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[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

[New Wind Energy in Latin America Page](#)

Working Together to Resolve Environmental Effects of Wind Energy ([WREN](#)) has launched a new [Wind Energy in Latin America \(Energía Eólica en Latinoamérica\)](#) page on Tethys that highlights literature and resources focused on wind energy in Latin America, including WREN short science summaries and other documents available in Spanish.

[BOEM Seeking Public Input](#)

The U.S. Bureau of Ocean Energy Management (BOEM) is [seeking ideas](#) for baseline environmental and socioeconomic studies to inform decisions on potential offshore wind energy activities in the U.S. territories, as well as information on entities in the U.S. territories that have the capabilities, expertise, and interest in carrying out environmental monitoring and conducting studies. The deadline to respond is 23 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 & Proposals

The Marine Alliance for Science and Technology for Scotland (MASTS) has opened the [Call for Abstracts](#) for the [MASTS 2024 Annual Science Meeting](#) through 22 August 2024. The meeting will take place 5-7 November 2024 in Glasgow, Scotland.

The Ocean Thermal Energy Association has extended the Call for Speakers for the [10th 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 [WindEurope's Annual Event 2025](#) is now open through 6 September 2024. The annual event will take place 8-10 April 2025 in Copenhagen, Denmark.

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 U.S. DOE's Wind Energy Technologies Office (WETO) recently announced the [Offshore Wind National and Regional Research and Development Funding Opportunity](#), which will award \$48.6 million for projects that address several major areas of need for offshore wind, including improving offshore wildlife protection through new monitoring technologies. Concept papers are due 3 September 2024 and full applications are due 7 November 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.

New Jersey's Research and Monitoring Initiative has released a [Request for Proposals](#) to support research projects focused on furthering ecologically responsible offshore wind development. Letters of intent are due 28 August 2024 and proposals are due 9 October 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 U.S. National Science Foundation (NSF) opened applications for its [Engineering Research Initiation program](#), which aims to enhance engineering research capacity by supporting new academic investigators who have not received significant federal funding, and includes a special topic focused on Marine Energy and the Blue Economy. Applications are due 9 October 2024.

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 National Offshore Wind Research and Development Consortium (NOWRDC) has opened its [Solicitation 4.0 - Innovations in Floating Offshore Wind](#) to fund up to \$10.6 million of projects that address areas of need for floating offshore wind, including innovation in ports and vessels, transmission technology, and uncrewed underwater vehicles for environmental monitoring. An [informational webinar](#) will take place on 10 September 2024. Proposals are due 14 November 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.

Career Opportunities

Biodiversity Research Institute (BRI) is seeking a [Quantitative Ecologist](#) to conduct marine ecology research, risk assessment, and conservation, focusing on offshore wind and wildlife issues, and support BRI's team dedicated to Applied Science and Planning in Renewable Energy and the Center for Research on Offshore Wind and the Environment (CROWE).

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.

Plymouth Marine Laboratory is seeking an [Atmosphere-Ocean Scientist](#) and a [Senior Scientist in Ocean Colour Research](#). Applications are due 8 September and 16 September 2024, respectively.

Avangrid is looking for a [Senior Offshore Wind Permitting Manager](#) to manage and coordinate permitting and compliance efforts for the New England Wind 1 Offshore Wind Project. The job posting closes on 20 September 2024.

Upcoming Events

Upcoming Webinars

The U.S. Offshore Wind Synthesis of Environmental Effects Research ([SEER](#)) team is hosting a webinar, "[Social Perceptions of the Environmental Effects of Offshore Wind Energy Development](#)", on 21 August 2024 from 1:00-2:00pm EDT (5:00-6:00pm UTC). The panelists will discuss how perceptions of offshore wind's environmental effects shape public opinion and community engagement, and how to best communicate environmental information to the public.

The U.S. DOE's WPTO is hosting its [WPTO Semiannual Stakeholder Webinar: AI, Machine Learning, and Water Power](#) on 22 August 2024 from 12:30-2:00pm EDT (4:30-6:00pm UTC). The webinar will feature experts from WPTO for a discussion on artificial intelligence and machine learning, including where they see potential benefits and uses of these tools in the hydropower and marine energy sectors and where they may already be in use.

The National Renewable Energy Laboratory's Enabling Coexistence Options for Wind Energy and Wildlife ([ECO Wind](#)) project is hosting a webinar, "[Perspectives on Wind-Wildlife Constraints to Buildout Webinar 2: Operations](#)", on 3 September 2024 from 2:00-3:00pm MDT (8:00-9:00pm UTC) and feature three presentations on loads analysis, controls, and grid planning as they relate to wind facility operations. [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.](#)

[WREN](#) is hosting a webinar, "[Using eDNA for wind energy and wildlife studies](#)", on 17 October 2024 from 10:00am-11:00am EDT (2:00pm-3:00pm UTC). During the webinar, researchers from France and the United States will present their research on the feasibility of using environmental DNA, or eDNA, to detect marine wildlife. [Register here.](#)

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.

Upcoming Conferences

The Dutch Marine Energy Centre (DMEC) is hosting the [Advancing Nature-Inclusive Offshore Renewable Energy Solutions Conference](#) on 17 September 2024 in The Hague, Netherlands.

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

The Association of Fish & Wildlife Agencies (AFWA) is hosting its [114th AFWA Annual Meeting](#) on 22-25 September 2024 in Madison, Wisconsin, U.S.

The Renewable Energy Wildlife Institute (REWI) is hosting its [15th Wind Wildlife Research Meeting \(WWRM 2024\)](#) on 12-15 November 2024 in Corpus Christi, Texas, U.S.

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

[Listening to the Beat of New Ocean Technologies for Harvesting Marine Energy](#) – Haxel et al. 2023

When we hear about offshore energy in the news media and other popular information sources, images of oil platforms and, more recently, wind farms flash across our screens. However, there is a new, rarely known sector of offshore energy under development that is focused on harnessing the renewable power contained in ocean waves and currents and converting it to electricity. These new technologies termed marine energy converters (MECs) are the topic of this article. They not only have the potential to make a significant contribution to our energy needs but may also generate new sources of anthropogenic sounds in the oceans that require measurement and characterization to ensure that there are no harmful effects to marine life.

ENFAIT: Enabling Future Arrays in Tidal - Final Project and European ESEAs – Norwood et al. 2023

A Funding Grant was awarded from the European Union's Horizon 2020 research and innovation programme in January 2017 to demonstrate a grid-connected tidal energy array at a real-world tidal energy site in Shetland, propelling tidal energy towards competing on a commercial basis with alternative renewable sources of energy generation – Enabling Future Arrays in Tidal (EnFAIT). This was provided in response to the EU's call 'LCE-15-2016: Scaling up in the ocean energy sector to arrays', which aims to generate significant learning opportunities in demonstrating cost-effective tidal arrays. As part of EnFAIT, an Environmental and Socio-Economic Appraisal (ESEA) has been prepared under Work Package 8.

Fluxes of nitrogen and phosphorus in fouling communities on artificial offshore structures – Coolen et al. 2024

The number of offshore artificial structures in the North Sea is continuously increasing. Apart from the structures that have been added to the marine environment accidentally (e.g., shipwrecks), structures are also deliberately developed to meet the increasing needs for renewable energy. These structures provide habitat for fouling organisms. The fouling communities vary in abundance and composition based on location, depth, and structure age. Our study used in-situ incubation chambers to investigate oxygen, nitrogen, and phosphate fluxes associated with fouling organisms to improve understanding of these changes in biogeochemical cycles. Divers used incubation chambers (domes) on shipwrecks in the southern North Sea where over 55 years mature fouling communities have established.

Wind Energy

Life on every stone: Characterizing benthic communities from scour protection layers of offshore wind farms in the southern North Sea – Zupan et al. 2024

The scour protection layer (SPL) is a layer of large stones placed around man-made structures in the marine environment, preventing sediment scouring while also providing new hard substrate and potentially increasing the structural complexity of the original environment. This fosters development of diverse benthic communities, supporting high abundance of organisms. Future SPLs are therefore a potential tool for the ecological enhancement of degrading marine habitats following the principles of nature-inclusive design. Yet, factors that shape the benthic communities on SPLs are poorly understood. Here, we analysed existing data from SPLs from offshore wind farms and a gas platform in the southern North Sea to determine how SPL characteristics affect the biofouling community structure.

[The Potential Environmental Impacts of Floating Offshore Wind in California](#) – California Ocean Science Trust 2024

In an effort to address questions about the potential environmental impacts of floating offshore wind energy in the federal lease areas in California, OST compiled the existing research (as of June 2024) into seven fact sheets with high-level science messages. The topics included are not exhaustive of all potential environmental impacts nor intended to suggest prioritization or ranking of potential impacts by scientific expertise. Rather, the goal of the fact sheets is to synthesize research on topics frequently raised in public venues, especially in the communities of Morro Bay and Humboldt Bay. Topics include:

1. **[Understanding Potential Environmental Impacts with Existing Research](#)** (General Takeaways)
2. **[Impacts to Marine Mammals from Pre-construction Surveys](#)**
3. **[Impacts to Seabirds](#)**
4. **[Impacts to Whales and Other Marine Mammals](#)**
5. **[Impacts to Fish and Seafloor Habitats](#)**
6. **[Impacts from Noise](#)**
7. **[Impacts from Electromagnetic Fields](#)**

[A synthetic analysis of post-construction displacement and attraction of marine birds at offshore wind energy installations](#) – Lamb et al. 2024

Changes in the distribution of marine birds in their at-sea foraging, resting, and migratory habitats are frequently observed following construction of offshore wind energy installations. However, the presence and strength of both displacement and attraction effects have been shown to vary widely among species and locations. An understanding of the underlying factors driving both occurrence and detection of distributional changes is required to inform wind farm design and develop best practices for environmental impact assessment, monitoring, and mitigation. Drawing from 39 publications and reports, we conducted a meta-analysis to assess the likelihood of detecting attraction or displacement of marine birds by wind energy infrastructure as well as the proportional change in use of the wind energy areas.

News & Press Releases

Marine Energy

[Wave Energy Converters Could Be Clean Power Solution for Offshore Aquaculture Farms](#) – U.S. WPTO

Sponsored by the U.S. DOE's WPTO and directed by the Pacific Ocean Energy Trust, TEAMER gives marine energy developers the opportunity to partner with academic institutions, national and private research laboratories, and private companies in the Facility Network to test and refine new marine energy devices. This opportunity for testing is essential for companies like E-Wave Technologies. Over the course of five

rounds of technical support, TEAMER supplemented funding from the Small Business Technology Transfer (STTR) program and helped E-Wave develop a wave energy converter (WEC) from concept to test-validated device. The E-Wave WEC is designed to power offshore aquaculture farms with clean and affordable energy, and E-Wave is now advancing it toward commercialization.

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.

Tidal energy scheme trials solar powered bird tracker – Morlais Energy

Specially developed miniature solar powered devices have been fitted onto birds off the coast of Ynys Môn, to track their migration and behaviour patterns. Part of the ongoing marine characterization research (MCRP) project led by Menter Môn, the information gathered will help ensure that tidal energy devices within the Morlais scheme are deployed safely. The transmitters, mounted on bird leg rings and powered by a pair of tiny solar panels, have been developed by the RSPB, and approved by the British Trust for Ornithology, to gather information about the movements of Guillemots off the coast near Ynys Lawd (South Stack) on Anglesey. The aim is to help the Menter Môn Morlais team gain a better understanding of seabirds as part of efforts to safeguard local wildlife during the development of the renewable energy scheme.

Policies on multi-source offshore energy parks start taking shape in Europe – Offshore Energy

The European Commission's (EC) Directorate-General for Energy (DG ENER) is preparing detailed recommendations on the integration of non-price criteria in offshore renewable energy tenders. The recommendations, expected to be published in March 2025, will also cover multi-source offshore energy parks, where wave and/or floating solar parks are integrated into offshore wind farms. At a summit held by the Dutch Marine Energy Centre (DMEC), POM West-Vlaanderen, and the EU-SCORES project at the beginning of July in Belgium, representatives from four EC Directorates-General provided insights on multi-source offshore energy parks and broader policy developments. DG ENER highlighted that member states should include multi-use areas in their national marine spatial plans, according to DMEC and the EU-SCORES partners.

Eco Wave Power Officially Kicks Off the First MW Scale Wave Energy Project in Portugal **– Eco Wave Power**

Eco Wave Power, a publicly-traded onshore wave energy technology company, recently announced that Inna Braverman, Founder and Chief Executive Officer of Eco Wave Power, and Eco Wave Power’s engineering team, have arrived for a meeting and an official site-visit with APDL (Administração dos Portos do Douro, Leixões e Viana do Castelo, S.A) , and other relevant stakeholders for the official kickoff of the Company’s first MW-scale wave energy project, to be located in the city of Porto, in Portugal. Following the meeting with APDL, Eco Wave Power’s engineering team held a site visit to the breakwater and the room underneath the breakwater (“The Gallery”), where Eco Wave Power’s energy conversion equipment will be installed, and later opened to the public, as a first of its kind wave energy museum and education center.

Wind Energy

Biden-Harris Administration’s Central Atlantic Offshore Wind Lease Sale Yields Nearly \$93 Million – U.S. Department of the Interior

Following the completion of the fifth offshore wind lease sale held during the Biden-Harris administration, the Department of the Interior recently announced the results from BOEM’s wind energy auction for two lease areas offshore the states of Delaware, Maryland and Virginia. The sale – the first in the region in a decade – resulted in two provisional winners and \$92.65 million in winning bids. Equinor Wind US LLC provisionally won Lease OCS-A 0557 at \$75,001,001, which consists of 101,443 acres and is approximately 26 nautical miles (nm) from Delaware Bay. Virginia Electric and Power Co provisionally won Lease OCS-A 0558 at \$17,650,500, which consists of 176,505 acres and is approximately 35 nm from the entrance of Chesapeake Bay.

‘World’s Largest Single-Capacity’ Floating Wind Platform En Route to Installation Site – Offshore Wind

Mingyang Smart Energy’s OceanX, which the company says is the world’s largest single-capacity floating wind platform, has sailed out of Guangzhou, China, and is heading towards the Qingzhou IV offshore wind farm in Yangjiang, Guangdong, where it will be installed. The floater is a dual-turbine V-shaped platform and has a generation capacity of 16.6 MW, featuring two MySE8.3-180 hybrid drive wind turbines, each with a capacity of 8.3 MW. According to a social media post published by Mingyang on 11 August, the journey to the Qingzhou IV offshore wind farm is anticipated to take 72 hours, during which OceanX will travel 191 nautical miles (around 354 kilometres). The company completed construction and launched the OceanX floating wind turbine platform in Guangzhou on 13 July.

New generation of floating wind farms moves a step closer as next phase of Celtic Sea leasing round gets underway – The Crown Estate

The Crown Estate has embarked on the latest phase in its Offshore Wind Leasing Round 5, which seeks to establish a new generation of floating wind farms in the Celtic Sea off the coasts of South Wales and South West England. First set out in December 2023, the plans represent a new chapter for the UK's world-leading offshore wind industry, with the potential to see new floating turbines generating enough renewable energy to power more than 4 million homes (up to 4.5 gigawatts). Round 5 has also become the first leasing round to be brought to market with an agreed plan for connecting the new windfarms to the UK's electricity grid, with the Electricity Systems Operator (ESO) recently publishing its Celtic Sea network design recommendation.

SOWEC unveils nature-boosting steps for offshore wind – Renewables

A report published by the Scottish Offshore Wind Energy Council (SOWEC) explores how developers can maximise opportunities for nature within and around offshore wind farms. Measures that provide habitat for shelter, feeding and spawning can be incorporated within wind turbine foundation options to help enhance biodiversity in the decade ahead as multiple wind farms are constructed in Scotland's seas. Supported by SOWEC, the Collaboration for Environmental Mitigation & Nature Inclusive Design (CEMNID) project, a collaboration between offshore wind developers and Scottish regulators, has produced a new set of tools for the sector including a "Good Practice Mitigation Library" and a suitability review of Nature Inclusive Design measures. These offer a practical framework for the offshore wind sector to deliver projects with minimal impact and to benefit the marine environment.

Ørsted launches world's first heavy-lift cargo drone operations at Borssele 1&2 Offshore Wind Farm – Ørsted

Ørsted is deploying heavy-lift cargo drones for the first time in an operational campaign at the Borssele 1&2 Offshore Wind Farm. This pioneering move marks a significant leap forward in operational efficiency and safety in the offshore wind industry. The heavy lift cargo drone will transport cargo from a vessel to all 94 wind turbines of the Borssele offshore wind farm. Building on previous trials and expertise using drones in other offshore wind farms, Ørsted is using the 70 kg drones - which have a wingspan of 2.6 metres - to transport cargo of up to 100kg, in an actual operations campaign, after the concept was tested last year at the Hornsea 1 Offshore Wind Farm in the UK.