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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!

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Announcements

2025 Marine Energy Fellowship

The U.S. Department of Energy (DOE) Water Power Technologies Office (WPTO) and the Oak Ridge Institute for Science and Education (ORISE) are accepting applications for the [2025 Marine Energy Fellowship](#), which features one track for graduate students working on marine energy-focused research and a new post-graduate track for recent graduates advancing their careers in marine energy. Applications are due 6 December 2024 and 7 March 2025.

UMERC Call for Nominations

The University Marine Energy Research Community (UMERC) is now accepting nominations to fill vacant seats on their Board of Directors, including 2 university seats, 1 National Laboratory seat, and 1 blue energy cluster seat. UMERC is a DOE WPTO initiative to increase collaboration among U.S. marine energy researchers. The [Call for Nominations](#) will close 8 November 2024.

NSF IRES Applications Open

The U.S. National Science Foundation (NSF) is accepting applications for an International Research Experience for Students (IRES) project, [Fostering Offshore Renewable Energy Expertise through International Collaboration with European Countries](#), which offers undergrad and graduate students studying in the U.S. an opportunity to conduct research on offshore energy for three months at collaborating institutions in Europe. Applications are due 15 November 2024.

North Carolina Renewable Ocean Energy Challenge

With funding from the North Carolina Renewable Ocean Energy Program and in partnership with KidWind and Jennette's Pier, the Coastal Studies Institute is hosting the [2025 North Carolina Renewable Energy Challenge](#) on 22 March 2025 in Wanchese, North Carolina. The event will include wind and underwater turbine competitions with elementary, middle, and high school (grades 4-12) divisions. Join the [information session](#) on 16 January 2025 to learn more.

Calls for Abstracts

The [Call for Abstracts](#) for the [35th International Ocean and Polar Engineering Conference \(ISOPE 2025\)](#) is open until 20 October 2024. ISOPE 2025 will take place on 1-6 June 2025 in Goyang, Korea.

The Oceanic Network has opened the [Call for Workshops](#) for the [2025 International Partnering Forum \(IPF\)](#) through 1 November 2024. IPF 2025 will take place from 28 April to 1 May 2025 in Virginia Beach, Virginia, U.S.

The [Call for Abstracts](#) for the [44th International Conference on Ocean, Offshore & Arctic Engineering \(OMAE 2025\)](#) is open until 18 November 2024. OMAE 2025 will take place on 22-27 June 2025 in Vancouver, British Columbia, Canada.

Funding & Testing Opportunities

The U.S. DOE's WPTO recently opened the [Oceans of Opportunity: U.S. Wave Energy Open Water Testing](#), which will provide up to \$112.5 million in funding to advance the commercial readiness of wave energy technologies through open water testing and system validation. WPTO is hosting an informational webinar on 9 October. Concept papers are due 25 October 2024.

The U.S. DOE has announced a new program, [Clean Energy Careers for All \(CEC4A\)](#), that will award nearly \$3 million to non-profit educational organizations—including engineering, scientific, and technical societies—to support programs that promote awareness and interest in clean energy careers among K-12 and university students, alumni and academic professionals, veterans, and formerly incarcerated individuals. Phase 1 submissions are due 13 December 2024.

The Testing Expertise and Access for Marine Energy Research (TEAMER) program, sponsored by the U.S. DOE and directed by the Pacific Ocean Energy Trust (POET), is accepting [Request for Technical Support \(RFTS\) 15](#) applications through 7 February 2025 to support marine energy testing and development projects. Open Water Support applications can be submitted any time.

The U.S. DOE Office of Clean Energy Demonstrations (OCED) has opened applications for up to \$400 million, through [the Energy Improvements in Rural or Remote Areas \(ERA\) Program](#), to spur innovative, community-focused, clean energy solutions for rural and remote communities across the United States. Concept papers are due by 27 February 2025.

Career Opportunities

The University of Washington is hiring for multiple faculty positions, including a [Professor \(Assistant, Associate, Full\) Tenure or Tenure Track, Mechanical Engineering](#) and an [Assistant Professor, Tenure Track – Mechanical Engineering](#). Applications are due 20 October 2024.

The European Marine Energy Centre (EMEC) is looking for an [Engineering Technician](#) to support the maintenance and operations of EMEC's assets to a high standard and an [R&D Project Engineer](#) to contribute to the technical delivery of EMEC projects, across marine energy, green hydrogen, and other low carbon associated services. Applications due 22 October 2024.

Pacific Northwest National Laboratory (PNNL) is seeking an [Operations Specialist](#) to provide leadership and safety oversight of the Energy and Environment Directorate's portfolio of research operations across the PNNL Sequim Campus. Applications are due 31 October 2024.

EMEC is also looking for an [Operations and Maintenance Manager](#) to lead a dedicated team to ensure smooth operation and maintenance of EMEC's sites and assets, and oversee day-to-day operations, both on and off-site. Applications are due 6 November 2024.

The University of Oxford is offering [Research Studentship in Tidal Stream Energy](#) and seeking doctoral students to work on the CoTide program with interests in one or more areas of: turbine hydrodynamics and design, resource modelling, naval architecture and ocean engineering, system optimization and control co-design. Applications are due 3 December 2024.

Dutch Marine Energy Centre (DMEC), a non-profit accelerator and knowledge institute focused on offshore renewable energy solutions, is looking for a [\(Senior\) Business Development Manager](#) to join its Corporate Partnership Team.

Upcoming Events

Upcoming Webinars

ETIP Ocean, the European Technology & Innovation Platform for Ocean Energy, is hosting a webinar to [launch the updated Strategic Research & Innovation Agenda \(SRIA\) for ocean energy](#) on 21 October 2024 at 9:00am UTC. The SRIA describes the research and innovation actions that have the greatest impact on the sector's development and is the sector's main input into European Union and national funding programmes.

The International Energy Agency (IEA) Ocean Energy Systems (OES) and ETIP Ocean are hosting a webinar, "[Use of internationally agreed performance metrics in project development as part of Horizon Europe Ocean Energy funding applications](#)", on 24 October 2024 at 11:00am CEST (9:00am UTC). During the webinar, applicants will learn about the objectives of the IEA-OES Evaluation and Guidance Framework along with its contents and benefits to different stakeholders. [Register here.](#)

Upcoming Workshop

ETIP Ocean and OES-Environmental are hosting a side event, Latest results & key priorities in environmental monitoring, on 5 November 2024 as part of the [Ocean Energy Europe Conference & Exhibition \(OEE 2024\)](#) in Aviemore, Scotland. This joint workshop will present the latest results of environmental research on ocean energy and discuss the next research priorities as the sector moves towards larger farms.

Upcoming Conferences

The Maritime Association is hosting [BlueTech Week 2024](#) on 18-21 November 2024 in San Diego, California, U.S. [Register here.](#)

DMEC is hosting its next [Deep Dive: Offshore Testing](#) on 3 December 2024 from 5:00-7:00pm CEST (3:00-5:00pm UTC) in The Hague, the Netherlands. [Register here.](#)

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.

OES TASK 10 - Numerical Modelling of Wave Energy Converters – IEA OES 2024

In 2001 UK, Portugal, and Denmark initiated the Ocean Energy Systems (OES) Technology Collaboration Project under International Energy Agency (IEA). Today twenty-five different member states have joined. In 2016, Robert Thresher from National Renewable Energy Laboratory (NREL) proposed the collaboration on numerical modelling of Wave Energy Converters (WEC's) "OES Task 10", based on good experiences from a similar task under IEA Wind. This task offers a unique possibility to work together on common simulation tasks which enables and facilitates a better understanding of how wave energy conversion works. This report presents results and lessons from the first years of the project, including two generic reference cases for numerical modelling of heaving WEC absorbers and Oscillating Water Column systems.

Bayesian modeling and mechanical simulations for fragility curve estimation of the mooring system of marine hydrokinetic devices – de Faria et al. 2024

This work uses Bayesian modeling and mechanical model simulations through the Ansys-AQWA software to construct fragility curve estimates for marine hydrokinetic devices, more specifically, their mooring system. The fragility curves proposed here associate wind speed levels with the risk of damage to the equipment and could be used to better understand the susceptibility of these devices to damage from hurricanes. Our proposed modeling framework uses acoustic Doppler current profiler measurements from a site located off the North Carolina coast and the RM4 conversion device from the Sandia National Laboratory. By evaluating different scenarios with and without dynamic

tension in mooring lines due to changes in current velocities caused by extreme wind speeds, our results indicate that the risks of damage may be significant depending not only on the average current velocity but also on the velocity variation.

[Marine Energy Technology Development Risk Management Framework](#) – Snowberg et al. 2024

Over the past decades, the global marine energy industry has suffered a number of serious technological and commercial setbacks. To help reduce the risks of industry failures and advance the development of new technologies, the U.S. Department of Energy (DOE) and the National Renewable Energy Laboratory developed a Marine Energy Risk Management Framework in 2015; this 2024 publication is a revision to that framework. This risk management framework shall be used on all DOE Water Power Technologies Office (WPTO) projects that require system testing in the open water.

Telesto Highlight

[Telesto](#) provides information and resources about the development life cycle of marine energy, as well as information on lessons learned, metrics, economics, standards, and compliance.

[Standards & TC-114](#)

The PRIMRE team recently updated the [Telesto Standards](#) page to incorporate content from the U.S. TC-114 webpage. The page describes the path from the International Electrotechnical Commission (IEC) through the American National Standards Institute (ANSI), who sponsors Technical Committee 114 (TC-114), to descriptions of the IEC marine energy standards (e.g., IEC TS 62600). The Telesto page provides information on how to participate in TC-114, common terminology used in the standards, the technology certification process (IECRE), and information on other non-IEC marine energy standards like API and ISO. Note that the IEC standards have now been adopted by ANSI (i.e., nationalized) and can be purchased through ANSI as well as the IEC.

Signature Projects Update

[Signature Projects](#) bring focus to a selection of research and development projects supported by the U.S. DOE's WPTO and link to all the projects' reports, datasets, and associated papers.

[Sandia WEC Co-Design](#)

Sandia National Laboratories' WEC (Wave Energy Converter) Co-Design (formally known as Advanced WEC Dynamics and Controls) project seeks to leverage control co-design to improve the performance of WECs. The project originally started with the goal to design a "plug-and-play" controller to realize the benefits in terms of performance that researchers had shown could be attributed to control systems.

Laboratory Upgrade Point Absorber (LUPA)

The Lab Upgrade Point Absorber (LUPA) project, sponsored by the U.S. DOE, has developed open-source modular point absorber for WEC hydrodynamics, controls, mooring systems, and student learning. The LUPA WEC system includes both physical and numerical version of the technology. The physical LUPA WEC system is modular and can be modified to change float and heave plate geometries, mooring systems, PTO systems and controls, and operating modes.

WEC-Sim (Wave Energy Converter SIMulator)

WEC-Sim (Wave Energy Converter SIMulator) is an open-source software for simulating WECs, hosted on the WEC-Sim repository. The software is developed in MATLAB/SIMULINK using the multi-body dynamics solver Simscape Multibody. WEC-Sim has the ability to model devices that are comprised of bodies, joints, power take-off systems, and mooring systems.

News & Press Releases

CorPower Ocean secures EUR 32 million Series B1 funding to commercialise wave energy. **– CorPower Ocean**

CorPower Ocean recently announced the largest single investment in its wave energy technology after securing EUR 32 million Series B1 funding (1st close). Announced during EIT InnoEnergy's Business Booster in Barcelona – one of Europe's leading sustainable energy events – it marks a significant development for wave energy which is accelerating towards a bankable mainstream energy source. Established in 2012, CorPower Ocean has now secured EUR 95 million in funding from private and public investors and successfully demonstrated four generations of its unique technology, addressing the two main challenges which have held back commercial adoption of wave energy – 1. storm survivability and 2. efficient power generation in normal ocean conditions.

Inyanga Marine Energy Group takes over the first grid-connected tidal turbine in France – **Inyanga Marine Energy Group**

It has been announced that Inyanga Marine Energy Group is taking over the D10 tidal turbine in France. The D10 tidal turbine was the first grid-connected tidal turbine in France, initially deployed in 2015. It is located in the Fromveur Passage, off the coast of Brittany, and provides clean sustainable energy to the remote island of Ushant. The D10 turbine was previously owned by French company Sabella, which went into liquidation in January 2024. Inyanga Marine Energy Group has now secured permissions to operate the tidal turbine until August 2028. The Inyanga Marine Energy team, which is headquartered in the UK and has an office in Brittany in France, has managed all offshore operations at the D10 site since 2016.

First-of-a-kind tidal dragon farm in the Faroe Islands moves forward – Minesto

In the Faroe Islands, Minesto is part of one of the most ambitious energy transition schemes worldwide, where tidal energy can play a significant role in achieving 100% renewable energy by 2030. After months of running a pilot program with two Minesto Dragon kites (Dragon 12 and Dragon 4) connected to the power grid, the technology has reached another milestone. As an initial step towards the proposed 200 MW build-out, the Hestfjord Dragon Farm moves forward in a first 10 MW-phase. In order to support the project and handle interest from various parties in the technology, Minesto has engaged internationally recognized advisory firm EY to provide hands-on support related to project financing and industrial partnerships.

Generator system set to transform offshore renewables – The University of Edinburgh

A new type of generator developed by Edinburgh engineers could reduce the cost of electricity produced by offshore renewable technologies. The lightweight, stackable generator system – which converts mechanical energy produced by offshore wind, wave and tidal technologies into electricity – could also help extend the lifespan of renewable energy installations. The modular system, developed by new spinout company CGEN Engineering, can be easily transported to renewable energy installations and assembled into a complete power system. Unlike conventional systems, each module can be added, replaced or moved individually, meaning energy companies can keep operations running without long downtimes, the team says.

Reeling In Marine Energy Data With Expanded Analysis Tools – NREL

Marine energy devices have the potential to deliver gigantic amounts of power—if they can survive the ocean's punishing conditions. Innovative system designs are needed to convert wave movements into electricity, but the sea is vast and complex, and deployment in these remote locations is expensive. Created by the U.S. DOE's NREL, PNNL, and Sandia National Laboratories (Sandia), the Marine and Hydrokinetic Toolkit (MHKiT) can save time and money in the assessment of breakthrough technologies in marine renewable energy and their performance under a wide range of aquatic conditions.

As tidal power rides a wave of clean energy optimism, pitfalls persist – Mongabay News

The world's oceans could play a role in supporting the clean energy grids of the future. But that possibility hinges on the successful rollout of tidal stream and wave technology. Tidal stream energy taps into the power of run-of-river or ocean movements, while wave energy generates electricity using windblown waves. Years of hype and failed projects have bedeviled the tidal stream industry, which is the more progressed of the two technologies. But with demonstration projects in the UK seeing success, momentum is now building toward commercialization. While tidal and wave power will never dominate the global grid, they could play a valuable niche role in the global energy transition.