PRIMRE BLAST

15 November 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!

Announcements

New Tethys Engineering Overview Video

The PRIMRE team has released a new 2-min Tethys Engineering Overview Video highlighting the Knowledge Hub's key features and uses. Dive in to learn more about Tethys Engineering!

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.

Calls for Abstracts

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.

The Call for Abstracts for OCEANS 2025 Brest is now open through 20 December 2024. OCEANS 2025 Brest will take place from 16-19 June 2025 in Brest, France. The organizers are seeking cutting-edge technical presentations with an emphasis on marine energy, environmental marine engineering, and a digital ocean.

The Call for Abstracts & Paper Submissions for the 16th European Wave and Tidal Energy Conference (EWTEC 2025) has now opened until 13 January 2024. EWTEC will take place on 7-11 September 2025 in Madeira, Portugal.

Funding & Testing Opportunities

The Clean Energy Transition Partnership (CETPartnership) has opened its Joint Call 2024 to support technology providers, research institutions, infrastructure providers, and industrial or energy companies (experienced or new) interested in receiving funding for ideas or in need of innovative clean energy solutions. Pre-proposals are due 21 November 2024 and full proposals are due 2 April 2025.

The Research Infrastructure Services for Renewable Energy (RISEnergy) project has opened applications for its first Transnational Access (TA) Call, which offers industrial and academic researchers free-of-charge access to a selection of the best scientific infrastructures and services related to renewable energy technologies in Europe. Applications are due 30 November 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 U.S. DOE has released the Phase I Release 2 topics for the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Program. The Funding Opportunity Announcement will be released on 16 December 2024 and letters of intent will be due 7 January 2025.

Washington Maritime Blue, a leading maritime innovation cluster in the Pacific Northwest, has opened applications for its 2025 Blue Ventures Programs, which will support early-stage founders validating their technology and preparing for market entry, including for renewable ocean energy. Applications are due 6 January 2025.

Horizon Europe has opened a Call for Proposal, Critical technologies for the future ocean energy farms. Projects are expected to increase performance of ocean energy technologies with the focus on sustainability, operation, and maintenance; improve knowledge on how to operate ocean energy devices and their sustainability; and reduce levelized cost of interest. Proposals are due 4 February 2025.

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. TEAMER is now offering Results Dissemination Support (i.e., travel and publication support).

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 School of Marine and Environmental Affairs invites applications for a tenure-track Assistant Professor in Coastal and Environmental Affairs. Applications will be reviewed beginning 15 November 2024 and those received by 2 December will be given priority.

Ocean Energy Europe is seeking a Policy & Research Officer to lead the gathering and publication of key information and analysis on and for the ocean energy sector, including deployment statistics, financing needs and priorities, environmental impacts, and manufacturing capacity. Applications are due 18 November 2024.

Aquatera has several Graduate Internship opportunities available covering a broad range of projects and disciplines, including renewables, environmental assessment, data management, and GIS. Applications are due 18 November 2024.

East Carolina University (ECU) is recruiting a PhD in Integrated Coastal Sciences to study the social acceptance and engagement around introducing marine energy technology and participate in Atlantic Marine Energy Center (AMEC) activities. Materials are due by 15 November 2024 for full consideration; applications to ECU are due by 15 January 2025.

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.

MarineSitu, a spin-off from the University of Washington's Pacific Marine Energy Center and Applied Physics Lab, is seeking a Full Stack Software Engineer and a Machine Learning Engineer to join its dynamic team in creating underwater monitoring technology.

The National Renewable Energy Laboratory (NREL) is hiring an Undergraduate/Graduate (Spring) Intern – Marine Energy Converter Design and Development to design, analyze, and optimize the Novel Kelp-Inspired Marine Energy Converter (PKelp™).

Upcoming Events

Upcoming Webinar

ETIP Ocean, the European Technology & Innovation Platform for Ocean Energy, is hosting the SafeWave Final Event: Streamlining the Assessment of Environmental Effects of Wave Energy on 28 November 2024 at 11:00am-12:30pm CET (10:00-11:30am UTC).

Upcoming Conferences

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

American Geophysical Union (AGU) is hosting the AGU 2024 Annual Meeting from 9-13 December 2024 in Washington, DC, U.S.

Upcoming WPTO Peer Review

The U.S. DOE's WPTO will be holding its public facing Marine Energy Peer Review from 10-13 February 2025 online. The purpose of the Peer Review is to evaluate WPTO programs based on their contributions to the office's mission and goals, provide feedback on future direction, and assess the office's overall management and performance. 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.

Strategic roadmapping to accelerate and risk-mitigate enabling innovations: A generalizable method and a case illustration for marine renewable energy – Sinfield et al. 2024

> Understanding technological evolution and its implications is increasingly important as the public and private sectors harness next generation technologies to address society's major challenges. Current roadmapping methods for these enabling innovations suffer from several limitations and often shed more light on technology viability than adoptability, leading many to frame related pursuits as unpredictable high-risk, high-reward activities. However, recent research highlights that the risk associated with developing enabling innovations depends more on the approach to pursuit than the technology itself.

Alternative offtake routes for tidal stream energy – EMEC & ORE Catapult 2024

> Crown Estate Scotland, Scottish Enterprise and Highlands and Islands Enterprise commissioned the European Marine Energy Centre (EMEC) and Offshore Renewable Energy (ORE) Catapult to undertake a study looking at alternative offtake routes for tidal stream energy across Scotland and to begin considering the timelines and challenges associated with these. The report highlights that energy resilience for remote areas could be improved by reducing reliance on diesel and oil, which are often transported long distances, and notes the economic potential for local tidal projects to employ more people and generate revenues via community-funded projects.

Wave-to-Wire Modelling and Hydraulic PTO Optimization of a Dense Point Absorber WEC Array – Asiikkis et al. 2024

> We investigate the hydrodynamic interactions and power extraction efficiency of a dense array of Point Absorber (PA) Wave Energy Converters (WECs) clustered around the fixed pillar of a wind turbine –the Ocean Grazer device– with a standard hydraulic Power Take-Off (PTO) system. Using potential flow theory, a detailed wave-to-wire model is developed in WEC-Sim with four distinct hydraulic PTO designs: i) Multi PTO-with individual hydraulic PTO systems for each buoy, ii) Shared PTO V1-with a unified PTO system for the entire array, iii) Shared PTO V2-with the accumulator volume split into two segments, and iv) Shared PTO V3-with four strategically distributed segments.

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.

OpenFAST v 3.5.4 Release

> OpenFAST is an open-source software package developed by the National Renewable Energy Laboratory (NREL). It is a multi-physics, multi-fidelity tool for simulating the coupled dynamic response of wind and current energy turbines. MoorDyn is a popular module from OpenFAST used across the marine energy industry to numerically model mooring line dynamics using lumped mass discretization. OpenFast v 3.5.4 features a performance increase for BeamDyn as well as minor bug fixes. Users of BeamDyn will want to update to this version.

A New Software has Entered the Chat: QBlade

> Welcome to Marine Energy Software QBlade! QBlade is an aero-servo-hydro-elastic code that covers the complete range of aspects originally created for wind turbine design. Developed, tested, and designed over 10 years, QBlade has a robust portfolio with aerodynamic, structural dynamic, and hydrodynamic solvers. For marine energy applications, users can use QBlade to model your marine hydrokinetic blades and study the effect of added mass or inertia forces to name a few! Check out QBlade today!

Welcoming Another New Software: Metocean-stats

> Welcome to Marine Energy Software Metocean-stats! Metocean-stats allows users to visualize metocean data from the NORA3 wave and wind hindcast. With comprehensive visual outputs like plots and tables, Metocean-stats enables a breadth of audiences to understand the data you are working with by applying advanced statistical calculations to your dataset. Check out Metocean-stats today!

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 in 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!

Telesto Update

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.

Marine Energy Environmental Toolkit

Project planning and permitting/consenting are crucial phases for any marine project. The Marine Energy Environmental Toolkit, linked with PRIMRE, is an app designed to provide a one-stop location for information on environmental effects and permitting. It combines the most recent curated environmental papers from PRIMRE, geospatial data from National Oceanic and Atmospheric Administration's Marine Cadastre, examples of National Environmental Policy Act biological assessments from historical projects, and historical marine energy licensing documents from Federal Energy Regulatory Commission into a searchable interface. Users can search for information based on environmental stressors and receptors, and final references can be saved in a downloadable report.

News & Press Releases

Powering Clean Energy from Ocean Waves as M4 Deployed in Albany – Blue Economy Cooperative Research Centre

The M4 (Moored MultiModal Multibody) Wave Energy Converter (WEC) has successfully been deployed into King George Sound in Albany, Western Australia, and has begun transmitting data on the power generation from ocean waves. Over the next six months, the 22-metre, 42-tonne, surface-riding device is expected to generate renewable energy from wave motion while gathering crucial performance data, providing insights into the technology's effectiveness as a clean energy source for Australia's Great Southern region. This marks a step in Australia's efforts to harness renewable energy from wave motion with the device designed to capture wave-generated energy while providing data on its efficiency and potential as a sustainable energy source.

Global OTEC Unveils OTEC Power Module® for Offshore Energy Operations – Global OTEC

> Ocean energy pioneer Global OTEC has announced its latest advancement in sustainable power for offshore energy exploration and production at the 1st Brazilian Workshop on Geothermal Energy Utilization and Storage. During the event hosted by Petrobras at the Cenpes Convention Center in Rio de Janeiro, the company unveiled the OTEC Power Module®. This innovative system represents a breakthrough in utilising Ocean Thermal Energy Conversion (OTEC) technology to sustainably power remote offshore platforms and wells. Designed as an alternative to traditional long subsea tiebacks, the OTEC Power Module® provides clean baseload electricity and flow assurance services without the need for cables and hydraulics, which typically limit reach to 35 km.

Project explores if the world is ready for the offshore renewables revolution – University of Plymouth

> The development of offshore renewable energy (ORE) technologies is being heralded as an essential element of global efforts to reduce emissions and protect the planet. But as advances continue to be made on innovations that fully harness the ocean's power, a new project will examine some of the opportunities and challenges associated with future deployments of offshore wind, wave and tidal power installations. The Ocean energy sector as contribution towards carbon neutrality (OcEn) project will explore how ORE can support the fight against climate change, and the potential benefits for the global environment and economy that could be gained from the industry's expansion. The £1.7 million project is being led by researchers from the University of Plymouth's Centre for Decarbonisation and Offshore Renewable Energy, alongside 10 other universities across the UK, USA, Canada, and Australia.

Spiralis Energy Scoops $1M Investment to Advance Tidal Energy Tech – Marine Technology News

> U.K.-based tidal energy technology developer Spiralis Energy has secured a $1 million investment from Kistos Holdings to build and test the Axial Skelter tidal energy unit. The investment received from Kistos will fund Spiralis Energy's upcoming survivability testing ahead of a full-scale trial deployment in the waters off Alderney. The first phase of testing will begin in the first quarter of 2025 with functional testing of a subscale Axial Skelter. The functional testing is expected to last four to eight weeks and will provide technical data on how to operate the systems offshore. The second phase comprises a survivability test in Alderney waters, planned to take place from the second quarter of 2025 for 12 months. The survivability test will demonstrate the operational effectiveness and robustness of the Axial Skelter system.

Pride of place for iconic tidal energy turbine – Inyanga Marine Energy Group

> Inyanga Marine Energy Group is pleased to announce that an original Tocardo T1 turbine has been placed on permanent display at the entrance to M-SParc in Gaerwen, Anglesey,

Wales. Officially opened in 2018 as Wales' first dedicated Science Park, M-SParc is a subsidiary of Bangor University. It provides world class facilities, expert support and innovative opportunities for businesses and the wider community. Inyanga Marine Energy Group opened its Wales office at M-SParc earlier this year, to support the development of its 20MW tidal energy project at Morlais on Anglesey, which is supported by the UK government's 'Contracts for Difference' scheme. Run by Menter Môn Morlais, the tidal energy project at Morlais is the only one of its kind in the world and has the potential to generate up to 240MW of low carbon clean electricity.

Maldives explores wave energy to boost country's renewables targets – Offshore Energy

Maldives' State Electric Company (STELCO) has started a wave monitoring project to explore ocean wave energy potential in the Maldives. According to Hussain Fahmy, the Managing Director of STELCO, this project is a step toward meeting the country's 33% renewable energy goal. The project is said to represent a strategic move to diversify the Maldives' energy sources beyond solar, enhancing the resilience and stability of its renewable energy infrastructure. The project centers on deploying advanced wave monitoring technology to gather critical data on wave dynamics, with the goal of determining wave energy's viability as a renewable source. By integrating wave energy alongside solar, STELCO aims to fortify the country's power supply with a renewable source more consistent than solar, which is heavily weather-dependent.