marine Energy Center South Energy Test Site (PMEC-SETS).

NNMREC has made great strides to assist and guide the development of the ocean energy industry in the U.S. through technology testing and validation, environmental study and analysis, and understanding the human dimensions of the emerging ocean energy industry. NNMREC faculty and students investigate technical, environmental and social dimensions of these ocean energy technologies, and perform research that fills knowledge gaps. NNMREC itself serves as a neutral voice of science and engineering to inform the public and decision-makers about the effects and capabilities of wave, tidal, and offshore wind-energy technologies.

Objectives

- Develop its facilities to serve as an integrated, standardized test center for U.S. and international developers of wave and tidal energy;
- Evaluate potential environmental, ecosystem, and human dimension impacts of wave and offshore wind energy installations, focusing on the compatibility of marine energy technologies in areas with sensitive environments and existing users;
- Facilitate and conduct research to inform adaptive management of marine energy technologies;
- Study and consult on device and array optimization for effective deployment of wave and tidal energy technologies;
- Improve forecasting of the wave-energy resource; and
- Increase reliability and survivability of marine energy systems.

Standardized Test Center Under the PMEC banner, NNMREC has modeling and world-class testing facilities for small-scale wave energy converter (WEC) prototypes on its Corvallis, Oregon campus, and opened a non-grid connected test berth, the North Energy Test Site (NETS), for in-ocean testing in the summer of 2012 in Newport, Oregon. While these facilities are critical steps forward for the industry, developers and policy makers alike have determined that a full-scale, grid-connected ocean test facility is

needed to achieve industry commercialization and fully reap the benefits of this clean, renewable energy resource. NNMREC is working to develop a world-class, grid-connected ocean energy test facility—PMEC-SETS—to advance understanding of the effects and capabilities of marine renewable devices.

PMEC-SETS will demonstrate the viability of marine energy off the very energetic Northwest coast of the U.S. by providing a fully functional wave energy test facility for prototype and commercial scale devices (TRL 5-9). SETS will offer four test berths connected to the regional grid, and will be capable of testing individual devices up to one megawatt in size. Specifically, SETS will meet the following key industry development needs for testing sub-scale and with grid simulation capability: ocean test berth for full-scale, single-device testing; multiple-berth device testing (device arrays) for commercial scale devices and prototypes; and opportunity for potential expansion to commercial activity. Specific SETS offerings are expected to include: standardized power analysis at an accredited facility, grid interconnection data from an accredited facility, grid synchronization data (standardized fault testing and power dissipation), power demonstration on the grid (e.g., technical and contractual), and procedures and protocols for all stages of development.

In fall 2011, OWET clarified its strategic direction in order to further the ocean energy sector and define our role within it. We also devised the plan to reflect the best interests and thinking of our partners including funders, developers, other stakeholders partners, board and staff.

Research and Development

- Expedite the development of a world-class, grid-connected, in-ocean test center off the coast of Oregon.
- Partner with NNMREC and industry to support research and development of renewable ocean energy devices and projects in Oregon.
- Fund environmental effects analyses that are directly relevant to development of renewable ocean energy projects in Oregon.

Policy and Regulatory Development

- Ensure ocean planning efforts, including the Oregon Territorial Sea Plan (TSP), are completed and implemented in a manner that includes industry inputs in decision-making and provides viable methods for siting and operating the grid-connected test center and ocean renewable energy generation off the coast of Oregon.
- Advocate for coordinated and efficient federal, state and local policies and regulations to responsibly advance the renewable ocean energy industry in Oregon and the U.S.

Market Development

- Promote market demand for renewable ocean energy in Oregon.
- Develop programs and incentives to promote the supply of renewable ocean energy in Oregon.

External Affairs

- Increase support for ocean energy development in Oregon
- Raise \$250,000 to sustain OWET operations and programs and secure leverage funds from public and private sources not affiliated with grant programs.

Partnership with NNMREC In-water ocean energy testing centers are proven to accelerate commercialization and job creation by facilitating device testing, attracting manufacturing and other supply-chain jobs, and driving port facility improvements, among other benefits.

OWET prioritized this effort to help ensure that Oregon is successful in its efforts to expedite the development of the first world-class, grid connected, in-ocean test center in the U.S.

- Completed development and implementation of a feasibility study that will be used to locate the test berth.
- Created and funded a planning and management consortium to develop the test center and position it to compete for federal funding by 2013.
- Created a Strategic Plan to prepare and apply for the announced pending Department of Energy funding opportunity.
- Pending USDOE funding for the test site, provide assistance to apply for all necessary federal and state permits by end of 2011-13 biennium.

Territorial Sea Plan Ocean energy developers must have workable and reasonable access to potential high-performance sites. To this end, OWET was actively engaged the Territorial Sea Plan (TSP) planning process and several related activities:

- Convened an Industry Advisory Group (IAG) to provide input on OWET’s efforts. The IAG is comprised of representatives from ocean energy developers exploring project and technology development in Oregon and companies active in the supply chain.
- Commissioned a study that provided spatially explicit data and maps for the TSP Working Group, based on the input from IAG members, to ensure that the final TSP is balanced to reasonably accommodate all users.
- Presented siting plan to the DLCD (December 2011) to ensure findings are considered in the planning process and reflected in the final TSP plan.

Oregon Wave Energy Commercialization In 2011-2013, OWET continued to expand its successful Ocean Wave Energy Commercialization program by working with Oregon universities to support early-stage wave energy companies. In addition, OWET served as a first-stop resource to facilitate successful entry into the market for

developers exploring projects in Oregon. OWET also joined with other economic development partners to begin exploring strategies to support the ocean energy cluster during early-stage development and as the industry matures.

Job Creation Virtually all of OWET’s efforts are intended to concentrate the ocean renewable energy industry in Oregon and the Pacific Northwest, with the goal of driving capital investments and job creation in the area. Direct recruiting efforts were accelerated and partnerships were established with other Oregon economic development organizations to bring companies to Oregon.

Leverage Funding remains the largest biggest barrier to ocean energy development. OWET worked closely with its federal partners to concentrate funding in Oregon and continued its successful matching grant program to help secure Department of Energy funds for Oregon projects.

- Leveraged over \$5 million from federal and other sources in 2011-13.
- OWET has successfully leveraged \$26,305,259 since its inception.

Sustainability OWET raised nearly \$300,000 in unrestricted funds to support operating sustainability and capacity building for the organization, including earned revenue from events and fee-for-service programs, and memberships.

Funded Research OWET has funded research studies that contribute to our understanding of the potential economic and environmental impacts of this nascent industry and support development by reducing time and cost for permitting and licensing requirements. To date OWET has funded over \$800,000 in environmental research. Funded studies review state and federal permitting and licensing requirements thereby reducing costs and time to the developer.

Join us in our effort to establish Oregon as the leading ocean energy generator in the U.S. OWET works continuously with stakeholders to balance ocean use and to examine all the potential impacts.

It is an inclusive process OWET brings Oregon’s diverse coastal communities and industries together to responsibly develop the ocean energy industry—from energy companies, to fishing and environmental groups, to local, state and federal agencies, elected officials, and other community representatives.

Green-technology requirements Oregon’s Renewable Portfolio Standard requires utilities to provide an increasing percentage of energy from renewable resources, a definition that includes ocean-derived energy. For the state’s larger utilities, 25% of their load must come from renewable resources by 2025.

The following grants, loans and tax credits provide financial assistance and incentives to invest in new, renewable energy sources:

Small Energy Loan Program Certain wave energy projects may qualify for the state’s Small Energy Loan Program. Depending on the project, low-interest loans that range from \$20K-\$20M may be offered. Terms of the loan are from five to 20 years.

Federal government programs In addition to Oregon-based incentive programs, conditions at the federal level for ocean energy are becoming more favorable. Funding for ocean energy-related programs at the U.S. Department of Energy have increased significantly in recent years. Additionally, wave energy development proponents can seek Small Business Innovative Research (SBIR) grants, loan guarantees for renewable energy projects and other evolving opportunities.

Investments In 2008, industry partners in Oregon secured approximately 25% of the federal ocean energy budget. Oregon Inc.’s initial \$4.2 million investment in OWET has already attracted an additional \$14 million of investment to the state, resulting in over a 200% return on investment. In the coming biennium, OWET will continue programmatic efforts in policy, market development and outreach, with work in each that will emphasize long-term job creation through the development of the ocean energy industry. To further leverage state and federal investments in NNMREC, OWET will prioritize matching contributions for technology development. OWET’s multi-focused approach enables the state to take economic advantage of this evolving and promising industry—from start-up technologies developing intellectual property, to commercial project development in the state.

The work will not be easy. We are essentially transforming decades-old land- and ocean-use policies to adapt to new markets and technologies. There are many moving parts, sometimes-opposing interests, and antiquated rules of engagement. OWET is here to streamline the regulatory process and be a catalyst for pointing all moving parts in the same direction.

Join us.

Why support Oregon Wave Energy Trust?

Oregon Wave Energy Trust (OWET) works closely with stakeholders: fishing and environmental groups, coastal communities and industry, government agencies and other partners in responsibly developing this new industry, while establishing Oregon as the North America leader in ocean energy.

The work we do is the real benefit we offer our members.

Additional benefits of becoming a member include:

- A listing on our website for 12 months
- Access to current news and information in our digital library
- Subscription to our monthly e-newsletter, waveNEWS, periodic e-news and breaking news alerts
- Discounts on OWET events

There are many ways to get involved. Please e-mail us to discuss opportunities and benefits at info@oregonwave.org

OWET is a 501(c)(6) organization. Memberships are tax deductible.