



**23 February 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**

### SCGSR Program Applications Open

The U.S. Department of Energy's (DOE) [Office of Science Graduate Student Research \(SCGSR\) program](#) is now accepting applications for its 2024 solicitation 1 cycle, which provides supplemental awards to U.S. graduate students to conduct part of their graduate research at a DOE national laboratory or facility in collaboration with a DOE laboratory scientist. Applications are due on 1 May 2024.

### Calls for Abstracts & Papers

The Marine Technology Society Journal is seeking manuscript submissions for a special issue on [Marine Energy - An Update on Developments Globally](#) through 1 March 2024. The issue will examine a variety of topics, including technology development, resource assessment, social and economic considerations, and the development of international standards and certification.

The University Marine Energy Research Community (UMERC) and Marine Energy Technology Symposium (METS) have opened the [Call for Papers](#) for the [2024 UMERC+METS Marine Energy Research Conference](#) until 1 March 2024. The conference will take place 7-9 August 2024 in Duluth, Minnesota, U.S.

The [Call for Speakers](#) at [Clean Currents 2024](#) is now open through 1 March 2024. The tradeshow and conference will take place on 7-10 October 2024 in Portland, Oregon, U.S.

The [Call for Abstracts](#) for the [3<sup>rd</sup> Annual Conference for the Sustainable Management of UK Marine Resources \(SMMR 2024\)](#) is now open through 4 March 2024. The hybrid event will take place 14-16 May 2024 in Bristol, England and online.

The [Call for Abstracts](#) for the [International Conference on Ocean Energy \(ICOE 2024\)](#) is open until 5 March 2024. ICOE 2024 will take place 17-19 September 2024 in Melbourne, Australia.

The [Call for Abstracts](#) for the [Asian Offshore Wind, Wave and Tidal Energy Conference \(AWTEC 2024\)](#) is now open through 20 March 2024. AWTEC will take place on 20-24 October 2024 in Busan, Korea.

The University of Southampton is now accepting abstracts for the [11<sup>th</sup> Partnership for Research in Marine Renewable Energy \(PRIMaRE\) Conference](#) until 29 March 2024. The PRIMaRE Conference will take place 27-28 June 2024 in Southampton, England.

The Energy Modelling Hub and Net Zero Atlantic have opened the [Call for Abstracts](#) for the [Atlantic Canadian Conference on Energy System Modelling](#) through 29 March 2024. The conference will take place on 19-20 June 2024 in Moncton, New Brunswick, Canada.

#### Funding & Testing Opportunities

The European Commission's Horizon Europe Framework Programme has opened a [Call for Additional Activities for the European Partnership for a Climate Neutral, Sustainable and Productive Blue Economy](#). This call is open to companies from European Union (EU) countries and a selected number of non-EU/non-Associated countries. Applications due 28 February 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 \(RFTS\) 12](#) applications through 1 March 2024 to support marine energy testing and development projects. Open Water Support applications can be submitted any time.

#### Career Opportunities

The European Marine Energy Centre (EMEC) is looking for a [Marine Energy Development Manager](#) to identify, develop, and secure opportunities for EMEC to grow its portfolio of wave, tidal, and floating wind projects. Applications are due 26 February 2024.

The University of Western Australia is offering [multiple fully-funded PhD scholarships](#) for domestic and international students in a variety of ocean related fields including hydrodynamics, marine ecology, and offshore renewable energy. Applications are due 8 March 2024.

The University of Strathclyde Glasgow is seeking a [Research Associate in Offshore Renewable Energy Structures](#) to join the Co-design to deliver Scalable Tidal Stream Energy (CoTide) research team. Applications are due 15 March 2024.

The University of Southampton is offering a fully funded [PhD research project](#) (UK only) focused on developing new concepts for the anchoring design of floating renewable facilities and harnessing beneficial ‘whole-life’ responses of the seabed. Applications are due 1 April 2024.

Lindhahl Reed is hiring a Marine Energy National Marine Energy Center [Support Specialist](#) and [Program Scientist](#) to support the U.S. DOE’s Water Power Technologies Office (WPTO) by coordinating university research and development, including project management.

Global OTEC, a leader in ocean thermal energy conversion (OTEC) technology, is looking for a [Structural Engineer](#) to assist with the structural design and analysis of a floating offshore unit and a [Technical Project Manager](#) to manage and execute projects.

Oergy is looking for a [Data Engineer](#) to spearhead its data analysis activities, a [Structural Engineer](#) to support the structural analysis and development of its floating technologies, and an [Engineer Analyst](#) to support development in terms of hull motion response and loadings.

Ocean Renewable Energy Corporation (ORPC) is seeking a [Renewable Energy Project Developer](#) and [Technical Analyst](#) to join its Canada team, a [Renewable Energy Project Developer](#) to organize projects in Alaska, and a [SCADA Technician](#) to join its Brunswick team.

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## Upcoming Events

### Upcoming Webinars

ETIP Ocean, the European Technology & Innovation Platform for Ocean Energy, is hosting a webinar, “[Off-grid applications of ocean energy](#)”, on 5 March 2024 at 2:00pm UTC. The webinar will feature examples of ocean energy projects focusing on desalination, subsea infrastructure and remote communities. Register [here](#).

Sandia National Laboratories is hosting a webinar, “[MASK4 Test Report and Data Webinar](#)”, on 26 March 2024 from 8:00-9:30am PDT (3:00-4:30pm UTC), to provide information on its recently completed testing of the WaveBot device at the U.S. Navy’s Maneuvering and Sea Keeping (MASK) basin to further explore wave energy converter co-design principles.

Sandia National Laboratories is also hosting a webinar, “[Pioneer WEC Concept Design Report Webinar](#)”, on 2 April 2024 from 8:00-9:30am PDT (3:00-4:30pm UTC), which will focus on a novel “pitch resonator” wave energy convertor (WEC) concept to support the power needs of the Coastal Surface Mooring system within the Ocean Observatories Initiative Pioneer Array.

### Upcoming Workshops

PNNL and the North Carolina Coastal Studies Institute are hosting two identical workshops on environmental effects of marine energy on [25 March 2024 from 1:00-5:00 pm EDT](#) at the Coastal Studies Institute in Wanchese, North Carolina, U.S., and on [27 March 2024 from 1:00-](#)

[5:00 pm EDT](#) at the Duke University Marine Laboratory in Beaufort, North Carolina. Please register for the workshop most suitable to your location and schedule.

The IMPACT project recently announced that its [Wave Energy Rig Testing Workshop: Bridging the Gap between Research and Deployment](#) will take place on 12 April 2024 Perugia, Italy. The event will showcase how rig testing can contribute to accelerating the development of the European wave energy sector, and feature presentations from international and Italian experts from both academia and industry.

TEAMER is hosting a [2024 Wave Energy Converter \(WEC\) Modeling and Controls Workshop](#) on 13-17 May 2024 at Oregon State University in Corvallis, Oregon, U.S. to provide an immersive learning experience focused on wave resource assessments, numerical WEC-Sim modelling, experimental wave laboratory test campaigns, and application of control theory. Attendance is limited to 50 participants; applications to attend are due by 6 March 2024.

### Upcoming Conferences

The Joint Research Laboratory on Offshore Renewable Energy, based in the Basque Country, recently announced that its [X Marine Energy Conference](#) will take place on 29 May 2024.

Ocean Energy Europe recently announced that its annual [Ocean Energy Europe Conference & Exhibition 2024](#) will take place 5-6 November 2024 in Aviemore, Scotland. Save the date!

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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.*

### **Optimal control of wave cycloidal rotors with passively morphing foils: An analytical and numerical study – Arredondo-Galeana et al. 2024**

In this paper we perform an analytical and numerical study of the performance of a wave cycloidal rotor in irregular waves, with passively morphing foils and variable rotational velocity control. The performance is measured in two ways: Mechanical power, and fatigue damage in a sample stress hot spot located at the fixed end of the hydrofoils. We consider different strategies seeking to both maximise power extraction and reduce fatigue damage. To maximise power, we consider both constant and variable rotational speed. To mitigate fatigue damage, we consider, for the first time, morphing foils in the context of a wave cycloidal rotor.

### **Policy and Innovation Group UK Ocean Energy Review 2023 – Gratten et al. 2024**

The Policy and Innovation Group at The University of Edinburgh, in collaboration with the Supergen ORE Hub, Wave Energy Scotland and the Marine Energy Council, are pleased to announce the publication of the 2023 UK Ocean Energy Review. In what has

been a transformative year for the ocean energy sector, marked by continued CfD success and the awarding of large-scale European funding, this report provides a concise summary of the UK's evolving national strategy, the policy support programmes available and the progress made by individual developers and R&I projects. We hope that it provides a platform to guide and inform future investors, policymakers and government officials on the untapped potential that the sector has to offer, both to the UK and the rest of the world.

### **[Conceptual design of a salinity gradient energy demonstration unit at the Magdalena River mouth](#) – Roldan-Carvajal et al. 2024**

Colombia has one of the most significant potentials worldwide for harnessing Salinity Gradient energy (SGE), specifically at the Magdalena River, whose mouth at the north of Colombia has 15 GW and 0.8 GW of theoretical and technical potential, respectively. In previous research, we built a device that generates electricity from SG through Reverse Electrodialysis (RED) principles. Given this context, we are developing a project to implement the first demonstration unit (150 Watts of installed capacity) of SGE in Latin America, which will be deployed in a place of new urban development for the city of Barranquilla that will bring together tourism, sustainability, and new green technologies.

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## **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.*

### **[Take a Tour of the Marine Energy Atlas](#)**

The Marine Energy Atlas features several brief tours for users to learn how to (1) create an account, which allows users to access previous analyses; (2) use the Data Library, which provides access to hundreds of existing map layers; (3) use the Query Tools, which allow you to query the map in different ways; and (4) use the Capacity Factor Tool, which offers the ability to create Capacity Factor maps of specific wave energy converters based on their power matrices.

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## **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.*

### **[Seaturns Trial at Saint-Anne-du-Portzic](#) – Seaturns**

In October 2023 Seaturns started sea trials on a 1/4-scale demonstrator. It is installed at Ifremer's sea trials site in Sainte-Anne du Portzic near Brest (France). These tests are being conducted in partnership with Ifremer and will last until summer 2024. They will

validate the performance and reliability of a prototype in a marine and operational environment. This sea trials phase, which is a strategic part of Seaturns' roadmap, is part of the wider IAS-WEC project, which in July 2023 won the i-Nov competition organised by Bpifrance and ADEME (the French Agency for Ecological Transition).

### **C-Power SeaRAY – C-Power**

The SeaRAY, first dubbed the DataRay, is being developed with sponsorship by the U.S. Department of Energy and the U.S. Navy. The SeaRAY autonomous offshore power system provides in-situ power, energy storage, and real-time data and communications support aiming to advance the marine economy toward a future of autonomous, connected and resident technologies. It is designed to support unmanned offshore activities and equipment, including subsea vehicles, sensor packages, and operating equipment. When deployed, the SeaRAY significantly lowers costs and carbon emissions, reduces operational complexity, increases safety, and enables new capabilities.

### **Oosterschelde Tocardo – Tocardo**

The Oosterschelde Tidal Power Plant consists of five T-2 tidal turbines in one of the sluice gates of the Oosterschelde storm surge barrier, with the potential of scaling up. It serves as an international showcase for the tidal energy sector and climate adaptation solutions, combining clean energy production with existing infrastructures and making efficient use of scarce land area.

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## **News & Press Releases**

### **U.S. Department of Energy Announces Water Power Photo and Video Contest Winners – U.S. DOE**

The U.S. DOE's WPTO recently announced the 22 winners of the Make a Splash Photo and Video Contest. Photographers and videographers, including professionals and amateurs, submitted awe-inspiring content that showcased water power technologies across hydropower and marine energy, research and development activities, infrastructure, and the people behind the sector. The winners were selected from a pool of more than 360 submissions from 52 competitors. The winners are featured on the [DOE Flickr account](#), and other eligible submissions will be posted soon. These photos and videos are available to the public and also may be used in DOE outreach materials.

### **Project update Vestmanna: Dragon 12 functionality verified and power production performance satisfactory and as projected – Minesto**

After the first two weeks of testing, the Dragon 12 functionality is verified and power production performance is satisfactory and as projected. All core operating functions such as starting, turning with the tidal flow and electricity generation have been successfully verified in its first phase of operation. Given the stable system behaviour, Minesto

concludes the technology risks of scale-up have been significantly reduced. The Minesto 1.2 MW tidal powerplant – Dragon 12 – has since installation two weeks ago delivered as expected during its first phase of operation at its grid-connected mono-pile seabed foundation in Vestmannastrandir, Faroe Islands.

### **[Ocean Power Technologies Receives Funding for AT&T 5G-Enabled PowerBuoy® Deployment in Monterey Bay](#) – Ocean Power Technologies**

Ocean Power Technologies (OPT), a leader in innovative and cost-effective low-carbon marine power, data, and service solutions, recently announced that it has received funding from the Naval Postgraduate School in Monterey, California, for the year-long deployment of a PowerBuoy® in Monterey Bay. The PowerBuoy®, integrating OPT's Maritime Domain Awareness System (MDAS) along with cutting-edge Satellite communication and AT&T 5G technology, will demonstrate its persistent surveillance and communications capacities in a maritime environment. This deployment marks a significant milestone in maritime technology, showcasing the potential of standalone at-sea infrastructure nodes to support the Joint Force's diverse operational needs.

### **[Biden-Harris Administration invests \\$3.9 million for Ocean-based Climate Resilience Accelerators through Investing in America agenda](#) – National Oceanic and Atmospheric Administration (NOAA)**

The U.S. Department of Commerce and NOAA recently announced \$3.9 million in awards to help small businesses improve climate resilience in communities across the nation through the Ocean-based Climate Resilience Accelerators program as part of President Biden's Investing in America agenda, and in alignment with the National Climate Resilience Framework. This investment, funded by the Inflation Reduction Act, supports 16 awardees in 11 states to develop and advance new technologies for gathering coastal, ocean and Great Lakes data and observations — essential information to build tools, products, and services that address climate resilience needs and create a climate-ready nation.

### **[Australian R&D project looking to optimize wave energy for USV propulsion](#) – Offshore Energy**

Australian Composites Manufacturing (ACM CRC), Ocius Technology, and the University of New South Wales (UNSW) have set out through an R&D project to optimize the use of wave energy for propulsion, utilizing energy for underwater flippers for unmanned surface vessels (USVs). Bluebottle-class USVs, developed by Ocius, offer continuous maritime surveillance capabilities for various sectors including oil and gas, security, scientific research, as well as maritime defense. According to ACM CRC, as a fully renewable surface vessel powered by solar, wind, and wave energy, Ocius Bluebottle operates well but has limitations when used in strong winds.