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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's (DOE's) Water Power Technologies Office (WPTO) and the Oak Ridge Institute for Science and Education (ORISE) recently opened applications for the [2025 Marine Energy Fellowship](#). The program features one track for graduate students working on marine energy-focused research theses or dissertations and a new post-graduate track for recent graduates focused on advancing their careers in marine energy. Applications are due 6 December 2024 and 7 March 2025 depending on the applicant's desired start date.

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 undergraduate and graduate students studying in U.S. an opportunity to conduct research on offshore renewable energy for three months at collaborating institutions in Europe. Applications are due 15 November 2024.

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.

Funding & Testing Opportunities

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 \(RFTS\) 14](#) applications through 4 October 2024 to support marine energy testing and development projects. Open Water Support applications can be submitted any time.

The U.S. NSF has opened applications for its [Engineering Research Initiation program](#), which aims to enhance engineering research capacity by supporting new academic investigators who have not received significant federal funding, and includes a special topic focused on Marine Energy and the Blue Economy. Applications are due 9 October 2024.

The Ocean Energy Safety Institute (OESI) has published a [Request for Proposals](#) to support research pathways across oil and gas, wind energy, and marine energy. OESI anticipates awarding up to \$16 million to foster enhanced safety protocols, improved technologies, and new insights into risk management. Proposals are due 18 October 2024.

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.

Career Opportunities

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.

Offshore Renewable Energy Catapult is seeking a [Senior Marine Autonomy Specialist](#) to provide expertise in marine autonomous systems and a [Research Engineer – Data Science](#) to work on AI, machine learning, and cloud technologies to support the offshore renewable energy sector.

Upcoming Events

Upcoming Webinars

The TEAMER program is hosting a webinar, "[TEAMER Program Update: Commercialization Support](#)", on 8 October 2024 from 12:00-1:00pm (7:00-8:00pm UTC). This webinar and the associated request for information will be an opportunity for existing and prospective technical support recipients to provide early feedback and inform the addition of a new Commercialization

Support category to the TEAMER program to ensure the support offered will be beneficial to developers. [Register here.](#)

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.

Upcoming Workshop

The IWG for ocean energy and the IWG for wind energy (SET Plan Implementation Working Groups) are hosting a [joint offshore wind and ocean energy workshop](#) in Brussels, Belgium and online at 10:30am-12:30pm CEST (8:30-10:30am UTC) on 18 October 2024. The workshop will bring together representatives from both ocean energy and wind ETIP and IWG communities to identify Research & Innovation topics on co-location of these two technologies. [Register here.](#)

Upcoming Conferences

The [Ocean Energy Europe Conference & Exhibition \(OEE 2024\)](#) will take place 5-6 November 2024 in Aviemore, Scotland.

Marine Renewables Canada is hosting the [Marine Renewables Canada 2024 Conference](#) on 19-21 November 2024 in Halifax, Nova Scotia, Canada.

The Ocean Thermal Energy Association is hosting the [10th International OTEC Symposium](#) on 4-5 December 2024 in Rio de Janeiro, Brazil.

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.

Self-Sustained Desalination Technologies Powered by Ocean Energy – IEA-OES 2024

Water is the world's most precious, yet undervalued, resource. According to a recent WWF report, the annual economic value of water and freshwater ecosystems is estimated to be US\$58 trillion, which is equivalent to 60% of global Gross Domestic Product (GDP). The report highlights that extracting unsustainable amounts of water, applying harmful subsidies, causing alterations to river flows pollution and climate change-related impacts are endangering freshwater ecosystems. It calls for governments, businesses and financial institutions to urgently increase investment in sustainable water infrastructure. The societal challenge of water scarcity results in economic sectors competing for water supplies. This has the potential to disrupt both the energy sector and food production.

[The ECHOWAVE Hindcast: A 30-years high resolution database for wave energy applications in North Atlantic European waters](#) – Alday & Lavidas 2024

The ECHOWAVE hindcast is an open source dataset specially developed for wave climate and energy applications within European Atlantic waters. It provides high resolution (~ 2.3 km) fields of wave parameters and spectral data allowing for a detailed characterization of the wave resource within the coastal shelf. This is of importance for depths < 200 m, where most deployment projects of wave energy converters (WEC) take place. Model setup and adjustments, leading to parameterization TUD-165, were specially aimed to improve the sea states' characterization within the North-East Atlantic. The effects on accuracy of these adjustments and extensive validation, were done mainly comparing simulations with significant wave heights (H_s) from the European Space Agency CCI Version 3 altimeter dataset.

[An experimental evaluation of the interplay between geometry and scale on cross-flow turbine performance](#) – Hunt et al. 2024

Cross-flow turbines harness kinetic energy in wind or moving water. Due to their unsteady fluid dynamics, it can be difficult to predict the interplay between aspects of rotor geometry and turbine performance. This study considers the effects of three geometric parameters: the number of blades, the preset pitch angle, and the chord-to-radius ratio. The relevant fluid dynamics of cross-flow turbines are reviewed, as are prior experimental studies that have investigated these parameters in a more limited manner. Here, 223 unique experiments are conducted across an order of magnitude of diameter-based Reynolds numbers ($= 8 \times 10^4 - 8 \times 10^5$) in which the performance implications of these three geometric parameters are evaluated.

MHKDR Update

The Marine Hydrokinetic Data Repository ([MHKDR](#)) is the repository for all data collected using funds from the U.S. DOE's WPTO, including results from tank tests and open sea trials.

[UNH TDP - Voltsys Raw Data and Processing Scripts - Fall 2021](#) – National Renewable Energy Laboratory 2021

This submission contains raw Voltsys rectifier data and processing scripts associated with MHKDR submission 394 (UNH TDP - Concurrent Measurements of Inflow, Power Performance, and Loads for a Grid-Synchronized Vertical Axis Cross-Flow Turbine Operating in a Tidal Estuary, DOI: 10.15473/1973860) from the University of New Hampshire and Atlantic Marine Energy Center (AMEC) turbine deployment platform.

[NWEI Azura April 2018 Data](#) – Northwest Energy Innovations 2018

Data files for the NWEI Azura grid-connected deployment at the 30-meter berth of the US Navys Wave Energy Test Site (WETS 30 m site) at the Kaneohe Marine Corps Base

Hawaii (MCBH) on the windward (northeast) coast of the island of Oahu. See general documentation describing specifics of the data files and formats in a separate submission.

[Underwater Mapping Results for Seabotix vLBV300 Vehicle with Tritech Gemini 720i Imaging Sonar near Newport, OR – Oregon State University 2017](#)

This document presents results from tests to demonstrate underwater mapping capabilities of an underwater vehicle in conditions typically found in marine renewable energy arrays. These tests were performed with a tethered Seabotix vLBV300 underwater vehicle. The vehicle is equipped with an inertial navigation system (INS) based on a Gladiator Landmark 40 IMU and Teledyne Explorer Doppler Velocity Log, as well as a Gemini 720i scanning sonar acquired from Tritech. The results presented include both indoor pool and offshore deployments.

Marine Energy Software Highlight

[Marine Energy Software](#) is a collection of commercial and open-source software relevant to marine energy development, including software for simulating devices, and processing and analyzing data.

[WEC-Sim v6.1 Release](#)

[WEC-Sim \(Wave Energy Converter SIMulator\)](#) is an open-source software for simulating wave energy converters and other floating or submerged systems in the time-domain. The software is developed in MATLAB/SIMULINK using the multi-body dynamics solver Simscape Multibody. The [WEC-Sim Applications repository](#) contains a wide variety of examples that WEC-Sim can be used to model, including desalination, mooring dynamics, nonlinear hydrodynamic bodies, passive yawing, batch simulations and many others. The WEC-Sim v6.1 release features NEMOH version 3.0 compatibility along with some new examples, new PTO extension features, updated MoorDyn 2.0 capabilities, and more! Hop on over to the WEC-SIM Applications repository for a new application case featuring the RM3 and the new PTO extension feature as well as the new variable hydrodynamics capabilities for highly customizable dynamics.

[Call for Contributions: Marine Energy Software](#)

Like most open-source resources, the more information users contribute, the better the resource becomes! The Marine Energy Software knowledge hub is no different. With each software addition to the knowledge hub, the better the resource becomes for users the marine energy industry. Have a software you'd like to contribute to the Marine Energy Software knowledge hub? Visit the [Register Software](#) page to add your software!

News & Press Releases

Twenty-Five Small Businesses Selected to Receive Nearly \$16.7 Million for Water Power Research and Development – U.S. DOE WPTO

The U.S. DOE announced nearly \$16.7 million for 25 small business-led hydropower and marine energy projects through Phase I and Phase II of the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program. DOE's WPTO selected these projects, which can help to accelerate the growth of water power innovation and technology. These projects—10 focused on hydropower and 15 focused on marine energy—will help advance hydropower and marine energy technologies, which capture energy from the movement and flow of water. Phase I projects represent initial funding awards, while Phase II projects involve continued research and development efforts from Phase I.

First Tidal Turbine in the Pacific Northwest Signals Wave of the Future – Pacific Northwest National Laboratory

Pacific Northwest National Laboratory (PNNL)-Sequim facilitated the deployment and testing of the first tidal turbine operated for an extended period on the seafloor in the Pacific Northwest. It highlights PNNL-Sequim's key role as the only facility on the U.S. West Coast to provide the necessary access to power and data connections, monitoring, and in-water support to test marine energy devices in a tidal channel. The novel tidal turbine was designed and built by the University of Washington's Applied Physics Laboratory (UW-APL) to be deployed off the back of a small ship—an impossible feat for larger turbines—and generate enough renewable energy to indefinitely power technologies like sensors or cameras in hard-to-reach locations.

C-Power, Tiburon Subsea Partner on Autonomous Offshore Power System Development – C-Power

C-Power recently announced subsea data collection and delivery provider Tiburon Subsea has joined the company's Partner Engagement and Co-development (PEC) Program as a collaboration partner. As a PEC Program member, Tiburon Subsea will collaborate on an upcoming demonstration of C-Power's industry-leading SeaRAY autonomous offshore power system (AOPS). The 18-month SeaRAY field test is expected to commence in the first quarter of 2025 at the PacWave South wave energy test site off the Oregon coast. During the deployment, C-Power plans to demonstrate the breadth and depth of the SeaRAY's capabilities simultaneously supporting surface and subsurface mobile and static assets in the ocean with power and data communications.

Storm-resilient OTEC hull nears completion, setting the stage for Atlantic Ocean testing – Offshore Energy

Seven European partners have entered the final stages in the hull construction of the storm-resistant ocean thermal energy conversion (OTEC) prototype at Hidramar Shipyard in Gran Canaria, Spain. Developed under the European Union-funded project PLOTEC, the initiative is now progressing towards the installation phase in the Atlantic Ocean,

where the structure will undergo testing in a relevant environment. Global OTEC's crew is completing the final welds on the exterior of the hull ahead of sandblasting. The roof installation is already complete. Chains, crucial for secure deployment of the hull, have arrived in Las Palmas, with additional chains en route to the PLOCAN test site.

Unlocking ocean power: \$3.6M for community-centric wave energy converters – University of Michigan

Wave energy could power millions of homes, but to make a splash in the industry, the tech must balance engineering, socio-economic and environmental trade-offs. Coastal communities are partnering with a multidisciplinary research team to determine the best way to harvest wave energy at Beaver Island, Michigan, and Nags Head, North Carolina, U.S. The project is led by the University of Michigan, supported with \$3.6 million from the National Science Foundation. It brings together researchers from five different institutions to help provide renewable energy that addresses the needs and concerns of coastal and island communities and identifies paths to make wave energy technology competitive with solar and wind power.

Ocean Power Technologies Signs Agreement with Serviço Nacional de Aprendizagem Industrial to Advance Autonomous Ocean Developments – Ocean Power Technologies

Ocean Power Technologies, Inc., (OPT) a leader in innovative and cost-effective low-carbon marine power, data, and service solutions, today announced it has signed a Memorandum of Understanding (MOU) with Serviço Nacional de Aprendizagem Industrial (SENAI Innovation Institute for Virtual Production Systems from Firjan) in Brazil to explore collaborating together toward Blue Economy opportunities including deployment of WAM-V® autonomous and unmanned surface vehicles and Next Generation PowerBuoys® equipped with AI capable Merrows™. This agreement follows recent discussions between SENAI and OPT in Brazil.