



22 November 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

[New Tethys Video](#)

The Portal and Repository for Information on Marine Renewable Energy (PRIMRE) team recently released a new 2-min [Tethys Overview Video](#) highlighting the Knowledge Hub's key marine energy features and uses. Dive in to learn more about Tethys!

[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.

[BOEM Accepting Study Ideas](#)

The U.S. Bureau of Ocean Energy Management (BOEM) is beginning to formulate its Fiscal Year 2026–2027 Studies Development Plan covering BOEM's offshore energy and minerals activities and invites you to [submit study ideas](#) by 9 December 2024. Study ideas must be relevant to BOEM's information requirements in the areas of biological, oceanographic (physical and chemical) or social sciences (economic and cultural research), or Indigenous knowledge.

Capacity Accelerator for Tribal Offshore Wind Engagement

The U.S. DOE is [seeking feedback from Tribes and Tribal-supporting organizations](#) on their capacity-building needs to engage in offshore wind decision-making and what they would like to see from this effort. DOE is hosting an [informational webinar](#) on 11 December 2024 and feedback is due on 13 December 2024.

BOEM Seeking Public Comment

BOEM is also [inviting public comment](#) on a regional environmental analysis of potential mitigation measures on future development activities for five offshore wind lease areas off California's central and north coasts. BOEM will hold two virtual public meetings on 28 and 30 January 2025. Comments are due 12 February 2025.

Marine Energy Collision Risk Video Game

Pacific Northwest National Laboratory recently launched a new version of its [Marine Energy Adventure: Collision Risk Video Game](#) on Tethys. This interactive tool illustrates the different factors influencing collision risk and the spatial scales at which they operate underwater. Please take a moment to share your feedback through [this online survey](#).

Calls for Abstracts

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.

The [Call for Abstracts](#) for the [European Geoscience Union \(EGU\) General Assembly 2025](#) is now open through 15 January 2025. The EGU General Assembly 2025 will take place on 27 April–2 May 2025 in Vienna, Austria and online.

Funding & Testing Opportunities

The Avangrid Foundation recently opened applications for its [2024 Wildlife Rehabilitation Program](#) and welcomes eligible wildlife organizations within its service areas to apply by 22 November 2024. Its goals include supporting local organizations caring for injured wildlife, promoting public outreach and education about wildlife resources and renewable energy, and strengthening relationships with the environmental community where the company operates.

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's Wind Energy Technologies Office (WETO) has announced an [Offshore Wind Workforce Readiness](#) program that will award successful applicants offering offshore wind education and training programs that offer apprenticeship readiness programs, registered apprenticeship programs, or maritime/mariner programs. Applications due 13 December 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.

Southerly Ten in partnership with the Ocean Impact Organisation has opened applications for the [Offshore Wind Net Positive Challenge](#), which will create opportunities for innovative Australian and New Zealand companies to work with the emerging offshore wind industry and have a net positive impact on the ocean, biodiversity, and climate. Applications are due 18 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. WPTO will host a [webinar](#) on 4 December to explore the topic areas.

The Responsible Offshore Science Alliance (ROSA) is [seeking proposals](#) to advance understanding of regional and cumulative effects of offshore wind on fish and fisheries and support meaningful solutions to the challenges surrounding responsible ocean co-use through regional research and publicly-available data and data products. Concept papers are due on 20 December 2024 and full applications are due on 14 March 2025.

The U.S. DOE's WETO has issued a [Funding Opportunity Announcement](#) in coordination with Innovation Fund Denmark to support U.S.-Danish consortia collaborating on shared research objectives to improve floating offshore wind energy mooring and anchoring technologies and methods towards commercialization and industry growth. Submissions are due 14 January 2025.

Horizon Europe (HORIZON) has opened several Calls for Proposals including, [Minimisation of environmental, and optimisation of socio-economic impacts in the deployment, operation and decommissioning of offshore wind farms](#), [Demonstrations of innovative floating wind concepts](#), and [Critical technologies for the future ocean energy farms](#). 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

Pacific Northwest National Laboratory is hiring a [Post Bachelors Research Associate - Coastal Communities Energy Planning](#) to support community driven design for coastal communities. Some familiarity with marine energy (e.g., wave, tidal, ocean current), offshore wind energy, or ocean sciences is encouraged. Applications are due 28 November 2024.

The University of Plymouth is offering several [PhD studentship opportunities](#) through the Ocean energy sector as contribution towards carbon neutrality (OcEn) project. The deadline for applications is 29 November 2024.

The "[International Research Experiences for Students \(IRES\): Fostering Ocean Renewable Energy Expertise through Collaboration with European Countries](#)" project is accepting applications from undergraduate and graduate students who are currently enrolled in a U.S. academic institution to get experience in Europe. Applications are due 30 November 2024.

The Yorkshire Wildlife Trust is hiring a [Marine Advocacy Manager \(Maternity Cover\)](#) who will be responsible for delivery of its Marine Protected Areas advocacy programme within the North Sea. Applications are due 1 December 2024.

The University of Washington School of Marine and Environmental Affairs invites applications for a tenure-track [Assistant Professor in Coastal and Environmental Affairs](#). Applications received by 2 December will be given priority.

The University of Oxford is offering [Research Studentships 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.

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.

Upcoming Events

Upcoming Seminars/Webinars

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).

The Dutch Marine Energy Centre is hosting a [Deep Dive on Offshore Testing](#) on 3 December 2024 in The Hague, the Netherlands.

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.

The Chilean Marine Energy Research and Innovation Center (MERIC) is hosting the first [Offshore Wind Energy Seminar in Chile](#) on 6 December 2024 in Santiago, Chile. Complete this [form](#) if you are interested in participating and staying up to date with the latest news and details.

The National Offshore Wind Research & Development Consortium (NOWRDC) is hosting the [National Offshore Wind Research & Development Symposium 2024](#) on 10-11 December 2024 in Washington, DC, U.S. and online.

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

[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

[2024 State of the Science Report - Chapter 3: Marine Renewable Energy: Stressor-Receptor Interactions](#) – Garavelli et al. 2024

The OES-Environmental 2024 State of the Science Report: Environmental Effects of Marine Renewable Energy Development Around the World summarizes the state of the science of environmental effects of marine renewable energy (MRE) and serves as an update and a complement to the [2020 State of the Science Report](#). While the research and monitoring findings prior to 2020 are summarized throughout, the main focus of the report is on the more recent work. Chapter 3 encompasses the progress made on understanding the major stressor-receptor interactions that help delineate potential risks from MRE development.

Life cycle environmental impact assessment of the “Sindhuja-I” wave energy converter – Singh et al. 2024

The life cycle assessment (LCA) is an inevitable part of ocean wave energy systems. This paper presents an LCA of the Sindhuja-I ocean wave energy converter (WEC). The WEC is a point absorber type WEC tested at the Tuticorin port in India. This study utilized the ISO 14044 standard and SimaPro LCA software to assess the environmental impact of the WEC in comparison to a coal power plant, offshore wind, and tidal energy devices. The functional unit considered is the generation of 1 kWh of electricity. The WEC has a global warming potential of 174 gCO₂-eq/kWh, showcasing an impressive 81.9% reduction in emissions compared to coal power plants.

A Comprehensive Review of Multi-Use Platforms for Renewable Energy and Aquaculture Integration – Manolache & Andrei 2024

This review aims to find, classify, and discuss ongoing projects that fall into the category of multi-use platforms, concerning offshore energy exploitation and marine resource production, including aquaculture. The term multi-use platforms (MUPs) refer to areas that may accommodate multiple operations such as aquaculture, tourism, transportation, oil, or energy production. This research only examines the current situation of marine energy projects that entail the integration of either a single kind of renewable energy or other types of marine renewable energy, in conjunction with aquaculture. The particularity of this research consists in the exclusive choice of platforms that integrate two sources of renewable energy on a single platform.

Wind Energy

Feasibility of strategic ornithological compensatory measures in the Scottish context – Tapia-Harris & Evans 2024

The Scottish Government have set out goals for significant offshore wind capacity to be developed as part of their Net Zero policies. The scale of proposed and planned development has the potential to adversely affect seabird populations protected under the Habitats Regulations. Should developments or plans proceed where adverse effects are concluded, there is an obligation to deliver compensatory measures to offset for impacts. To ensure that strategic compensatory measures can be delivered effectively and with maximum positive benefit to seabirds, there is a need to assess which measures have ecological and practical feasibility within Scotland. The Scottish Government scoped out a list of potential measures which were evaluated in this project. The project was structured around two work packages which assessed the proposed measures; the first to evaluate their ecological feasibility and the second to evaluate their practical feasibility.

Assessment of forest disturbance and soil erosion in wind farm project using satellite observations – Xia et al. 2024

The construction of wind farms, involving road construction and wind turbine installation, severely disrupts natural landscapes. Wind energy expansion in global forested areas has unclear impacts on local forests and ecosystem services. Due to a lack of information on internal road distribution and deployment dates, few studies have assessed forest disturbances caused by wind farms. Environmental issues like vegetation destruction and soil erosion may be overlooked. To address this, we integrated multi-source spaceborne observations to identify deployment dates and road distributions of forest wind farms and mapped related forest disturbances and soil erosion changes. Six global locations were tested, showing over 80 % accuracy.

[Acoustic telemetry suggests the lesser spotted dogfish *Scyliorhinus canicula* stays and uses habitats within a French offshore wind farm](#) – Labourgade et al. 2024

Offshore wind farms (OWF) are a rapidly expanding renewable energy source, but their effects on marine wildlife need further investigation. These infrastructures form new artificial habitats that may modify the behaviour and spatial distribution of fish species. Among the species likely to be affected, benthic sharks occupying coastal habitats are particularly exposed to the development of OWF, especially as electrosensitive species. This study used passive acoustic telemetry to investigate the behaviour of a benthic shark, the lesser-spotted dogfish *Scyliorhinus canicula*, within France's first operational OWF. Most tagged sharks remained in the vicinity of the OWF post-release, exhibiting site fidelity and seasonal residency with reduced presence during winter when water temperatures are the lowest.

News & Press Releases

Marine Energy

[Eco Wave Power Receives Final Permit from U.S. Army Corps of Engineers for First Onshore Wave Energy Project at Port of Los Angeles](#) – Eco Wave Power

Eco Wave Power is pleased to announce it has received the final Nationwide Permit (NWP) from the U.S. Army Corps of Engineers for its groundbreaking wave energy project at AltaSea's premises at the Port of Los Angeles. This milestone marks a significant step forward in the development of Eco Wave Power's pioneering wave energy project, which is set to become the first onshore wave energy installation in the United States. The permit, issued under NWP 52 for Water-Based Renewable Energy Generation Pilot Projects, authorizes Eco Wave Power to install eight wave energy floaters on the piles of an existing concrete wharf structure on the east side of Municipal Pier One.

[Buoy relaunch signals new phase of wildlife monitoring for tidal scheme](#) – Morlais Energy

A data gathering buoy linked to north Wales tidal energy scheme, Morlais, embarks on its second mission this week as it is launched off the coast near Holyhead. The vessel also

known as the Marinus LiDAR buoy, is part of a significant research exercise to ensure that marine mammals and birds are safeguarded as Morlais becomes operational from 2026. The unmanned buoy was first deployed at the site by the Menter Môn-led, Marine Characterisation and Research Project (MCRP) in 2023. Now, following rigorous testing and refurbishment Marinus is fully operational again, and will use the latest technologies to continue its data collection role. As part of this, state of the art system integrated monitoring and analysis equipment has been successfully installed on the buoy which includes, sonar imaging, acoustic monitoring and video imaging.

Seabased Signs MoU with the Government of Grenada and SIDS DOCK for Wave Energy Park – Seabased

Seabased, a leader in renewable ocean energy solutions, has signed a three-party Memorandum of Understanding (MoU) with the Government of Grenada and SIDS DOCK to establish Grenada's first utility-scale wave energy park. The landmark agreement, announced on Friday 15 November at COP 29, outlines a phased project that will begin with a 2MW pilot to showcase the potential of wave energy in driving economic and environmental resilience in Small Island Developing States (SIDS). This MoU comes as part of Grenada's ongoing commitment to climate resilience and sustainable development, with the Government of Grenada seeking to leverage its abundant ocean resources to meet and exceed the island's energy demands.

Device Deployments Help NREL Researchers Identify What Is Broken—So They Can Get To Work Fixing It – National Renewable Energy Laboratory (NREL)

When Brittany Enos went to bed in Nags Head, North Carolina, on the night of March 18, 2024, she was feeling a little nervous. Outside her hotel room, the wind howled, rain battered the windows, and thunder roared. And floating in the nearby ocean, a wave-powered desalination device built by NREL was being jostled by the storm. Enos was crossing her fingers that the device would weather the intense wind and waves. By that time, NREL's hydraulic and electric reverse osmosis (HERO) wave energy converter (WEC) had been anchored to the seabed about 500 feet off of Jennette's Pier in Nags Head for nearly a week. The NREL engineering team that built the HERO WEC, including Scott Jenne, Andrew Simms, and Justin Panzarella, had already left North Carolina's Outer Banks the day before the storm, feeling satisfied with the information gathered in the deployment.

This seaside town will power thousands of homes with waves – The Washington Post

At a moment when large offshore wind projects are encountering public resistance, a nascent ocean industry is showing promise: wave energy. It's coming to life in Newport, a rainy coastal town of nearly 10,500 people located a couple of hours south of Portland. Home to fishing operators and researchers, Newport attracts tourists and retirees with its famous aquarium, sprawling beaches and noisy sea lions. If you ask anyone at the lively bayfront about a wave energy project, they probably don't know much about it. And yet right off the coast, a \$100 million effort with funding from the Energy Department aims

to convert the power of waves into energy, and help catch up to Europe in developing this new technology. The buoy-like contraptions, located several miles offshore, will deliver up to 20 megawatts of energy — enough to power thousands of homes and businesses.

[SafeWAVE approaches finish line, soon to unveil its wave energy outcomes](#) – Offshore Energy

The EU-backed SafeWAVE project, short for Streamlining the Assessment of Environmental Effects of Wave Energy, will celebrate its completion on November 28, 2024. According to SafeWAVE, an online event will showcase the project's contributions to improving consenting and licensing processes and tackling non-technical barriers hindering wave energy growth in the EU. Over its three-year duration, SafeWAVE said that it had pushed forward the understanding of the environmental impacts of wave energy platforms, introducing innovative data-sharing practices, decision support tools for maritime spatial planning (MSP), and a more streamlined environmental consenting framework.

Wind Energy

[First Power Achieved from South Korea's First Commercial Offshore Wind Farm](#) – The Maritime Executive

South Korea marked a milestone in its efforts to join the growing list of countries around the world generating power from offshore wind farm installation. First power was generated from the country's first commercial-scale wind farm, in a test phase, marked by a visit from the country's Prime Minister Han Duck-soo to inspect the site and hail the industry's achievement. The project known as Jeonnam 1 is located off the southwest coast of Korea in a location northwest of Jaeun Island. It is a fixed-bottom offshore wind farm that when completed will generate 96MW and is viewed as a building block for South Korea's large ambitions for offshore wind power. Construction on Jeonnam 1 started in early 2023 and turbine installation started in September 2024.

[First Commercial-Scale Seaweed Farm Between Wind Turbines Fully Operational in Netherlands](#) – Offshore Wind

The world's first commercial-scale seaweed farm within the Hollandse Kust Zuid offshore wind farm in the Netherlands is fully operational. According to the non-profit organisation North Sea Farmers (NSF), the final deployment step was completed one week ago by deploying the seeded substrate. North Sea Farm 1, initiated by NSF with funding from Amazon's Right Now Climate Fund, is a floating farm located in the open space between wind turbines where seaweed production can be tested and improved. The seaweed farm is located within the Hollandse Kust Zuid wind farm, nearly 22 kilometres off the coast of Scheveningen. The 1.5 GW project is owned by Vattenfall, BASF, and Allianz. In parallel, the scientific research aims to validate the carbon sequestration potential of seaweed farms and measure biodiversity impacts, said NSF.

The Crown Estate announces a further £7.3 million investment in research projects to accelerate the UK's transition to net zero – The Crown Estate

The Crown Estate is partnering with a range of expert bodies across the UK to launch five new projects that will support with accelerating the nation's path towards a net-zero and energy-secure future, whilst enabling our marine and coastal ecosystems to thrive. These initiatives, backed by a £7.3 million investment through the Offshore Wind Evidence and Change Programme (OWEC), are led by the Offshore Wind Industry Council, Scottish Government Marine Directorate, Historic England, the Department for Environment Food and Rural Affairs (Defra) and the Offshore Renewable Energy Catapult with support from numerous public, private and charitable organisations.

BOEM Completes Environmental Review for Proposed Wind Energy Project Offshore Massachusetts and Rhode Island – BOEM

In support of the Biden-Harris administration's efforts to deploy 30 gigawatts (GW) of offshore wind energy capacity by 2030, BOEM recently announced the availability of the final Environmental Impact Statement (EIS) for the proposed SouthCoast Wind Project. If approved, this project could generate up to 2.4 GW of offshore wind energy, enough to power more than 800,000 homes. The SouthCoast Wind Energy LLC proposal includes up to 147 wind turbine generators, up to five offshore substation platforms located at a maximum of 149 positions, and up to eight offshore export cables potentially making landfall in Brayton Point or Falmouth, Massachusetts. The lease area covers approximately 127,388 acres and is about 26 nautical miles (nm) south of Martha's Vineyard and 20 nm south of Nantucket, Massachusetts.

French Floating Wind Pilot Project Starts Delivering Power to Grid – Offshore Wind

The first of three Siemens Gamesa 8 MW turbines at the Provence Grand Large floating offshore wind project in France has started delivering megawatt-hours of power to the national electricity grid. Located 17 kilometres off the coast in the Mediterranean Sea, the Provence Grand Large floating wind pilot project features three Siemens Gamesa 8 MW turbines installed on tensioned line floats and designed by IFP Energies Nouvelles and SBM Offshore. The first turbine was installed at the 100-metre-deep site in September 2023, with the third and final unit being towed offshore in October. The wind turbine components were manufactured at Siemens Gamesa's factory in Le Havre. Once fully operational, the 24 MW Provence Grand Large floating wind farm is expected to produce the equivalent of the annual electricity consumption of 45,000 inhabitants.

South Korea Launches Consortium for World's Largest Floating Wind Farm – The Maritime Executive

Officials in Ulsan City, South Korea are forming a consortium of international and domestic companies for a series of floating offshore wind farms which collectively will form the world's largest floating offshore wind farm. The four projects will provide a capacity of 6.2 GW of power capacity which officials said would be equivalent to six

nuclear reactors. They point to the opportunities for South Korea's shipbuilding industry which is centered around Ulsan to be part of this program and to benefit from the manufacturing and supply for the project. City officials projected a total investment of more than \$26.5 billion to realize the project. The consortiums include Norway's Firefly (Bandibuli) Floating Wind Farm, Denmark's Haeuli Floating Offshore Wind Power, Spain's KF Wind, and Korea-UK-France's Gray Whale Offshore Wind Farm.