TETHYS BLAST

2 February 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!

Announcements

WETO Request for Information

The U.S. Department of Energy's (DOE) Wind Energy Technologies Office (WETO) is seeking information about research needed to support the growth of the domestic offshore wind industry, including technology advancement for bird and bat research and supply chain expansion. Responses to the Request for Information are due by 20 February 2024.

New Funding for U.S. Colleges & Universities

The U.S. DOE's Water Power Technologies Office (WPTO) and WETO have released a $14.5 million funding opportunity to support foundational research at U.S. institutions of higher education to address challenges facing marine and ocean renewable energy industries and spur innovation and development. Concept papers are due 20 February 2024.

RWSC Draft Science Plan

The Regional Wildlife Science Collaborative for Offshore Wind (RWSC) recently released its Integrated Science Plan for Offshore Wind, Wildlife, and Habitat in U.S. Atlantic Waters, which is a new collaborative research plan to guide regional studies of interactions between offshore wind and wildlife on the U.S. Atlantic Coast. RWSC is hosting a public webinar on 9 February 2024 from 1:00-2:00pm EST (9:00-10:00pm UTC); register here to learn more.

NYSERDA MPD Tool

New York State Energy Research and Development Authority (NYSERDA) has relaunched its Mitigation Practices Database (MPD) Tool for Offshore Wind, which is a publicly available database of potential mitigation practices that may be relevant to avoiding, minimizing, offsetting, and restoring potential effects of offshore wind energy development on wildlife, the environment, and fisheries.

MassCEC Request for Information

Massachusetts Clean Energy Center (MassCEC) is seeking input and information related to needs and gaps pertaining to offshore wind and ocean renewable energy testing and validation assets and sites through 2 February 2024.

BOEM Seeking Public Comments

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

- proposed offshore wind lease sale for the Central Atlantic and its draft Environmental Assessment for site assessment and characterization activities (due 12 February 2024);
- intent to prepare a Programmatic Environmental Impact Statement (PEIS) for the offshore wind leases areas in central and northern California (due 20 February 2024);
- draft PEIS for offshore wind leases areas in the New York Bight (due 26 February);
- draft Environmental Assessment for proposed Beacon Wind project (due 4 March 2024).

Calls for Abstracts & Papers

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 3rd Annual Conference for the Sustainable Management of UK Marine Resources (SMMR 2024) is now open through 4 March 2024. SMMR 2024 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.

RenewableUK and Scottish Renewables have opened the Call for Papers for Floating Offshore Wind 2024 until 15 March 2024. The conference and exhibition will take place 9-10 October 2024 in Aberdeen, Scotland.

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.

Funding & Testing Opportunities

The U.S. DOE's is now accepting applications for Phase I Release II of its Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. Letters of intent are due 2 February 2024 and full submissions will be due 12 March 2024.

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 Natural Environment Research Council (NERC) and The Crown Estate have announced an upcoming funding opportunity, Ecological effects of floating offshore wind (ECOFLOW), for eligible UK research organizations. Applications will be due 29 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

Pacific Northwest National Laboratory (PNNL) is looking for a Post Masters Research Associate - Human Dimensions of Energy Systems to join the Operational Systems Engineering group within its Earth Systems Science Division. Applications are due 11 February 2024.

Heriot-Watt University's International Centre for Island Technology is accepting applications for a fully funded PhD Scholarship in improving the accessibility of offshore wind infrastructure through 19 February 2024.

PNNL is also looking for a Post Masters Research Associate - System Planning to support its portfolio of distributed wind energy research. Applications are due 29 February 2024.

Upcoming Events

Upcoming Webinars

The International Energy Agency Wind Task 34, Working Together to Resolve Environmental Effects of Wind Energy (WREN), is hosting a webinar, "Wind Energy and Terrestrial Mammals", on 5 February 2024 from 11:00am-12:00pm EST (4:00-5:00pm UTC). During the

webinar, presenters from Brazil, Portugal, and the United States will discuss how jaguars and pumas, wolves, and pronghorn antelope interact with wind energy facilities. Register here.

PNNL and the National Renewable Energy Laboratory are hosting an informational Marine Energy Career Panel on 7 February 2024 from 3:00-4:30pm PST that will feature National Laboratory staff who are working to advance the marine energy industry. The webinar is aimed at current students and those interested in working in the marine energy industry. Register here.

France Énergies Marines is hosting an informational webinar, "DRACCAR-MMERMAID - Monitoring of marine megafauna off the coast of Fécamp", on 9 February 2024 from 10:00-11:00am UTC. Join the French webinar to learn more about this project, its objectives, and the various monitoring of marine megafauna that will be implemented.

The U.S. WPTO is hosting the WPTO Semiannual Stakeholder Webinar – Looking Forward on 15 February 2024 from 2:30-4:00pm EST (7:30-9:00pm UTC). Register to learn about WPTO's strategic planning process and the Advanced Manufacturing and Materials for Hydropower Strategy, and external collaborations that could guide next steps in the Marine Energy Program.

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.

Upcoming Conferences

The 6th Symposium of the Scottish Marine Energy Research Programme (ScotMER) will take place 6-8 February 2024 online. ScotMER will also be hosting participatory workshops on socioeconomics and Scotland's National Marine Plan 2.

Ocean Energy Europe (OEE) is hosting a members-only OEE Strategy Day & Annual General Assembly 2024 on 26-27 March 2024. The annual event is your chance as an OEE member to connect with other members, to give input into OEE's work, and to get insight into the latest policy and funding initiatives.

The North Carolina Renewable Ocean Energy Program is hosting the 13th Annual North Carolina Renewable Energy Symposium on 8-9 April 2024 in Wanchese, North Carolina, U.S. Register here by 22 March 2024.

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

Animal displacement from marine energy development: Mechanisms and consequences – Hemery et al. 2024

> For marine wave and tidal energy to successfully contribute to global renewable energy goals and climate change mitigation, marine energy projects need to expand beyond small deployments to large-scale arrays. However, with large-scale projects come potential environmental effects not observed at the scales of single devices and small arrays. One of these effects is the risk of displacing marine animals from their preferred habitats or their migration routes, which may increase with the size of arrays and location. This review paper leveraged lessons learned from other industries, such as offshore development, to establish a definition of displacement in the marine energy context, explore which functional groups of marine animals may be affected and in what way, and identify pathways for investigating displacement through modeling and monitoring.

A systematic methodology to assess local economic impacts of ocean renewable energy projects: Application to a tidal energy farm – Bianchi & Fernandez 2024

> Ocean renewable energy (ORE) is one of the most important clean sources of energy and a major player towards the EU ambitions of being net zero emission by 2050. However, at present, there are few examples of commercially viable ORE technologies and no large-scale projects currently under implementation. Together with social and environmental analyses, the assessment of economic impacts is one of the key elements to help policy makers build a compelling case to gain local community acceptance and implement ORE projects. This paper presents a systematic methodology to assess local economic impacts of renewable energy projects, including jobs creation and impacts on gross value added and income.

Noise Monitoring Report Wave Swell Energy King Island Project – UniWave200 – Giudici 2023

> Wave Swell Energy (WSE) deployed the UniWave200 Wave Energy Converter (WEC) at Grassy Harbour, King Island, in early 2021. The project received planning and environmental approvals from King Island Council. A licence and lease for the WEC footprint and marine cable route was received from Crown Land Services. During operation, WSE undertook a campaign of noise monitoring to provide input for future assessments, and for scoping more detailed studies for future projects. Eight locations above water and on land were selected, and sound pressure levels were measured with a hand-held device, and the results recorded and collated. The results confirm that noise levels from the turbine operation at the WEC itself increased with turbine operational speed. The noise from the airflap vents was consistent across turbine speeds.

Wind Energy

A multisensory approach to understanding bat responses to wind energy developments – Jonasson et al. 2024

> Millions of bats are killed at wind energy facilities worldwide, yet the behavioural mechanisms underlying why bats are vulnerable to wind turbines remain unclear. Anthropogenic stimuli that alter perceptions of the environment, known as sensory pollution, could create ecological traps and cause bat mortality at wind farms. We review the sensory abilities of bats to evaluate potential stimuli associated with wind farms and examine the role of spatial scale on the perceptual mechanisms of sensory pollutants associated with wind energy facilities. Audition, vision, somatosensation and olfaction are sensory modalities that bats use to perceive their environment, including wind farms and turbine structures, but they will not all be useful at the same spatial scales.

Co-location of fisheries and offshore wind farms: Current practices and enabling conditions in the North Sea – Bonsu et al. 2024

> Current expansion in offshore wind farm (OWF) development is resulting in increased spatial conflicts with other uses. In the North Sea, marine spatial planning (MSP) processes include co-existence strategies, with co-location between fisheries and offshore wind farms often discussed. However, current legal regulations and the lack of adequate scientific evidence to document economic viability of proposed passive gears, coupled with uncertainties regarding the implementation approach, continue to limit progress in developing co-location solutions. We synthesized current regulations and practices relevant to offshore wind farms and fisheries and conducted spatial-temporal overlap analysis of pot and trap fisheries targeting crustaceans in offshore wind farms to understand their potential for co-location.

Do concerns about wind farms blow over with time? Residents' acceptance over phases of project development and proximity – le Maitre et al. 2024

> Social acceptance is a key issue for the continued expansion of onshore wind energy. Wind energy development targets increasingly rely on the assumption that residents' concerns related to new wind farms dissipate over time. The persistence of resistance to new wind farms has motivated efforts to investigate this effect. The 'U-curve' hypothesis proposes that acceptance is likely to decrease when residents are confronted with the planning of a wind farm in their neighbourhood, but that acceptance may later recover during construction and operation. In this study, relevant research is reviewed, discussed, and applied using a largescale experimental survey focused on residents living within 10 km of an existing wind farm in Ireland (n = 1109).

News & Press Releases

Marine Energy

Riding the wave to a greener future: Is ocean power the solution? (Video) – Euronews

> Leaders in the renewable energy sector tell Euronews Correspondent Denis Loctier how Europe can make better use of its surrounding waters to generate a reliable and sustainable source of electricity. Wavepiston, for example, has created high-power water pipes with the support of the European Union. The natural movement of the waves generates clean energy with the help of underwater plates and a turbine. The device is currently undergoing a year-long test off the coast of Gran Canaria in the Atlantic Ocean. The method is intentionally simple but effective, cutting down on costly offshore repairs. The seawater, once pumped to land, serves two purposes; it can be used to generate clean energy or desalinated to create fresh water.

Plans announced for the first tidal energy plant in Southeast Asia – Inyanga

> Energies PH, Inc, through its affiliate San Bernardino Ocean Power Corporation, has contracted with Inyanga Marine Energy Group to build Southeast Asia's first ever tidal power generation plant. The site will be at the remote Capul Island of Northern Samar in the Philippines, along the San Bernardino Strait, a passage well-known for the strength of its marine currents. The contract for Engineering, Procurement, and Construction has been awarded to Inyanga Marine Energy Group. The 1MW project, which is expected to deploy in late 2025, will use Inyanga's innovative HydroWing tidal stream technology. The HydroWing tidal stream turbines will be connected to the electrical network of Capul, an off-grid island currently relying on a 750 kW diesel power plant.

REDi Island Web-Based App Makes Renewable Energy Educational Resources Even Easier to Access – U.S. DOE WPTO

> Renewable Energy Discovery (REDi) Island looks like an illustration of any lush, wooded island, surrounded by gorgeous coastline and dotted with hills and rivers, when viewed from afar. But zoom in to find waystations sprinkled across the island that have an important story to tell about how renewable energy can power the world. The goal of the REDi Island project, funded by the U.S. DOE's WPTO and developed by the National Renewable Energy Laboratory, is to bring water power's outstanding potential into focus—and into the classroom. The virtual island features more than a dozen animated videos highlighting how different forms of hydropower and marine energy can help power communities, monitor the environment, and even provide clean water. Now, a new web-based REDi Island app expands the learning experience.

Successful handover marks completion of £24million Morlais substation – Morlais Energy

> In an important milestone for Anglesey tidal energy project, Morlais, civil engineering firm Jones Bros has officially handed over the substation to site owner, Menter Môn

Morlais Ltd. The move signals the successful delivery of the first phase of the project within the timeframe and to budget. Construction of the substation is a key part of the infrastructure for the new 240MW tidal energy development and has been a focal point of collaboration between Jones Bros and Menter Môn Morlais Ltd. Completion means the project can move to the next phase as it prepares for the deployment of turbines in the sea from 2026. Having started on site, near Holyhead in the spring of 2022, the project has so far delivered substantial employment and training opportunities as promised. Over 70 Jones Bros employees worked on the site, including ten apprentices – with 86% from the north Wales region.

Carnegie Clean Energy completes US listing onto OTCQB – Carnegie Clean Energy

Carnegie Clean Energy is pleased to announce that the company is now dual listed, trading in the US on OTC Markets Group's OTCQB market under the stock ticker CWGYF. Trading on the OTCQB market provides efficient, real-time access for institutional and retail investors in North America in US dollars. Trading and information flow through the OTCQB platform will allow the company to engage with renewable energy focussed investors in the US in a targeted and meaningful way. Additional benefits include potential for increased liquidity and access to capital in the US. CCE's primary listing remains the ASX, with shares now having a secondary listing in the US, as well as the existing secondary listing in Europe.

Wind Energy

BOEM and NOAA Announce Final North Atlantic Right Whale and Offshore Wind Strategy – U.S. BOEM

BOEM and the National Oceanic and Atmospheric Administration (NOAA) Fisheries released a final joint strategy to protect and promote the recovery of endangered North Atlantic right whales while responsibly developing offshore wind energy. The strategy identifies the agencies' goals and key actions for continuing to evaluate and mitigate the potential effects of offshore wind energy development on North Atlantic right whales and their habitat. It also builds on existing mitigation measures to protect North Atlantic right whales from the potential impacts of offshore wind development. The North Atlantic Right Whale and Offshore Wind Strategy provides guidance for a coordinated effort across the federal government and with agency partners to protect and promote the recovery of North Atlantic right whales and other marine life while responsibly developing offshore wind energy to address the climate crisis.

Floatgen's lifetime extended for another 5 years as its cumulated production surpassed 30 GWh – BW Ideol

BW Ideol is pleased to announce that Floatgen's operations, originally scheduled for 5 years, are able to be extended for an additional 5 years. This announcement comes on the heels of Floatgen surpassing the 30 GWh electricity threshold, underscoring the robustness of BW Ideol's design. Serving as France's first and only operational floating

wind turbine, Floatgen is a 2 MW demonstrator equipped with BW Ideol's innovative Damping Pool® floater. With this significant electrical production milestone, Floatgen demonstrates that floating offshore wind is a practical and tangible solution for supporting electrical supply. These valuable results are due to the hydrodynamic properties and excellent sea-keeping capabilities of the BW Ideol floater.

Final Federal Approvals for Dominion Energy's Coastal Virginia Offshore Wind Represent Another Major Milestone Towards Successful Project Completion – Dominion Energy

Dominion Energy recently announced it has received the last two major federal approvals needed to begin construction of its 2.6-gigawatt Coastal Virginia Offshore Wind (CVOW), keeping the largest offshore wind farm in the United States on schedule to generate enough clean, renewable energy to power up to 660,000 homes once fully constructed in late 2026. BOEM provided its final approval of CVOW's Construction and Operations Plan (COP), which authorizes construction offshore. The U.S. Army Corps of Engineers issued its permit to allow for permitted impacts to U.S. waters, including the route of the electric transmission line that will connect the clean, renewable energy generated offshore to the electric grid onshore. CVOW will consist of 176 turbines and three offshore substations in a 113,000-acre lease area off the coast of Virginia Beach.

WindFloat Atlantic closes 2023, reaching 80 GWh! - WindFloat Atlantic

The WindFloat Atlantic project, the world's first semi-submersible floating offshore wind farm, was connected to the grid by the end of 2019 and commissioned in 2020, is now finishing its third full year in operation, closing 2023 with an electricity production of 80 GWh! WindFloat Atlantic also closed 2023 breaking more records, with Storm Ciaran posing unprecedented challenges, with waves reaching a staggering maximum height of 20 metres and wind gusts of up to 139 kilometres per hour! These extraordinary conditions far surpassed previous project records, demonstrating the readiness and robustness of the floating technology, even in extreme offshore conditions. With three years of operating successfully, it is demonstrated that floating technology is mature and reliable even in challenging environments and that it will allow to unlock offshore wind opportunities worldwide.

Padilla, Butler, Huffman Announce Over $425 Million for Humboldt Bay Offshore Wind Infrastructure – Office of U.S. Senator Alex Padilla

U.S. Senators Alex Padilla and Laphonza Butler (both D-Calif.), along with Representative Jared Huffman (D-Calif.-02), recently announced that the Humboldt Bay Harbor, Recreation, and Conservation District will receive $426.7 million for the construction and maintenance of offshore wind infrastructure. The grant for the Humboldt Bay Offshore Wind MVP (Minimum Viable Port) project comes through the Department of Transportation's Nationally Significant Multimodal Freight & Highway Projects (INFRA) grant program, which received a substantial funding increase through the Bipartisan Infrastructure Law.