PRIMRE BLAST

2 May 2025

The Portal and Repository for Information on Marine Renewable Energy (PRIMRE) provides access to marine energy data, information, and resources in the U.S. and internationally. The bi-weekly PRIMRE Blast highlights relevant announcements and upcoming events; new content in the Knowledge Hubs; and international marine energy news. Email us to contribute!

Announcements

PRIMRE Video Series

The PRIMRE team recently released a 9-part video series to highlight PRIMRE, its knowledge hubs, and their key features. Learn more about PRIMRE in just a few minutes!

Request for Information

Pacific Northwest National Laboratory (PNNL) is requesting information from developers, owners, and/or manufacturers of small-scale current energy devices capable of deployment and operation to power coastal aquaculture operations. Responses are due 6 June 2025.

2025 UMERC + OREC Travel Support

The Pacific Ocean Energy Trust (POET) is offering Registration and Travel Support for the 2025 University Marine Energy Research Community (UMERC) Conference and Ocean Renewable Energy Conference (OREC), which will both take place on 12-14 August 2025 at Oregon State University in Corvallis, Oregon, USA. Applications are due by 15 May 2025. Early bird and student registration rates are also available.

Calls for Abstracts & Papers

The Call for Abstracts for the 12th Partnership for Research in Marine Renewable Energy (PRIMaRE) conference is open through 9 May 2025. The conference will take place on 2-3 July 2025 at the University of Bristol in Bristol, England.

The Call for Abstracts for the Marine Renewables Canada 2025 Conference & Exhibition is open until 16 May 2025. The event will take place 12-14 November 2025 in Halifax, Canada.

The Call for Proposals for sessions and town halls at the 2026 Ocean Sciences Meeting (OSM) is open until 28 May 2025. OSM will take place on 22-27 February 2026 in Glasgow, Scotland.

Springer Nature has opened a Call for Papers on Ocean Energy for *Scientific Reports* and invites original research on the ocean as an energy source, from technological advances, to modelling or field studies on its ecological impact. The submission deadline is 20 November 2025.

Funding & Testing Opportunities

Research Infrastructure Services for Renewable Energy (RISEnergy) has opened its second Transnational Access Call, inviting researchers from academia and industry from all European Union member states or Horizon Europe-associated countries to propose innovative solutions to improve energy systems or cut the life cycle costs of renewable energy technologies. Applications are due 4 May 2025.

The Testing Expertise and Access for Marine Energy Research (TEAMER) program, sponsored by the U.S. Department of Energy and directed by the Pacific Ocean Energy Trust (POET), is accepting Request for Technical Support (RFTS) 16 applications through 6 June 2025 to support marine energy testing and development projects. Open Water Support applications can be submitted any time. TEAMER also offers Results Dissemination Support (e.g., travel support).

The U.S. Department of Energy's Energy Technology Innovation Partnership Project (ETIPP), which helps U.S. coastal, remote, and island communities become more energy resilient, has opened applications for new communities to join. Applications are due 27 June 2025.

Career Opportunities

University College Cork is recruiting a Senior Technical Officer for the Environmental Research Institute Lir National Ocean Test Facility (NOTF) who will work within the Offshore Renewable

Energy Research Group within MaREI, the SFI Research Centre for Energy, Climate and Marine. Applications are due 6 May 2025.

University of Highlands and Islands (UHI) North, West and Hebrides is recruiting a Research Associate in Active Acoustic Monitoring, Research Associate in Passive Acoustic Monitoring, Research Associate in Marine Sensing, and Research Associate in Algorithm Development and Data Science to join the Environmental Research Institute (ERI) and work on environmental interactions and ecosystem effects of offshore renewable energy. Applications due 16 May 2025.

PNNL is seeking a Post Doctorate Research Associate to conduct coastal modeling research related to 1) marine energy resource modeling (wave, tide, ocean current and ocean thermal conversion) characterization using unstructured-grid models and 2) coastal biogeochemistry and plastic modeling. Applications due 22 May 2025.

PNNL is also seeking an Operations Specialist to assist with the safe conduct of operations associated with the PNNL Sequim Campus. The campus supports a variety of ocean-based sectors including renewable energy development, coastal resilience and planning, and research and technology development. Applications due 28 May 2025.

Delft University of Technology (TU Delft) is looking for a Postdoc on Climate Change Wave Modelling for Marine Renewable Energies. The Postdoc will work on developing robust wave hindcasts/forecasts at high spatial resolutions, analyze long-term metocean conditions, and extreme events, with a particular focus in marine renewables. Submissions are due 4 June 2025.

TU Delft is also offering a PhD Position on Impacts of Climate Change on Wave Energy Resources. This PhD will focus on long-term impacts on wave resources in the European Seas as part of a European Project, looking into numerical wave modelling and adaptation of floating wind and wave energy converters. Submissions are due 4 June 2025.

The Fundy Ocean Research Centre for Energy (FORCE) is seeking a Director of Science & Env Programs to help shape FORCE's scientific direction and lead the development, implementation, and technical oversight of its strategic science initiatives and marine environmental programs.

Upcoming Events

Upcoming Webinars

The Pacific Offshore Wind Consortium (POWC) is hosting a webinar, "Offshore Grid Connection: Cable Laying and Monitoring", on 12 May 2025 from 2:00-4:00pm PST (9:00-11:00pm UTC). The webinar will describe the cabling process, including pre-installation environmental surveys and post-installation monitoring, at the PacWave wave energy testing facility. Register here.

TEAMER has rescheduled its webinar, "How to Write a Good Test Plan", to 21 May 2025 from 11:00am-12:00pm PST (6:00-7:00pm UTC). During the webinar, PNNL mechanical engineer

Dr. Rob Cavagnaro will discuss what makes up a good scientific test plan, including info specific to marine energy research and the TEAMER program. Register here.

Upcoming Masterclasses

The Supergen ORE Hub is hosting a series of masterclasses, including a Masterclass on Environmental Contours and Extreme Value Analysis on 15-16 May 2025 at the University of Exeter in Exeter, England; and a Masterclass on Offshore Geotechnics on 27-28 May 2025 at the University of Southampton in Southampton, England.

New Documents on Tethys Engineering

Tethys Engineering hosts thousands of documents on the technical aspects of marine energy research and development, including journal articles, conference papers, and reports.

Resilience of offshore renewable energy systems to extreme metocean conditions: A review – Göteman et al. 2025

> The ability of offshore renewable energy systems – and of power systems and the societies that dependent on them – to cope with hazards such as extreme weather and metocean events is not well known. Resilience has become an increasingly important concept in the study of energy systems, as it addresses not only vulnerability to hazards but also the ability to recover from disturbances. However, the topic has not been examined to the same extent for offshore renewable energy systems; for marine energy technologies in particular, resilience is a novel concept. In the present study, we review the research that has been published starting from a discussion on the general resilience concept and its applicability for power systems.

Resource assessment of ocean thermal energy conversion in Puerto Rico and U.S. Virgin Islands – Ticona Rollano et al. 2025

> Island communities often struggle to establish traditional electric grids and are heavily reliant on imported fossil fuels. For Puerto Rico (PR), these challenges are enhanced by extreme weather and other natural hazards that threaten the local electric infrastructure. Ocean thermal energy conversion (OTEC) could play an important role in establishing a more resilient electrical grid in the region. A detailed analysis is conducted to characterize the ocean thermal resource and power potential of OTEC in PR based on a 14-year dataset of modeled ocean temperature. The assessment considers seasonal and interannual thermal patterns, examining the operational limitations associated with running a typical OTEC plant.

Nanofluidic ion transport and osmotic energy conversion based on all-natural kelp membranes – Guo et al. 2025

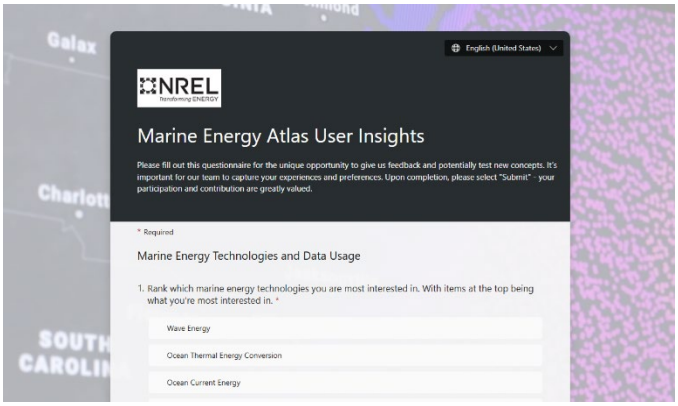
Harnessing osmotic energy from salinity gradients presents a compelling avenue for sustainable, pollution-free blue energy conversion. Despite the promise, developing cost-effective, easily manufactured, and highly ion-selective membranes for efficient osmotic power generation is a significant challenge. Here, we reveal that natural kelp membranes with nanoporous structures exhibit excellent ionic selectivity for capturing osmotic energy. Benefiting from the three-dimensional robust interlocking nanochannels configuration and a wealth of negatively charged hydroxyl groups, the all-natural kelp membranes enable selective and fast hopping transport of cations resulting in a high-power density of 3.1 W m^{-2} and a current density of 178 A m^{-2} under a 50-fold salinity gradient.

Marine Energy Atlas Update

The Marine Energy Atlas is an interactive mapping tool that maps high-resolution, spatially comprehensive data on global wave, tidal, riverine, ocean current, and ocean thermal resources.

Marine Energy Atlas User Insights Survey

The Marine Energy Atlas team recently updated the site's homepage and is requesting feedback from new and existing users. Please fill out this short questionnaire to provide your feedback and help the team test new concepts.



Marine Energy Projects Database Highlight

The Marine Energy Projects Database provides up-to-date information on marine energy projects, test sites, devices, organizations, and technologies around the world.

PNNL-Sequim Bay – PNNL

PNNL-Sequim's location at the entrance to Sequim Bay allows direct access to sheltered bays and to wave and tidal flow environments featuring water depths up to 100 m. The peak current speed in the adjacent channel is up to 2 m/s, and the channel has a depth of

up to 12 m, which opens into a quiescent bay with depths up to 32 m. Current velocity, wave height, sound speed, water quality, bathymetry, and bottom type have been well-characterized in Sequim Bay. A co-located Global Navigation Satellite System reference station and a tide-monitoring station are installed on the PNNL-Sequim pier. These co-located stations are the first to be installed in Washington State (USA).

Texel Wave Energy Pilot – Slow Mill

The project began in 2018 as a three year plan to demonstrate the Slow Mill wave energy converter technology with an estimated cost of 4 million euros, 2.5 million of which were granted from the Wadden Fund. Plans were quickly set into motion with the deployment of a 50-tonne concrete anchor sunk roughly 4 kilometers off of Texels coastline (The Netherlands) in December of 2018 for later use with the 1:2.5 scale 40 kW pilot device dubbed "Slow Mill-40". The early launch of the anchor was used to determine the stability of its deployment as well as its impact on the local environment which was shown to increase life in the area. The actual Slow Mill-40 was commissioned for construction and 2020 and deployed for trials in 2022.

Subhub Community Demonstrator in Yarmouth Harbour – QED Naval

QED Naval developed a tidal project as part of the Interreg Tidal Stream Industry Energiser (TIGER) project. The project is located in England between Sconce Point and Black Rock near the western entrance to The Solent strait and was intended to validate the performance of QED Naval's Subhub Community Demonstrator (Subhub-CD) platform mounted with three of Tocardo's T1 tidal turbines (for an installed capacity of 250 kW) over a broad range of weather conditions. The Subhub tidal platform is a submersible, gravity-based foundation used to support an array of tidal turbines through life. It integrates the whole tidal energy plant at the quayside, where everything is commissioned and tested in a safe, accessible environment.

News & Press Releases

Blue Horizon Project: Advancing Design, Testing, and Deployment Plans – EuropeWave

Significant progress continues on the development of the wave energy technology led by the Mocean project team, with important updates across detailed design, testing, and deployment planning. The Mocean project team is actively advancing the detailed design of both the WEC hull and the Vernier Hybrid Machine (VHM). A final round of tank testing was successfully completed in mid-February. The tests aimed to validate the performance and design assumptions under controlled conditions. In parallel, the team has secured a berth reservation agreement for Berth 2 at the European Marine Energy Centre (EMEC) in Orkney, UK. This reservation marks a critical step toward full-scale demonstration, providing a real-sea environment for the upcoming deployment phase.

DEMCON tests uncrewed inspection methods for wave energy tech off Scheveningen – Offshore Energy

DEMCON Unmanned Systems has carried out inspection tests using one of its uncrewed vessels during a wave energy converter (WEC) trial by The Hague-based Wave Energy Collective (Weco), off the coast of Scheveningen, the Netherlands. According to DEMCON Unmanned Systems, the demonstration aimed to assess how uncrewed and automated technologies can be integrated into the inspection and maintenance of offshore renewable energy systems. The tests are said to be part of efforts to develop compact, electric, and uncrewed solutions for offshore operations, in order to reduce operational costs and environmental impact. The trial is supported by a consortium including Holland Shipyards Group, Campusatsea, and Coastruction.

How U.S. Marine Energy Test Sites Are Driving Innovation – National Hydropower Association

Marine energy in all its forms is emerging as a pivotal component in the quest for untapped, predictable energy solutions. To aid in the goal of harnessing marine energy sources, innovative project sites across the U.S. are key in helping developers refine their technology, including: PacWave in Oregon; the Bourne Tidal Test Site on Cape Cod in Massachusetts; and community-driven initiatives on Beaver Island, Michigan, and Nags Head, North Carolina. These sites exemplify the engineering ingenuity propelling the sector forward domestically, and not only do the sites address the technical challenges of harnessing marine energy, but they underscore the critical role of both innovative engineering and the existence of test facilities that enable experimentation and deeper refinement.

Spanish govt backs Carnegie's wave energy tech with €1.17M – Offshore Energy

Carnegie Clean Energy's wholly owned subsidiary, Carnegie Technologies Spain, has received an advance payment of €1,171,800 from the Spanish government to support the construction of the first CETO wave energy technology unit in Europe. According to Carnegie, the funding was awarded through Spain's inaugural RENMARINAS DEMOS program, which backs innovative marine renewable energy projects. The company's AGUAMARINA project is part of the ACHIEVE program, deploying CETO technology at the Biscay Marine Energy Platform (BiMEP) in the Basque Country. The project runs alongside the ACHIEVE project, under contract from the EuropeWave PCP program, and the ACHIEVE+ project, supported by the Basque Energy Agency (Ente Vasco de la Energia).

IDOM Commissions Novel PTO System Ahead of Offshore Deployment – EuropeWave

IDOM has successfully completed the commissioning of a novel Power Take-Off (PTO) system, marking a key milestone in the development of advanced wave energy technologies. This innovative air turbine system is now entering a critical testing phase at the Mutriku wave power plant in Spain, one of the few grid-connected wave energy

facilities in the world and a unique infrastructure for technology demonstration. Following the successful completion of this onshore testing, the PTO will be integrated into the MARMOK-A-5 WEC prototype, a full-scale floating platform designed for offshore wave energy generation. The MARMOK-A-5, equipped with the newly commissioned PTO, is scheduled for deployment at BiMEP later this summer.