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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

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Do you have a marine energy or wind energy announcement, career or funding opportunity, new document (e.g., journal article, report), or relevant news to contribute to the [Tethys Blast](#)? Please email tethys@pnnl.gov to contribute relevant content to the Tethys Blast and/or [PRIMRE Blast](#).

[New ECO Wind Short Science Summaries](#)

National Renewable Energy Laboratory's Enabling Coexistence Options for Wind Energy and Wildlife ([ECO Wind](#)) project recently published two new short science summaries on bats and land-based wind energy. Check out [Ultrasonic Deterrents To Reduce Bat Mortality at Wind Turbines](#) and [Using Ultraviolet Light To Deter Bats From Wind Turbines](#) on Tethys!

[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.

EnergyTech UP

The U.S. Department of Energy (DOE) Office of Technology Transitions has opened registration for the [EnergyTech University Prize \(EnergyTech UP\)](#), where student teams will compete for cash prizes for successfully identifying a promising energy technology, assessing its market potential, and creating a business plan for commercialization. Informational webinars will take place on 10 December 2024 and 23 January 2025. Faculty submissions are due 13 January 2025 and student registration for the Explore Phase is due 3 February 2025.

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. Feedback is due on 13 December 2024.

BOEM Seeking Public Comment

The U.S. 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.

2025 National Wind Energy Art Challenge

The U.S. DOE's Wind Energy Technologies Office (WETO) is inviting students from kindergarten through 8th grade across the United States to create artwork on the theme "Beautiful Wind Energy" for the [National Wind Energy Art Challenge](#) through 28 February 2025. Four entries from each grade will be selected to have their work on display at the World KidWind Challenge at [CLEANPOWER 2025](#) on 19-22 May 2025 in Phoenix, Arizona.

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.

The [Call for Abstracts](#) for the [7th International Conference on The Effects of Noise on Aquatic Life \(Aquatic Noise 2025\)](#) is now open through 28 February 2025. Aquatic Noise 2025 will take place from 29 June to 4 July 2025 in Prague, Czech Republic.

Funding & Testing Opportunities

The U.S. DOE's 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.

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.

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

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 soliciting applications for a [Postdoctoral Research Associate – Coastal Biogeochemistry](#) to study different marine carbon dioxide removal (mCDR) technologies. Applications are due 13 January 2025.

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. Priority applications to the ECU program are due by 15 February 2025.

European Marine Energy Centre (EMEC) is looking for an [Operations & Technology Director](#) to lead EMEC's operational, technical and project delivery activities, ensuring safe, efficient and high-quality outcomes.

Upcoming Events

Upcoming Webinars

ETIP Ocean, the European Technology & Innovation Platform for Ocean Energy, is hosting a webinar, "[Analysis & modelling tools for ocean energy](#)", on 12 December 2024 at 10:00am UTC. Speakers will also present tools that are being developed within ongoing European projects: the array interaction modelling using numerical methods and experimental testing under the ONDEP wave farm project, and the maintenance tool being developed within the MaxBlade tidal energy project. [Register here.](#)

The U.S. Offshore Wind Synthesis of Environmental Effects Research ([SEER](#)) project is hosting a webinar, "[Exploring the Potential Environmental Effects of Offshore Wind Energy in the U.S. Gulf of Mexico](#)" on 23 January 2025 from 9:00-11:00am PST (5:00-7:00pm UTC). Speakers will discuss offshore wind siting/permitting in the U.S. Gulf of Mexico, relevant technologies

and infrastructure, potential environmental effects of offshore wind development in the region, monitoring and mitigation methodologies, and knowledge gaps and data needs. [Register here.](#)

The Nature Conservancy is hosting a webinar, “[Sharing the Social Value of Offshore Wind Through Community Benefits Agreements](#)”, on 23 January 2025 at 12:00pm EST (5:00pm UTC). Speakers will discuss their experience supporting community benefit agreements across Europe and Japan, and a new report which reviews examples of how the U.S. federal government and states are incentivizing and incorporating community benefits agreements into their offshore wind development processes.

The Supergen Offshore Renewable Energy Hub is hosting a webinar, “[The use of Dynamic Bayesian Network Modelling for the Spatial and Temporal Understanding of Marine Ecosystem Dynamics](#)”, on 27 January 2025 from 1:00-2:00pm UTC. During the webinar, Dr. Neda Trivonova from the University of Aberdeen will discuss marine ecosystem dynamics.

Upcoming Conferences

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.

POET is hosting the [Northwest Offshore Wind Conference 2025](#) on 19 February 2025 in Portland, Oregon, U.S. Early bird registration ends on 31 December 2024.

The National Hydropower Association is hosting [Water Power Week 2025](#) from 31 March to 2 April 2025 in Washington, DC, U.S. Registration is now open.

Marine Energy Wales recently announced that it is hosting its [Marine Energy Wales Conference 2025](#) on 7-8 May 2025 in Wales. More details coming soon.

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.](#)

Upcoming Course

The Atlantic Marine Energy Center is hosting a fully funded, intensive course, [Introduction to Marine Energy](#), from 3-9 August 2025 at the University of New Hampshire in Durham, New Hampshire (U.S.). The course is designed for U.S. undergraduate students (rising juniors and seniors) and beginning graduate students interested in the field of marine energy. Applications are due 10 January 2025.

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

[West Coast Perceptions of Wave Energy: A Second Survey of California, Oregon, and Washington Residents](#) – Stelmach & Boudet 2024

The West Coast of North America has high potential for wave energy development. The PacWave South test site, located seven miles off the coast of Newport, Oregon, is expected to begin grid-connected testing of wave energy converters in 2025, which will provide valuable information that can contribute to the commercial development of the technology in the coming years. To assess how views may have changed in the past four years, we developed and conducted a survey of California, Oregon, and Washington residents (N=2999), administered online via Qualtrics, matched on age, gender, and education to general population quotas for the three states. Respondents were asked how much they had heard or read about wave energy; their views of commonly cited risks and benefits; and their overall attitude toward wave energy development.

[2024 State of the Science Report - Chapter 4: Social and Economic Effects of Marine Renewable Energy](#) – Freeman & Rose 2024

Social and economic effects of marine renewable energy (MRE) development and operation have not received a great deal of research focus. While aspects of social and economic effects and benefits are considered as inputs for consenting permission, data are often lacking or not fit for purpose for the location, scale, or communities involved. Chapter 4 examines what is known about social and economic effects as they pertain to MRE development, highlighting potential interactions with various groups such as fishers, maritime industries including the supply chain and workforce, coastal communities, Indigenous people, conservation, tourism, and energy end-users. While conclusions about social and economic effects are highly site-specific, there are common types of information that ought to be collected, as recommended in this chapter.

[Improving Decision-Making for The Energy Transition: Guidance for using Strategic Environmental Assessment](#) – Dalal-Clayton & Scott-Brown 2024

This guidance addresses the application of Strategic Environmental Assessment (SEA) to the energy transition, notably the early retirement of coal-fired power plants, changes to intermediary coal-based supply chains, and associated closure of coal mines, and the development of the renewable energy sector and associated energy sector restructuring. Currently, the guidance covers the following renewable energy types: hydropower, wind, solar, bioenergy, geothermal energy, tidal energy, and green hydrogen and ammonia. Other types (e.g., nuclear) may be added in the next version of the guidance along with

the transition from liquid or gas fossil fuels. The guidance is, therefore, primarily concerned with the supply side of energy.

Wind Energy

Potential Exposure of Aquatic Organisms to Dynamic Visual Cues Originating from Aerial Wind Turbine Blades – Williamson et al. 2024

For many aquatic species, vision is important for detecting prey, predators, and conspecifics; however, the potential impacts of visual cues from offshore wind turbines have not been investigated in these crucial contexts. There is the possibility of visual cues, originating from moving wind turbine blades, propagating through the air–water interface to impact visually sensitive species. Evidence for the extent of the exposure of aquatic organisms to the visual cues arising from moving turbine blades and for the potential response of receptor organisms is sparse. This study considers the physics involved to support the formulation and testing of robust biological hypotheses. Marine migratory salmonid species are considered as an example species because their behaviour in the marine environment is relatively well documented.

Cumulative collision risk and population-level consequences of industrial wind-power plant development for two vulture species: A quantitative warning – Bounas et al. 2025

Prioritizing renewable energy generation over the conservation of natural habitats and species on a large spatial scale, leads to the paradox of impacting biodiversity to mitigate climate change. In this study, we aim at quantifying the long-term demographic impact of the excess mortality caused by collisions with wind turbines on the populations of two vulture species of conservation concern. Using long-term monitoring data and Integrated Population Models (IPMs), we quantified demographic parameters and projected population trends under various wind power development scenarios. Our findings indicate that even under our most optimistic scenarios, annual collision mortality could reach up to 30 % of the current Cinereous vulture population and 7 % of the Griffon vulture population.

Assessing the potential impacts of floating Offshore Wind Farms on policy-relevant species: A case study in the Gulf of Roses, NW Mediterranean – Wawrzynkowski et al. 2025

Our study investigates for the first time how floating Offshore Wind Farms (OWFs) technologies could impact policy-relevant Mediterranean species, focusing on planned OWFs in the Cape Creus/Gulf of Roses (Spain, NW Mediterranean). Using the Generalized Impact Assessment framework, we identified pressure on diverse taxonomic groups. Our species selection prioritized species under European policy (Birds and Habitats Directives) and international/local conventions protecting flora and fauna, as they are vital biodiversity indicators. Our analysis identified 135 policy-relevant species susceptible to OWF-induced stressors, notably marine mammals, seabirds,

elasmobranchs, and benthic macroinvertebrates at the highest risk. Among the different stressors, noise and vibration, along with habitat loss, pose the greatest potential impacts.

News & Press Releases

Marine Energy

[SAE Brings Full Power to MeyGen Tidal Stream Site](#) – SAE Renewables

SAE is pleased to announce that, following the successful deployment of turbine 4, the world leading MeyGen tidal stream site now has all four turbines fully operational. This means that the site is now at full power for the first time, delivering 6MW of predictable, renewable power. Since deployment in 2016 the turbines operated by MeyGen have undergone several upgrades and enhancements to increase system efficiency and cost reduction. The site continues to support the innovation and development of the turbines to unlock further phases and further technological upgrades. The deployment of the turbine was carried out alongside Proteus Marine Renewables (PMR), with whom SAE recently announced it had started discussions to supply turbines for future phases of MeyGen. PMR, alongside its partners SKF Marine and GE Vernova, are developing a 3MW turbine which could be used at MeyGen for the next 59MW.

[U.S. Department of Energy Invests More Than \\$18 Million in Marine Energy and Offshore Wind Research at Universities](#) – U.S. DOE

The U.S. DOE recently announced an investment of more than \$18 million for 27 R&D projects focused on advancing marine energy and offshore wind technologies with the goal of more widely deploying renewable energy sources. These projects at 17 universities, including five minority-serving institutions, will address challenges facing marine and ocean renewable energy industries and spur innovation and development. The projects selected through this funding opportunity seek to: (1) Generate publicly available data and test platforms that will help identify cost reductions and performance improvements to advance marine energy devices; (2) Advance potential synergies between offshore wind and/or marine energy and aquaculture development; (3) Support undergraduate senior design and/or research projects in marine energy; and (4) Advance additional ideas that support WPTO's Marine Energy Program objectives.

[Switch2 and CorPower Ocean Partner on Wave-Powered Green Ammonia](#) – CorPower Ocean

Switch2 is partnering with CorPower Ocean to deliver a unique industrial scale floating green ammonia production facility partially powered by wave energy. With backing from Norway-based BW Offshore and Dutch Oceans Capital, Switch2 is leading the development of industrial-scale offshore green hydrogen and green ammonia production units based on proven FPSO (floating production, storage, and offloading) technologies. The concept, which sees electrolyzers powered by a mix of renewables including wind

and solar, will now incorporate wave energy to ensure a greater balance of green electricity. Supported by grant funding from the Dutch Government's GroenvermogenNL TSE (Top Sector Energie) scheme, Switch2 is aiming to launch a new open-sea project in northern Portugal utilizing CorPower Ocean's wave energy technology.

Fugro gets work on floating platform for project harnessing ocean energy – Offshore Energy

Dutch geo-data specialist Fugro has secured a role in the EU-backed PLOTEC project, providing sensor technology to support the advancement of ocean thermal energy conversion (OTEC) technology in storm-prone regions. According to Fugro, the sensors will track platform movement and hull response to waves, playing an important role in validating the floating platform's resilience under real-world conditions. PLOTEC, a pan-European consortium comprising seven companies, is focused on enhancing energy security for small island developing states (SIDS) through a cost-effective and robust renewable energy solution, Fugro noted. The OTEC platform, designed to operate continuously, even in extreme weather conditions, will be installed in the Atlantic Ocean in the coming weeks.

Inyanga Marine Energy Group to spearhead renewable energy development in Canada – Inyanga Marine Energy Group

Inyanga Marine Energy Group has announced that it has set up a new office in Canada to help drive the development of offshore renewable energy in the country. The new company is called Inyanga Maritime Services Nova Scotia Limited, based in Halifax Nova Scotia. Kiley Sampson has been appointed as Vice President of the Canadian division and will establish a local team to provide offshore operations and engineering capability to the region. The new company will provide marine engineering and offshore operations support to the marine renewable energy industry in Canada, across both the offshore wind and tidal energy sectors.

Wind Energy

BOEM Identifies Environmental Measures for Wind Energy Development in the New York Bight – U.S. BOEM

In support of the Biden-Harris administration's goal of deploying 30 gigawatts (GW) of offshore wind energy capacity by 2030, BOEM recently issued a Record of Decision identifying environmental measures expected to be applied to future wind energy development of the six lease areas offshore New York and New Jersey in an area known as the New York Bight. The record of decision identifies 58 previously applied avoidance, minimization, mitigation, and monitoring (AMMM) measures BOEM plans to apply across the six lease areas. To reduce potential environmental impacts, developers can consider these measures in the Construction and Operations Plans they submit to BOEM for subsequent review under the National Environmental Policy Act. Project-

specific environmental reviews may include revised, additional, or different AMMM measures if needed to further reduce potential impacts.

[Ambitious study to explore effects of offshore wind farms on ocean life](#) – University of Plymouth

Scientists from the University of Plymouth will play a key role in an ambitious new project exploring the consequences of floating offshore wind farms (FLOW) on life throughout the marine food chain. The FRONTLINE project will employ state-of-the-art technologies – including autonomous underwater vehicles (AUVs), satellite remote sensing, digital video aerial surveys and seabird and fisheries tracking – to investigate how the rapid expansion of FLOW and climate warming is likely to affect oceanographic processes and marine life. The study will gather data from the Celtic Sea, identified by the UK Government – alongside the North Sea – as a prime location for accelerating offshore wind infrastructure. The aim will be to reveal if and how the rapid expansion of FLOW installations in these new sites may directly or indirectly impact on marine processes and biodiversity via ocean fronts.

[Crown Estate Scotland commits £250k to expand Floating Offshore Wind Centre of Excellence programme](#) – Offshore Renewable Energy (ORE) Catapult

Crown Estate Scotland is the latest key stakeholder to join the industry-leading Floating Offshore Wind Centre of Excellence programme led by ORE Catapult. Crown Estate Scotland has contributed £250,000 to support the Environmental Interactions Strategic Programme (EISP) – one of four collaborative, multi-year programmes that deliver rigorous research and thought leadership for the sector. The EISP is designed to address identified knowledge gaps involving key environmental considerations of the UK’s floating offshore wind (FOW) sector, of both an ecological and coexistence nature. A key focus of this programme is to develop and expand the evidence-based body of knowledge informing the delivery of an efficient, timely and transparent environmental impact assessment process for floating offshore wind.

[Finland’s first commercial-scale offshore wind farm underway](#) – Vattenfall

The Korsnäs wind park will be located near Vaasa in Finland. It will have a 1.3-2.5 GW capacity and a potential annual fossil-free electricity production of 5–7 TWh. Construction is set to begin in the 2030s, but many steps remain before then. As planning is crucial, the project is currently in its most important phase. “Geophysical surveys are being conducted to study the seabed, which provides critical input to the environmental impact assessment such as archaeological screening, highlighting of ground risks and data subsequent preliminary foundation design. This is a pre-requisite for further development of the offshore wind farm,” Nissen says. Additionally birds and bats studies are being conducted along with the effects of ice conditions.

[Using ocean robots to dive into offshore wind farm wake effects](#) – National Oceanography Centre

When gazing out to sea from the shoreline from many parts of the UK today you're increasingly likely to see offshore wind turbines gently turning on the horizon. These giant structures are supplying an increasing amount of the UK's electricity mix (<20%), but they could also be mixing up how marine systems function, including the very basis of the oceanic food chain. To find out if they are, ocean robots (known as gliders) have been quietly patrolling an area of the North Sea, downwind of a major wind farm, off Scotland's east coast. Their task is to gather vast amounts of data, from the seabed to surface, that will allow scientists to build an underwater picture of what is happening in the wake of windfarms – and whether the turbulence the turbine blades make in the air translates to the ocean. The glider deployment is one part of the PELAgIO (Physics-to-Ecosystem Level Assessment of Impacts of Offshore Windfarms) project.