



## 23 August 2024

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

### ORISE Host Facilities

The U.S. Department of Energy (DOE) Water Power Technologies Office (WPTO) is seeking organizations to host a WPTO-funded fellow for up to 12 months as part of the [Oak Ridge Institute for Science and Education \(ORISE\) Marine Energy Fellowship Program](#). This program supports graduate and recent post-graduate students to advance marine energy research at their host facilities. WPTO covers the stipend, benefits, travel, relocation, and professional development for the fellow. Please complete this [interest form](#) by 30 August 2024.

### Request for Information

The National Renewable Energy Laboratory (NREL) has issued a [Request for Information](#) on behalf of the U.S. DOE WPTO to collect feedback from public and private investors, nonprofits, professional societies, state and local governments, funding awardees, and the broader renewable energy investment community on the barriers to investing in or providing supplementary commercialization support to marine energy developers. Responses are due 30 August 2024.

### Blue Energy Collaborative Scholarships

The International Network on Offshore Renewable Energy (INORE) has opened the Call for Applications for the [2024 Blue Energy Collaborative Scholarships \(BECS\)](#), sponsored by Ocean Energy Systems, until 14 September 2024. The grant aims to support formative research in the

field of offshore renewable energy and promote collaboration and communication amongst early-career professionals from diverse disciplines, institutions, and nations.

### Calls for Abstracts

The Ocean Thermal Energy Association has extended the Call for Speakers for the [10<sup>th</sup> International Ocean Thermal Energy \(OTEC\) Symposium](#) through 30 August 2024. The symposium will take place 4-5 December 2024 in Rio de Janeiro, Brazil.

The [Call for Abstracts](#) for the [Offshore Technology Conference \(OTC 2025\)](#) is open through 10 September 2024. OTC will take place 5-8 May 2025 in Houston, Texas, U.S.

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 2024 in Virginia Beach, Virginia, U.S.

### Funding & Testing Opportunities

The Supergen Offshore Renewable Energy (ORE) Hub has launched its fifth [Flexible Fund Call for Proposals](#) and is seeking research proposals from universities or other institutions eligible to hold UK Research and Innovation awards to facilitate a UK-led ORE research projects aligned with, and in partnership with the Hub. Expressions of interest are due 2 September 2024.

The Supergen ORE Hub has also launched its [Early Career Researchers \(ECR\) Research Fund](#), which is designed to be a flexible research fund for ECRs to support small activities that either develops existing research activities or develops your skills further. Applications should be directed at offshore wind, wave, or tidal energy research and are due 16 September 2024.

UK Research and Innovation has opened a follow-on [funding opportunity](#) to build on existing engineering and physical sciences research outputs to accelerate economic, societal, policy and environmental benefits. Applications must build on prior Engineering and Physical Sciences Research Council funding. Applications are due 24 September 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 \(RFTS\) 14](#) applications through 4 October 2024 to support marine energy testing and development projects. Open Water Support applications can be submitted any time.

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 Natural Environment Research Council (NERC) is planning to open a [funding opportunity](#) to enhance understanding of the ecological, economic, and social value of marine artificial

structures' natural capital to inform decision making and policy solutions for management for all life stages. The outline stage will open 5 September 2024 and close 31 October 2024.

The U.S. DOE WPTO has published a [Notice of Intent](#) to provide up to \$112.5 million in funding to advance the commercial readiness of wave energy technologies through open water testing and system validation. DOE anticipates opening this opportunity in September 2024.

The Horizon Europe program is planning to issue a funding call, [Critical Technologies for Future Ocean Energy Farms](#), to support projects aimed at improving the performance of and knowledge of ocean energy. The call is expected to open in September 2024 and close in February 2025.

### Career Opportunities

The U.S. DOE WPTO is seeking a [Marine Energy Fellow](#) to engage with the DOE's Arctic Energy Office in Alaska. The Fellow will, by being embedded in the state of Alaska (either Anchorage or Fairbanks) learn how WPTO and Arctic Energy Office carry out their work on water-power related topics within the state of Alaska.

Offshore Renewable Energy Catapult is recruiting a [Senior Marine Autonomy Specialist](#) to provide expertise in marine autonomous systems, a [People Business Partner](#) to support the delivery of the People strategy, and a [High Voltage Test Laboratory Manager](#) to lead a team of engineers and technicians to deliver high voltage testing.

The Coastal Studies Institute is looking for an [Environmental Specialist](#) who will be responsible for developing and implementing environmental monitoring and research protocols, maintaining environmental permits, and outreach related to the marine energy device testing for the Atlantic Marine Energy Center (AMEC). Applications are due 30 August 2024.

France Énergies Marines is hiring a [Scientist/Engineer](#) with expertise in the environmental effects of offshore wind and marine energy. During a first phase, work will focus on a project aimed at improving the design of floating substations. Applications are due 3 September 2024.

The Pacific Marine Energy Center (PMEC) at Oregon State University is recruiting two [Post-Doctoral Scholars](#) to develop numerical and scaled physical models of sub-surface wave energy converters, autonomous underwater vehicle recharging, and real-time hybrid simulation of offshore wind turbines. The tentative closing date is 20 September 2024.

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## Upcoming Events

### Upcoming Webinars

The [Innovating Distributed Embedded Energy Prize \(InDEEP\)](#), which awards teams that use innovative methods to identify successful DEEC-Tec components and materials that show the greatest techno-economic potential for wave energy, is hosting a training webinar, "InDEEP Prize: Wave Energy 3.0", on 27 August 2024 at 12:00pm EDT (4:00pm UTC). [Register here.](#)

Researchers at the Pacific Northwest National Laboratory (PNNL) are hosting a webinar, “[Offshore Aquaculture and Wave Energy in Puerto Rico – Research Study Update](#)”, on 5 September 2024 from 11:00am-12:00pm EDT (3:00-4:00pm UTC). The webinar will highlight research investigating the technical and social feasibility of [co-locating marine energy and offshore aquaculture](#) in Puerto Rico and discuss a comprehensive spatial analysis, environmental fieldwork, and outreach and engagement. [Register here.](#)

### Upcoming Masterclass

The Supergen ORE Hub is hosting a [Masterclass on Real-Time Hardware-in-the-Loop Experiments for Grid Integration of Offshore Renewable Energy Systems](#) on 4 September 2024 at the University of Warwick in Coventry, England. [Register here.](#)

### Upcoming Conferences

The [International Conference on Ocean Energy \(ICOE 2024\)](#) will take place on 17-19 September 2024 in Melbourne, Australia.

The [7<sup>th</sup> Asian Offshore Wind, Wave, and Tidal Energy Conference \(AWTEC 2024\)](#) will take place on 20-24 October 2024 in Busan, Korea.

### Upcoming Workshops

MEDIN holds [free training workshops](#) periodically throughout the year to improve the uptake, knowledge and use of MEDIN Data Guidelines and the MEDIN Discovery Metadata Standard (and tools). The next workshop is taking place on 2-6 September 2024 online. [Register here.](#)

The Copernicus Marine National Collaboration Programme is hosting a [European Union Coastal Use Cases Workshop](#) on 16 September 2024 online. This event will showcase 15 projects, spanning across all European regional seas, that provide coastal monitoring data (or information) to bridge the gap between the open ocean and the coast.

As part of ICOE 2024, the U.S. DOE WPTO and partners are hosting a workshop focused on [Knowledge Gaps: Off-Grid and Micro-Grid Uses of Marine Energy](#) on 18 September 2024. The workshop will share progress on research that supports off-grid and micro-grid uses of marine energy for remote communities and power at sea, and seek to understand international industry’s current projects and interests and how off-grid applications are being developed internationally. Interested ICOE attendees can [RSVP here.](#)

As part of ICOE 2024, Ocean Energy Systems (OES)-Environmental and Offshore Renewables Joint Industry Programme (ORJIP) are hosting a workshop focused on [Environmental Effects for Permitting Off-Grid Marine Energy Applications](#) on 19 September 2024. The workshop will explore what level of environmental effects might be expected from smaller scale (off-grid) wave and tidal energy devices, and to determine what information is needed to streamline permitting for these devices. Interested ICOE attendees can [RSVP here.](#)

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## **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.*

### **[Health-sensitive control of wave energy converters: A primer](#) – Ziaei et al. 2024**

Over the last two decades, researchers have primarily focused on developing control technology to create more effective controllers, designed to manipulate the motion of wave energy converters (WECs) aggressively, aiming to maximise their energy-harvesting capacity in an effort to minimise the LCoE. However, exaggerated WEC motion can, in the harsh ocean environment, lead to significant decreases in maintenance intervals and system reliability, leading to increases in operational costs (OpEx). There may also be an adverse effect on device lifetime, as well as the inevitable LCoE increases associated with increased OpEx. This paper aims to define the lifespan control problem for WECs by reviewing current advancements in longevity analysis within the wave energy application area, as well as other pertinent areas. The obstacles and opportunities for future research will also be covered.

### **[Developing offshore renewable energy systems in Australia: Existing regulatory challenges and requirements for reliability assurance](#) – Abaei et al. 2024**

Australia has significant potential for the development of offshore renewable energy systems (ORES), and it can play an essential role in the global energy transition. The planning, design, installation, operation, and end-of-life management of ORES present substantial challenges in terms of the reliability of systems and the safety of operations. This paper focuses on identifying the gaps and challenges related to the structural integrity of ORES, highlighting potential areas for technological and managerial improvements. The paper investigates Australia's existing policies and regulations, identifies their shortcomings, and provides recommendations for their advancement. Key recommendations include implementing robust regulations, enhancing site-specific knowledge, adopting structural health monitoring (SHM) from the design phase, and fostering industry collaboration to accelerate ORES development and sustainability.

### **[Thinking big starting small: identifying considerations for small-scale tidal energy in southwest Nova Scotia](#) – Alp & Cotton 2024**

Nova Scotia's marine renewable energy (MRE) sector can contribute to provincial goals for carbon neutrality. With this, tidal energy has been an interest to industry stakeholders for over two decades, yet general momentum for the industry has shifted. Previous tidal energy projects and recent studies suggest there needs to be a shift in focus towards scalable tidal energy (i.e., small-scale) development in the province. This research explores the considerations of developing tidal energy in Southwest Nova Scotia with an emphasis on small-scale tidal devices. Using a comprehensive literature review and in-depth semi-structured interviews with stakeholders from different sectors of Nova Scotia's MRE energy industry, key issues and challenges were explored. Results

underline four main themes that affect industry potential, which include cost and financing, technology, policy, and energy distribution.

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## **Marine Energy Projects Database Update**

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

### **Fundy Ocean Research Center for Energy (FORCE) Test Site**

FORCE is Canada's lead research facility for tidal stream technology, created to better understand how this technology can play a role in Canada's clean energy future and help respond to climate change impacts (like ocean acidification, sea level rise, and coastal erosion). At its test site in Minas Passage, Bay of Fundy, FORCE provides offshore and onshore electrical equipment to connect devices to the power grid, and conducts monitoring and research to understand any potential environmental effects. FORCE is a private, not-for-profit company operated by a staff, governed by a board of directors, and guided by input from an independent Environmental Monitoring Advisory Committee and a Community Liaison Committee. FORCE has received support from the Government of Canada, the Province of Nova Scotia, the Offshore Energy Research Association, and participating developers.

### **Penghu Sharp Eagle WEC – Guangzhou Institute of Energy Conversion**

Supported by the Ministry of Natural Resources and Guangdong Province, the Guangzhou Institute of Energy Conversion (GIEC) of the Chinese Academy of Sciences designed a semi-submersible offshore wave energy aquaculture platform dubbed "Penghu". The structure is 66 m long, 28 m wide, and 16 m high, with an aquaculture water body of 15,000 m<sup>3</sup>. Penghu implements GIEC's Sharp Eagle wave energy conversion technology with a capacity of 60 kW but also includes a solar energy generation system with a capacity of 60 kW, and energy storage of 500 kWh. Penghu is equipped with automatic feeding and video monitoring, conducting aquaculture trials of pomfret, tiger grouper, and dragon grouper, as well as integrated marine tourism and fishing experiments.

### **KRISO-WETS Wave Energy Test Site – KRISO**

The Korea Research Institute of Ships and Ocean engineering (KRISO) Wave Energy Test Site (WETS), located in the western part of Jeju Island, has been in operation since 2019. KRISO-WETS provides the infrastructure and environmental data needed to test different types of wave energy converters (WECs) at sea. The test site has five berths, with a total capacity of 5 MW. Berth 1 is permanently occupied by the existing installation of the Yongsoo OWC-type WEC whose structure doubles as an offshore substation for connecting the remaining berths with the onshore substation; the construction of the Yongsoo OWC was completed in July 2016 as part of a pilot



project that predates the establishment of the test site. Beth 5 is located at a water depth of 60 m and is expected to be used for floating offshore wind turbines as well.

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## MHKDR Highlight

*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.*

### [New MHKDR Home and About Pages](#)

The MHKDR [Home](#) and [About](#) pages have been updated and now include live stats on the usage of MHKDR data and more detailed information on PRIMRE's mission and approach to providing equitable, universal access to marine energy data and information. Additional improvements include updated "related datasets" links, data lake access instructions, and automatic identification of geospatial data types during submission. Coming soon: A data access / developer page illustrating how to access marine energy data programmatically using common coding languages and native cloud tools, and QR codes added to the share section of each dataset making it easy to paste the QR code of a dataset directly into your presentation.

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## News & Press Releases

### [\\$41 Million Investment Strengthens and Expands Marine Energy R&D and Testing Infrastructure](#) – U.S. DOE

The U.S. DOE's WPTO recently invested more than \$41 million in the four university-led National Marine Energy Centers (NMECs). This funding, which includes \$36 million from the Bipartisan Infrastructure Law, will help strengthen and expand marine energy research and development and bolster marine energy testing infrastructure at the NMECs. The Bipartisan Infrastructure Law investment will fund more than 30 research and development projects for the nine universities that make up the NMECs, along with nearly 60 graduate students. The \$41 million investment will support a variety of efforts centered around research and development, infrastructure improvements, strategy, administration, and outreach and communications.

### [Deputy Prime Minister, Prif Weinidog and Welsh Secretary launch Pembroke Dock Marine: A new green energy hub for Wales](#) – Port of Milford Haven

Deputy Prime Minister Angela Rayner, Prif Weinidog Eluned Morgan and The Rt Hon Jo Stevens MP, the Secretary of State for Wales, officially launched the Pembroke Dock Marine development– a multi-purpose, future energy ready hub focused on innovation and operational efficiency. Pembroke Dock Marine is £60 million development, funded by the Swansea Bay City Deal through the UK Government and Welsh Government, and through private investment by the Port of Milford Haven that will help drive Wales'

ambition to become a global leader in clean energy. The development has delivered new, world-leading port infrastructure in Pembroke Dock alongside Wales' Marine Energy Test Area (META) and a Marine Energy Engineering Centre of Excellence whilst advancing the potential of the Pembrokeshire Demonstration Zone - all with the aim of driving forward innovation and creating new opportunities for industrial growth.

### **Climate Minister Inspired by Orkney Clean Energy Innovation – European Marine Energy Centre (EMEC)**

Kerry McCarthy MP, Minister for Climate and Parliamentary Under-Secretary of State for Energy Security and Net Zero, visited Orkney on Wednesday 14 August to see the clean energy innovation taking place across the islands. Tackling the climate crisis, accelerating progress towards net zero and powering the UK with clean homegrown energy are current priorities for the Department of Energy Security and Net Zero. Visiting EMEC's pioneering clean energy test and demonstration facilities, Minister McCarthy learnt about the important role of emerging technologies such as tidal power, wave energy, floating wind and green hydrogen in the future energy mix and how these solutions can contribute towards making Britain a clean energy superpower.

### **Successful Fish Population Survey at Aguçadoura Test Site – SafeWave Project**

As part of the SafeWAVE project environmental monitoring activities, WavEC conducted a successful fish population survey at the Aguçadoura test site (Portugal) in July. WavEC researchers surveyed the Aguçadoura and adjacent (control) areas using mobile and fixed fishing techniques, with the support of local fishermen. The aim was to provide a preliminary characterization of the fish populations and associated invertebrate communities in those locations. The findings from this survey will contribute to establish a baseline characterization for the Aguçadoura area, providing relevant information for the currently installed HiWave-5 project (by CorPower Ocean, a SafeWAVE project partner) as well as future installations. An additional survey is planned for the autumn, with the goal of identifying any seasonal trends in the local fish populations.

### **Green Rebel awarded floating LiDAR contract for Irish wind and wave energy test site – Offshore Energy**

Ireland-based survey provider Green Rebel has secured a contract for floating LiDAR services for the Atlantic Marine Energy Test Site (AMETS), located west of Belmullet in County Mayo. The Sustainable Energy Authority of Ireland (SEAI) issued a call for tenders for a floating LiDAR and associated provision of data in February 2024, saying the contract will include the installation, operation, maintenance, collection of metocean data, and subsequent decommissioning of a floating LiDAR system at AMETS, and provision of "data as a service" using the collected data. According to a contract award notice published on August 16, Green Rebel signed the contract on July 26. The site will provide two separate test locations with different water depths to allow a range of devices to be tested.