# TETHYS BLAST

# 12 April 2024

Tethys is a knowledge hub with information and resources on the environmental effects of wind and marine energy. The bi-weekly Tethys Blast highlights announcements and upcoming events; new documents in the Knowledge Base; and international energy news. ORJIP Ocean Energy has partnered with OES-Environmental to provide additional content. Email us to contribute!

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## Announcements

SCGSR Applications Open

The U.S. Department of Energy's (DOE) Office of Science Graduate Student Research (SCGSR) program is accepting applications for its 2024 solicitation cycle, which provides 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.

MECC Applications Open

The U.S. DOE's Water Power Technologies Office (WPTO) recently opened applications for the sixth annual Marine Energy Collegiate Competition (MECC), which asks student teams to integrate marine energy with blue economy applications such as ocean-powered autonomous vehicles, aquaculture, and desalination. Applications are due 6 May 2024.

CWC Applications Open

The U.S. DOE's Wind Energy Technologies Office (WETO) recently opened applications for the 2025 Collegiate Wind Competition (CWC), which helps students prepare for jobs in the wind energy workforce through real-world experiences with wind technology, project development, finance, communications, and outreach. Applications are due 13 June 2024.

ETIPP Applications Open

The U.S. DOE recently announced that applications are open for the Energy Transitions Initiative Partnership Project (ETIPP), which provides technical assistance for remote and island communities to bolster their energy resilience through tailored solutions, through 10 July 2024.

BOEM Seeking Public Comments

The U.S. Bureau of Ocean Energy Management (BOEM) is seeking public comments on its:

- Notice of Intent (NOI) to prepare an Environmental Assessment for offshore wind activities in the Gulf of Maine (due 17 April 2024);
- NOI to prepare an Environmental Impact Statement (EIS) for a proposed offshore wind energy project offshore New Jersey (due 2 May 2024);
- NOI to prepare an EIS for the proposed Vineyard Northeast Offshore Wind Energy Project (due 9 May 2024); and its,
- Proposed offshore wind energy auction in the Gulf of Mexico (due 20 May 2024).

Calls for Abstracts & Papers

The Call for Abstracts for the International Conference on Ocean Energy (ICOE 2024) is still open. ICOE 2024 will take place on 17-19 September 2024 in Melbourne, Australia.

American Clean Power (ACP) has opened the Call for Proposals for the ACP Resource & Technology Conference 2024 through 16 April 2024. The conference will take place from 30 September to 2 October 2024 in Phoenix, Arizona, U.S.

The Call for Abstracts for the South America Offshore Wind 2024 Conference & Exhibition is open through 17 April 2024. The conference will take place 17-19 September 2024 in Rio de Janeiro, Brazil.

The University of Southampton has extended the Call for Abstracts for the 11th Partnership for Research in Marine Renewable Energy (PRIMaRE) Conference until 22 April 2024. The PRIMaRE Conference will take place 27-28 June 2024 in Southampton, England.

The Call for Abstracts for OCEANS 2024 Halifax is open through 26 April 2024. OCEAN Halifax will take place 23-26 September 2024 in Halifax, Nova Scotia, Canada.

The University of Maine has opened the Call for Abstracts for the American Floating Offshore Wind Technical Summit (AFloat 2024) through 1 May 2024. AFloat will take place on 24-25 September 2024 in Portland, Maine, U.S.

Funding & Testing Opportunities

The Marine Fund Scotland is now open to support eligible individuals, businesses, organizations, and communities in delivering projects which contribute to an innovative and sustainable marine

economy, reducing carbon emissions, and supporting coastal communities. Applications for the first round are due 9 May 2024.

The U.S. DOE has announced $25 million in funding to support clean energy technology deployment on Tribal lands. DOE is soliciting applications from Indian Tribes, which include Alaska Native Regional Corporations and Village Corporations, Intertribal Organizations, and Tribal Energy Development Organizations. Applications due 30 May 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) 13 applications through 28 June 2024 to support marine energy testing and development projects. Open Water Support applications can be submitted any time.

Career Opportunities

RWE is looking for a Technical Innovation Partner (Sustainability & Biodiversity) to support work in renewables technologies, with a focus on biodiversity and ecology related innovation and engineering topics. Applications are due 12 April 2024.

The University of Southampton is seeking a Post-doctoral Research Fellow to work on the TAILWIND project and support the development of new anchoring technologies for floating offshore wind turbines. Applications are due 12 April 2024.

Heriot Watt University's International Centre for Island Technology is offering a fully funded PhD Scholarship (UK only) in improving the accessibility of offshore wind infrastructure in hostile environments. Applications are due 26 April 2024.

The Institute of Social Anthropology at the University of Bern seeks to appoint a full-time PhD Researcher to study environmental justice issues around wave and tidal power in East Asia, Southeast Asia, and Canada. Applications are due 28 April 2024.

The University of Southampton is also offering a PhD Studentship focused on developing robotic ground investigation tools for offshore renewable energy and infrastructure in support of the ROBOCONE project. Applications are due 30 April 2024.

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## Upcoming Events

Upcoming Webinars

The Ecological Consequences of Offshore Wind (ECOWind) research program is hosting its first webinar in its ECOWind Policy Masterclass Series on 18 April 2024 from 11:00am-12:00pm UTC. The first session will kick off with an insightful exploration of the 2024 policy landscape. The second webinar in the series will take place on 15 May 2024 from 11:00am-12:00pm UTC and will focus on strategic compensation.

Upcoming Workshops

The Supergen Offshore Renewable Energy Hub is hosting a Masterclass on Advanced Experimental Fluid Mechanics for Offshore Renewable Energy on 22 April 2024 at the University of Plymouth in England. Participants will be introduced to facilities at the Coast Laboratory and the new UK Floating Offshore Wind Turbine Test Facility, Babbage wind tunnel, and Hexapod. Register here.

The Marine Technology Society and Pacific Northwest National Laboratory are hosting the 15th Buoy Workshop on 20-23 May 2024 in Sequim, Washington, U.S. The workshop will focus on research and advancements in oceanographic, weather, and other buoy systems. Register here.

The Detection, Classification, Localisation and Density Estimation (DCLDE) of Marine Mammals Workshop is taking place on 3-7 June 2024 in Rotterdam, The Netherlands. During the hybrid workshop, participants will share their recent insights into algorithms and technology for automated acoustic monitoring of marine mammals.

The Oceanic Platform of the Canary Islands (PLOCAN) is hosting its 2024 Glider School, which is a leading hands-on ocean-glider technology training forum, from 21-25 October 2024 in Telde, Gran Canaria, Canary Islands, Spain. Applications to attend are due 30 June 2024.

Upcoming Conferences

The 7th Environmental Interactions of Marine Renewables Conference (EIMR 2024) will take place 15-19 April 2024 in Kirkwall, Orkney, Scotland and online.

The Supergen Offshore Renewable Energy Hub is hosting its 7th Early Career Researchers Forum on 23 April 2024 and 7th Seventh Annual Assembly on 24 April 2024 at the University of Plymouth in Plymouth, England.

The Oceantic Network is hosting the International Partnering Forum (IPF 2024) on 22-25 April 2024, in New Orleans, Louisiana, U.S.

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# New Documents on Tethys

*Tethys hosts thousands of documents on the environmental effects of marine and wind (land-based and offshore) energy, including journal articles, conference papers, and reports.*

## Marine Energy

**Field observations of the wake from a full-scale tidal turbine array – Guerra & Hay 2024**

> Wake measurements are critical for quantifying the hydrodynamic effects of tidal energy extraction and for designing arrays of tidal turbines. In this investigation field measurements from the wake of PLAT-I, a commercial-scale floating array of four tidal

turbines, are presented. Instrumented surface-following drifters are used to measure velocity and turbulence in the wake of PLAT-I while deployed in Grand Passage, an energetic tidal channel in the Bay of Fundy, NS, Canada. Field measurements were obtained when the turbines where fully operational under optimal conditions during spring tides.

**SafeWAVE Deliverable 7.5 Tailored Ocean Literacy Programmes Focusing on Wave Energy – Smith et al. 2023**

SafeWAVE Deliverable 7.5, 'Tailored Ocean Literacy Programmes Focusing on Wave Energy', uses the framework developed in Deliverable 7.4 to organise an approach for creating education and public engagement (EPE) programmes that are tailored to the specific circumstances in each of the communities of the project's four member countries – France, Ireland, Portugal, and Spain. These programmes will aim to: (i) raise awareness of wave energy, energy transition and climate action through outreach, education, and training initiatives and (ii) provide an inclusive mechanism for community and wider society stakeholders to input into the planning and realisation of ocean energy projects.

**Marine Renewable Energy in the Philippines: Sustainable Energy from Ocean Spaces and Resources – Abundo et al. 2023**

This Stocktake and Options Report on Marine Renewable Energy for the Philippines is part of the efforts of the Southeast Asia Energy Transition Partnership in accelerating the shift towards modern energy systems, geared towards economic growth, energy security, and environmental sustainability. This paper aims to provide the necessary information to establish a starting point for the development of Marine Renewable Energy as a future sustainable low-carbon energy source in the Philippines. This Report sets out and analyzes the various forms of indigenous marine renewable energy resources available in the Philippines.

## Wind Energy

**Wind energy development can lead to guild-specific habitat loss in boreal forest bats – McKay et al. 2024**

Forest management rarely considers protecting bats in Fennoscandian regions although all species rely on forest habitat at some point in their annual cycle. This issue is especially evident as wind parks have increasingly been developed inside Fennoscandian forests, against the advice of international bat conservation guidelines. In this study, we aimed to describe and explain bat community dynamics at a Norwegian wind park located in a boreal forest, especially to understand potential avoidance or attraction effects. The bat community was sampled acoustically and described using foraging guilds (short, medium, and long-range echolocators; SRE, MRE, LRE) as well as behavior (commuting, feeding and social calls).

**What level of monitoring is enough to detect displacement effects of offshore wind farms? – Hall & Black 2024**

> Offshore renewable energy developments have grown substantially over the last 20 years, yet there remains a large knowledge gap in the effect they have on the movement of seabirds. Being able to detect seabird movements and changes in abundance is a crucial step in understanding the impact to populations of sensitive and vulnerable species. Careful survey design is one way of enhancing the detectability of seabird displacement. This study used red-throated diver (*Gavia stellata*) survey data from the Outer Thames Estuary Special Protection Area to investigate how the statistical power of a survey to detect a given displacement rate was influenced by spacing between transects, the density of red-throated diver and the number of survey days.

**Numerical and experimental study of the effects of wind turbine operation on sand-dust transport characteristics – Ma et al. 2024**

> Given factors such as reduced land availability for onshore wind farms, wind resource enrichment levels, and costs, there is a growing trend of establishing wind farms in deserts, the Gobi, and other arid regions. Therefore, the relationship between sand-dust weather environments and wind turbine operations has garnered significant attention. To investigate the impact of wind turbine wakes on sand-dust transportation, this study employs large eddy simulation to model flow fields, coupled with an actuator line model for simulating rotating blades and a multiphase particle in cell model for simulating sand particles. The research focuses on a horizontal axis wind turbine model and examines the motion and spatiotemporal distribution characteristics of four typical sizes of sand particles in the turbine wake.

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# News & Press Releases

## Marine Energy

**Eco Wave Power Signed a Contract with a Major Energy Company for a Demonstration to Harness Energy from the Waves at the Port of Los Angeles – Eco Wave Power**

> Eco Wave Power recently announced that it has entered an agreement with a major energy company to participate in the development of Eco Wave Power's first project in the United States. Recently, Eco Wave Power also announced that it has conducted a comprehensive feasibility study, with the same major energy company, aimed at identifying the top locations for commercial onshore wave energy stations along the U.S. coastline and worldwide. The three-month, in-depth feasibility study which now has been completed, has shown favorable conditions for clean energy production in multiple locations in the U.S. and globally. In the study, Eco Wave Power has pointed out to at least 77 sites in the U.S. which may be compatible for the implementation of the Eco Wave Power technology.

**Carnegie Clean Energy secures strategic CETO deployment site in Spain – Carnegie Clean Power**

Carnegie Clean Energy recently announced a major milestone on the path to commercialising its world-leading CETO wave energy technology. Carnegie's wholly owned subsidiary, CETO Wave Energy Ireland has signed an Assignment Agreement related to the Berth Reservation Agreement between the Biscay Marine Energy Platform S.A. and Wave Energy Scotland Limited. The new Assignment Agreement assigns the rights secured by Wave Energy Scotland, on behalf of the EuropeWave Buyers Group, to CETO Wave Energy Ireland as one of the successful Phase 3 Contractors. The 2025 deployment of CETO at BiMEP marks a significant step forward for wave energy as a part of our future renewable energy systems. BiMEP is known for its challenging sea conditions, making it the ideal environment to demonstrate CETO's unique ability to generate consistent, reliable energy while withstanding powerful ocean forces.

**Introducing DeepCData: Detailed Material Performance Characterisation and Data Generation for Tidal Energy – Composites Testing Laboratory (CTL)**

CTL is excited to announce it has won funding under the Sustainable Energy Authority of Ireland's Research, Development and Demonstration programme for the project DeepCData. The project consortium consists of CTL, University of Galway and ORPC, and has received just under €500k under the programme. The project aims to generate comprehensive test data on novel composite materials for use in tidal turbine blades. The information compiled throughout the work will lead to a number of developments in tidal energy. Higher loadings will be uncovered for blades, which will increase energy capture. A deeper insight into material performance towards its end-of-life will feed into an improved design life for turbines. A test campaign is planned to evaluate the use of more sustainable composite options in tidal technology. The kick-off meeting was held in March, and the project expects to run for 24 months, until 2026.

**UW researchers finish tests on device hoping to harness wave energy – The Seattle Times**

For much of the past two months, every time he felt a gust of wind, University of Washington (UW) senior research engineer Curtis Rusch thought about the yellow device floating in Lake Washington. Since early this year, Rusch has been working in UW's Applied Physics Lab testing the device that may one day be used to power oceanographic instruments using waves. The device is nothing like the offshore wind farms that power homes or the underwater turbines that spin with the rising and falling tides in other places; it generates a smaller amount of energy — around tens of watts — which is enough to power research devices, like a small submersible. The TigerRAY device is about 10 feet long and wide and weighs a few thousand pounds. For the past two months, it sat quietly in the middle of Lake Washington collecting data and energy from the recent windstorms, until last week when researchers brought it back ashore.

**Dutch wave energy company gets subsidy for large-scale technology testing – Offshore Energy**

> Dutch Wave Power, a company developing technology to convert energy from waves at sea into electrical energy or hydrogen, has received a subsidy of over €99,000 for large-scale testing and demonstration of its technology in the North Sea offshore Scheveningen. The subsidy from the Wadden fund is co-financing of the Offshore For Sure (O4S) project, in which 15 partners from Flanders and the Netherlands participate to accelerate the energy transition at sea. Dutch Waver Power generates electricity with a cylindrical float that lies at sea level. Research is underway at a test location near Scheveningen into how much energy the system generates from wave action in practice and what the technology does in difficult weather conditions. The security of supply, the ecological effects and the affordability of the technology are also examined.

## Wind Energy

**Biden-Harris Administration Approves Eighth Offshore Wind Project – U.S. Department of Interior**

> The Biden-Harris administration today announced its approval of the New England Wind offshore wind project – the nation's eighth approval of a commercial-scale, offshore wind energy project under President Biden's leadership. With today's approval, the Department of the Interior has approved more than 10 gigawatts of clean energy from offshore wind projects — enough to power nearly 4 million homes. The New England Wind project is expected to generate up to 2,600 megawatts of electricity, enough to power more than 900,000 homes with clean renewable energy. The project is situated approximately 20 nautical miles (nm) south of Martha's Vineyard, Massachusetts, and about 24 nm southwest of Nantucket, Massachusetts. Park City Wind, LLC proposed a two-phased project plan comprising up to 129 wind turbine generators.

**Baltic Sea countries pledge closer collaboration to secure critical offshore energy infrastructure – WindEurope**

> Eight Baltic Sea countries, the European Union and representatives of NATO, the European Agency for the Cooperation of Energy Regulators (ACER), European transmission system operators (TSOs) and the European wind industry recently met in Vilnius for the Baltic Sea High Level Energy Security Meeting 2024. The Baltic Sea countries have embarked on a rapid expansion of offshore wind and transmission capacity. Already in 2023 Lithuania, Denmark, Estonia, Finland, Germany, Latvia, Poland and Sweden committed to increase offshore wind in the Baltic Sea from 3.1 GW today to 19.6 GW by 2030. The Vilnius Declaration agreed reaffirms the countries' determination to rapidly implement the actions outlined in the EU Wind Power Package to unlock the Baltic Sea's "vast untapped resources of offshore wind".

**United States-Japan Joint Leaders' Statement – White House**

The United States recently announced that Japan has joined as the first international collaborator of the U.S. Floating Offshore Wind Shot. They intend to work together towards global ambition in line with the Wind Shot, taking into consideration national circumstances, through the Clean Energy and Energy Security Initiative (CEESI) to pursue innovative breakthroughs that drive down technology costs, accelerate decarbonization, and deliver benefits for coastal communities. The United States welcomes Japan's newly-launched industry platform, the Floating Offshore Wind Technology Research Association (FLOWRA), aiming to reduce costs and achieve mass production of floating offshore wind through collaboration with academia.

**Largest wind farm project in the Baltic Sea prepares for auction – Polenergia**

Equinor and Polenergia have applied for an environmental approval for the connection infrastructure of the Bałtyk I offshore wind farm, which is being prepared for auction in 2025. Bałtyk I is the largest and most advanced offshore wind farm project in the Baltic Sea and of the second phase of offshore wind energy development in Poland. - The implementation of the Bałtyk I wind farm will benefit from the best solutions developed in the construction of the earlier projects, Bałtyk II and Bałtyk III. This will significantly streamline the investment process - both companies emphasize. Baltic I is the project of the largest wind farm under construction in the Baltic Sea, with a capacity of up to 1560 MW. The offshore wind farm will be located about 80 kilometers from the coastline.

**New deal signed for offshore wind innovators to continue driving forward solutions in real-world conditions – ORE Catapult**

The Offshore Renewable Energy (ORE) Catapult and Vattenfall have signed a three-year extension on their testing and demonstration collaboration at Aberdeen Offshore Wind Farm. The partnership at the 96.8MW offshore wind test and demonstration facility first began in 2019. Since then, technologies which have the potential to address operation and maintenance challenges currently facing offshore wind farms have been tested at the site, such as blade repair, leading edge erosion, robotics, remote cable monitoring and remote and autonomous inspection. Now, more companies ready to test their technologies offshore will be supported by ORE Catapult and Vattenfall at the 11-turbine wind farm, 2.5km off the Aberdeen coast, until the end of 2026.