



24 April 2026

[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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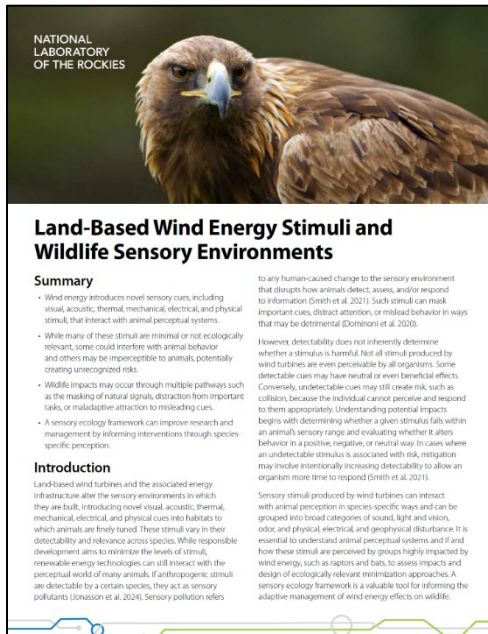
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## Announcements

### New ECO Wind Briefs Available

Enabling Coexistence Options for Wind Energy and Wildlife ([ECO Wind](#)) recently published two new research briefs, [Land-Based Wind Energy Stimuli and Wildlife Sensory Environments](#) and [Bat Visual Systems and Wind Energy](#), on Tethys.



**NATIONAL LABORATORY OF THE ROCKIES**

### Land-Based Wind Energy Stimuli and Wildlife Sensory Environments

**Summary**

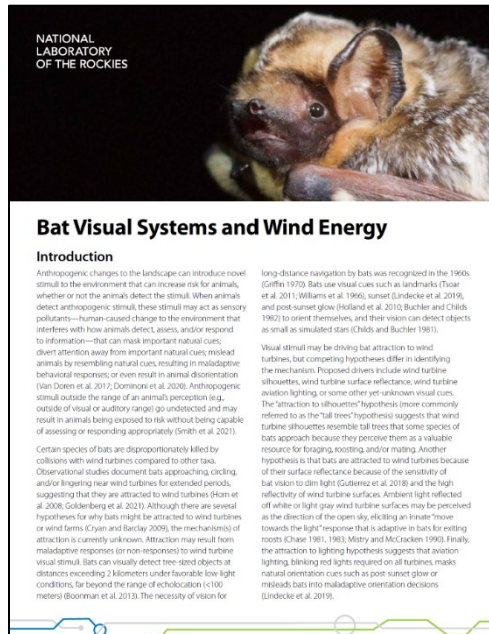
- Wind energy introduces novel sensory cues, including visual, acoustic, thermal, mechanical, electrical, and physical stimuli, that interact with animal perceptual systems.
- While many of these stimuli are minimal or not ecologically relevant, some could interfere with animal behavior and others may be imperceptible to animals, potentially creating unrecognized risks.
- Wildlife impacts may occur through multiple pathways such as the masking of natural signals, distraction from important tasks, or maladaptive attraction to misleading cues.
- A sensory ecology framework can improve research and management by informing interventions through species-specific perception.

**Introduction**

Land-based wind turbines and the associated energy infrastructure alter the sensory environments in which they are built, introducing novel visual, acoustic, thermal, mechanical, electrical, and physical cues into habitats to which animals are finely tuned. These stimuli vary in their detectability and relevance across species. While responsible development aims to minimize the levels of stimuli, renewable energy technologies can still interact with the perceptual world of many animals. If anthropogenic stimuli are detectable by a certain species, they act as sensory pollutants (Jansson et al. 2024). Sensory pollution refers to any human-caused change to the sensory environment that disrupts how animals detect, assess, and/or respond to information (Smith et al. 2023). Such stimuli can mask important cues, distract attention, or mislead behavior in ways that may be detrimental (Dominoni et al. 2020).

However, detectability does not inherently determine whether a stimulus is harmful. Not all stimuli produced by wind turbines are even perceivable by all organisms. Some detectable cues may have neutral or even beneficial effects. Conversely, undetectable cues may still create risk, such as collisions, because the individual cannot perceive and respond to them appropriately. Understanding potential impacts begins with determining whether a given stimulus falls within an animal's sensory range and evaluating whether it alters behavior in a positive, negative, or neutral way. In cases where an undetectable stimulus is associated with risk, mitigation may involve intentionally increasing detectability to allow an organism more time to respond (Smith et al. 2021).

Sensory stimuli produced by wind turbines can interact with animal perception in species-specific ways and can be grouped into broad categories of sound, light and vision, odor, and physical, electrical, and geophysical disturbance. It is essential to understand animal perceptual systems, and if and how these stimuli are perceived by groups highly impacted by wind energy, such as raptors and bats, to assess impacts and design of ecologically relevant mitigation approaches. A sensory ecology framework is a valuable tool for informing the adaptive management of wind energy effects on wildlife.



**NATIONAL LABORATORY OF THE ROCKIES**

### Bat Visual Systems and Wind Energy

**Introduction**

Anthropogenic changes to the landscape can introduce novel stimuli to the environment that can increase risk for animals, whether or not the animals detect the stimuli. When animals detect anthropogenic stimuli, these stimuli may act as sensory pollutants—human-caused change to the environment that interferes with how animals detect, assess, and/or respond to information—that can mask important natural cues, divert attention away from important natural cues, mislead animals by resembling natural cues, resulting in maladaptive behavioral responses, or even result in animal disorientation (Van Doorn et al. 2017, Dominoni et al. 2020). Anthropogenic stimuli outside the range of an animal's perception (e.g., outside of visual or auditory range) go undetected and may result in animals being exposed to risk without being capable of assessing or responding appropriately (Smith et al. 2021).

Certain species of bats are disproportionately killed by collisions with wind turbines compared to other taxa. Observational studies document bats approaching, circling, and/or lingering near wind turbines for extended periods, suggesting that they are attracted to wind turbines (Horn et al. 2006, Goldberger et al. 2023). Although there are several hypotheses for why bats might be attracted to wind turbines or wind farms (Cryan and Barclay 2009), the mechanisms of attraction is currently unknown. Attraction may result from maladaptive responses (or non-responses) to wind turbine visual stimuli. Bats can visually detect tree-sized objects at distances exceeding 2 kilometers under favorable low-light conditions, far beyond the range of echolocation (<100 meters) (Boonman et al. 2013). The necessity of vision for long-distance navigation by bats was recognized in the 1960s (Griffith 1970). Bats use visual cues such as landmarks (Fow et al. 2011, Williams et al. 1966), sunset (Lindecke et al. 2019), and post-sunset glow (Holland et al. 2010, Buchler and Chels 1962) to orient themselves, and their vision can detect objects as small as simulated stars (Chels and Buchler 1981).

Visual stimuli may be driving bat attraction to wind turbines, but competing hypotheses differ in identifying the mechanism. Proposed drivers include wind turbine silhouette, wind turbine surface reflectance, wind turbine aviation lighting, or some other yet unknown visual cues. The "attraction to silhouette" hypothesis (more commonly referred to as the "fall trees" hypothesis) suggests that wind turbine silhouettes resemble tall trees that some species of bats approach because they perceive them as a valuable resource for foraging, roosting, and/or mating. Another hypothesis is that bats are attracted to wind turbines because of their surface reflectance because of the sensitivity of bat vision to dim light (Guzman et al. 2018) and the high reflectivity of wind turbine surfaces. Ambient light reflected off white or light gray wind turbine surfaces may be perceived as the direction of the open sky, eliciting an innate "move towards the light" response that is adaptive for bats for exiting roosts (Chen 1981, 1983, Mory and McCracken 1998). Finally, the attraction to lighting hypothesis suggests that aviation lighting, blinking red lights required on all turbines, masks natural orientation cues such as post-sunset glow or moonsets, lures bats into maladaptive orientation decisions (Lindecke et al. 2019).

### WREN Webinar Recording Available

International Energy Agency (IEA) Wind Tasks [59 \(WREN\)](#) and [60 \(CYCLEWIND\)](#) recently hosted a joint webinar, “[Incorporating Biodiversity Metrics into Lifecycle Impact Assessments \(LCIA\) for wind energy projects](#)”. Speakers from both Tasks highlighted the purpose and use of LCIA, data requirements, models used for analyses, knowledge gaps, and next steps. The webinar recording is now available on Tethys.

### Offshore Wind and Birds FAQs

The [Bird Communications Specialist Committee](#) of the Offshore Wind Environmental Technical Working Group (E-TWG) recently released a [Frequently Asked Questions: Offshore Wind and Birds](#) document as a resource for stakeholders who communicate directly with the general public and receive questions related to birds and offshore wind. The FAQ document is accompanied by a glossary of terms, fact sheet, and communications toolkit.

### Water Power Student Questionnaire

In partnership with the U.S. Department of Energy’s (DOE) Hydropower and Hydrokinetics Office (H2O), NLR and the Hydropower Foundation are gathering student insights to better understand student awareness and perceptions of water power. The results of the [questionnaire](#) will be used to help improve educational materials and publicly available information on hydropower and marine energy. Submit your responses by 24 April 2026.

### Public Comment Period Open: Oregon Offshore Wind Energy Roadmap

The Oregon Department of Land Conservation and Development (DLCD) has released a [draft Offshore Wind Energy Roadmap for public review](#). Directed by Oregon House Bill 4080, the Roadmap outlines how Oregon could evaluate, plan for, and manage potential offshore wind energy development. DLCD is seeking public input by 27 April 2026.

### MECC Applications Open

The U.S. DOE’s H2O and NLR have opened applications for the [2027 Marine Energy Collegiate Competition \(MECC\)](#), which challenges multidisciplinary teams of undergraduate and graduate students to offer unique solutions to marine energy challenges. Student teams selected in the 2027 application process will have 8–10 months to develop their concepts for presentation at the final event planned in May 2027. Apply by 1 May 2026.

### SCGSR Applications Open

The U.S. DOE [Office of Science Graduate Student Research \(SCGSR\) program](#) is accepting applications for its 2026 solicitation. The SCGSR program provides supplemental funds for U.S. graduate awardees to conduct part of their PhD thesis research at a host DOE laboratory/facility in collaboration with a DOE National Laboratory scientist. Apply by 6 May 2026.

### INORE Symposium Applications Open

The International Network on Offshore Renewable Energy (INORE) is accepting applications for its [2026 symposiums](#). The [North America symposium](#) will take place from 27 July to 1 August 2026 in Hoboken, New Jersey, USA, followed by the [European symposium](#) from 27 September to 4 October 2026 in Bilbao, Spain. Applications are due by 8 May 2026.

### U.S. Knauss Fellowship Applications Open

The National Sea Grant College Program is accepting applications for its [2027 Knauss Fellowship Program](#), which places graduate students interested in ocean, coastal and Great Lakes resources in executive and legislative offices where they contribute to real-world policy work. Apply by 3 June 2026.

### Calls for Abstracts & Proposals

The [Call for Abstracts](#) for the [International Conference on Ocean Energy \(ICOE\) / Ocean Energy Europe \(OEE\) 2026](#) has been extended until 24 April 2026. ICOE/OEE will take place on 5–7 October 2026 in The Hague, The Netherlands.

Renewable Energy Wildlife Institute (REWI) has opened the [Call for Proposals](#) for workshops, coordinated sessions, and field trips for the [16<sup>th</sup> Wind Wildlife Research Meeting \(WWRM 2026\)](#) through 30 April 2026. WWRM will take place on 27–30 October 2026 in Albuquerque, New Mexico, USA.

The [Call for Abstracts](#) for the [2026 University Marine Energy Research Community \(UMERC\) Annual Conference and Marine Energy Technology Symposium \(METS\)](#) is open through 30 April 2026. UMERC/METS 2026 will take place on 4–6 August 2026, at Stevens Institute of Technology in Hoboken, New Jersey, USA.

The Society for Underwater Technology's (SUT) Offshore Site Investigation and Geotechnics (OSIG) Committee has opened the [Call for Abstracts](#) for the [10th International SUT OSIG Conference on Geophysics, Geoscience & Geotechnics for Energy and Resource Resilience](#) until 30 April 2026. The conference will take place on 14–16 September 2027 in London, England.

The [Call for Abstracts](#) for [OCEANS 2026 Monterey](#) has been extended through 4 May 2026. The conference will take place on 21–24 September 2026 in Monterey, California, USA.

NetZero Atlantic has opened the [Call for Abstracts](#) for the [Atlantic Canada Offshore Wind Readiness Forum 2026](#) until 14 May 2026. The Forum will take place on 16 September 2026 in Halifax, Nova Scotia.

Marine Renewables Canada has opened the [Call for Research & Technical Track Abstracts](#) and the [Call for Member Workshop Proposals](#) for the [Marine Renewables Canada 2026 Conference & Exhibition](#) through 15 May 2026. The conference will take place on 17–19 November 2026 in Ottawa, Ontario, Canada.

Marine Technology Society (MTS) has opened the Call for Abstracts for the [2026 Global eDNA Conference](#) until 29 May 2026. The conference will take place 28–30 October 2026 in Seattle, Washington, USA.

The [Call for Abstracts](#) for the [3rd Australian Ocean Renewable Energy Symposium \(AORES\)](#) is open through 31 May 2026. AORES will take place 9–11 November 2026 in Adelaide, Australia.

### Funding & Testing Opportunities

The Research Infrastructure Services for Renewable Energy (RISEnergy) project has opened the [4th RISEnergy Transnational Access Call](#), which provides free access to testing facilities across Europe for researchers from academia and industry working across several target areas including ocean energy, offshore wind, and photovoltaics. Apply by 26 April 2026.

Massachusetts Clean Energy Center (MassCEC) has released a funding opportunity through its [Offshore Wind Science, Research & Analysis Program](#) to support applied research that advances the development of offshore wind in southern New England and the Gulf of Maine. Apply by 28 April 2026.

The Scottish Government has opened applications for the [Marine Fund Scotland for 2026–27](#), which is focused on supporting projects that deliver outcomes relating to Scotland’s Blue Economy Vision. The closing date for the first round of applications is 15 May 2026.

Innovate UK is funding a competition to support early stage innovation projects within offshore wind, including smart environmental services. UK registered organizations can apply for a share of up to £10 million to support [Feasibility Studies in Offshore Wind](#). Apply by 3 June 2026.

The U.S. Testing Expertise and Access for Marine Energy Research (TEAMER) program, which supports marine energy testing and development projects, is accepting [Request for Technical Support \(RFTS\) 18](#) applications until 5 June 2026. TEAMER now provides [expertise, non-open water, and open water support](#), as well as [commercialization support](#).

University of California San Diego has opened applications for the [StartBlue Ocean Enterprise Accelerator](#), which is an intensive immersive program designed to help ocean intelligence startups launch and scale to support the ocean enterprise. Information sessions will take place on 1 May, 27 May, and 12 June 2026. Apply by 21 June 2026.

VentureWell has opened applications for Stage 1 of its [Ocean Enterprise Accelerator](#), which supports U.S. innovators with the development, commercialization, and adoption of new ocean data technologies and services. VentureWell is hosting an [information session](#) on 18 May 2026 from 3:00–4:00pm EDT (7:00–8:00pm UTC). Apply by 7 July 2026.

UK Research and Innovation (UKRI) has opened applications for the [Clean Maritime Demonstration Competition 7: Deployment trials](#), which will fund real world demonstrations of

innovative clean maritime technologies in an operational setting. UK organizations and collaborators can apply by 15 July 2026.

### Career & Internship Opportunities

Oregon State University is seeking a [Power & Data Systems Manager](#) to assist the PacWave team in establishing the facility as a leading global test facility, which will provide the marine energy sector with the opportunity to test and conduct research, development, demonstration, and deployment activities for wave energy systems and other technologies. Apply by 27 April 2026.

SSEN Transmission is looking for two [Marine Consents Managers](#) to help develop and consent subsea cable projects in Europe, from short inter-island cable routes to large-scale HVDC systems and offshore infrastructure. Apply by 27 April 2026.

France Energies Marines is looking for a [Head of Wildlife & Interactions Department](#). The Department's scientific and technical roadmap is structured around three main areas: studying interactions between offshore wind energy and wildlife, implementing measures for anticipating, avoiding, and reducing impacts, and supporting and advising the various stakeholders in the sector. Apply by 30 April 2026.

Coastal Partners is hiring a [Habitats Regulations & Environmental Impact Assessment Specialist](#) to provide technical support on Planning and Marine License Applications within highly sensitive and designated environments on a variety of Flood and Coastal Erosion Risk Management (FCERM), habitat creation and allied projects. Apply by 30 April 2026.

Fundy Ocean Research Centre for Energy (FORCE) is seeking a student [Facilities and Guest Services Intern](#) to support public engagement and the daily operations at its Visitor Centre. Apply by 1 May 2026.

The Institute of International Education (IIE) has opened applications for the [Ocean Futures Fellowship](#), which provides training, educational projects, professional development, and mentorship over a six-month full-time program. Apply by 3 May 2026.

The Crown Estate and Loughborough University are advertising a joint [PhD studentship](#) to conduct a socio-economic impact evaluation on wellbeing and community dynamics of offshore wind farms in the United Kingdom. Apply by 5 May 2026.

Heriot-Watt University, in partnership with the Scottish Government and Orkney Islands Council, is offering an [Island Scholarship](#) to help fund the tuition fees for UK and international students on three full-time programs at its Orkney campus: MSc Marine Renewable Energy, MSc Renewable and Sustainable Energy Transition, and MSc International Marine Science. Apply by 11 May 2026.

Collaborative Environmental Advisers is looking for an [Ornithology Consultant](#) and a [Benthic Consultant](#) who have worked in offshore wind or other marine consents or environmental

capacity and is familiar with the UK regulatory regime for offshore wind and other marine infrastructure. Apply by 31 May 2026.

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## Upcoming Events

The [Tethys Events Calendar](#) highlights key events from around the world related to wind and marine energy, including conferences, webinars, workshops, and more.

### Upcoming Webinars

The New York State Energy Research and Development Authority (NYSERDA) Offshore Wind team is hosting the next webinar in its *Learning from the Experts series*, “[How Offshore Wind Can Bolster Grid Reliability](#)”, on 29 April 2026 from 12:00–1:00pm EDT (4:00–5:00pm UTC). The webinar will discuss how offshore wind enhances energy reliability and offers a unique solution for New York, integrating alongside other energy infrastructure in the grid.

The Wind Energy-Environmental Research & Engagement Network (WREN) is hosting a three-part [Mitigation Hierarchy Webinar Series](#) on the application, effectiveness, and future development of the Mitigation Hierarchy to improve practice in wind energy and biodiversity, featuring panel discussions with experts from regulation, industry, research, and consultancy across different countries. [Watch Part 1: Global Perspectives here.](#) [Register for the next two webinars here.](#)

- [Part 2: Effectiveness](#) will take place on 30 April 2026 from 12:00–1:00pm EDT (4:00–5:00pm UTC) and examine whether current mitigation measures in wind energy projects are effectively achieving their intended biodiversity outcomes.
- [Part 3: Solutions](#) will take place on 7 May 2026 from 12:00–1:00pm EDT (4:00–5:00pm UTC) and synthesize findings from the previous sessions and discuss concrete solutions, guidance, and pathways towards a more strategic and nature-positive application of the Mitigation Hierarchy.

The Copernicus Marine Service is hosting an *Ocean Sessions* webinar, “[Teaching the Ocean: Data & Tools](#)”, on 5 May 2026 from 10:00am–12:00pm CEST (8:00–10:00am UTC). The session, dedicated to professors and educators, will begin with an introduction to the Copernicus Marine Service, followed by an overview of educational resources, including visualization tools, data access services and ready-to-use materials tailored for academic use.

Renewables Grid Initiative (RGI) is hosting the next webinar in its *Energy & Nature webinar series*, “[Data Sharing as a Win-Wind for Wildlife and Infrastructure](#)”, on 12 May 2026 from 3:00–4:15pm CEST (1:00–2:15pm UTC). Join to discover how the RISKY project is developing a platform that combines wildlife mortality data, advanced analytical tools, and sensitivity maps.

Pacific Marine Energy Center (PMEC) is hosting its [Spring Seminar](#) on 14 May 2026 at 2:00pm PDT (9:00pm UTC). During the seminar, Dr. Kate Van Ness, Senior Research Engineer at the University of Washington (UW) Applied Physics Laboratory (APL) will present on Axial-Flow Tidal Turbine Research at APL-UW: Lessons from Modeling, Flume Testing, and Field Testing.

Interreg North Sea's Anemoi project is hosting the [2nd Anemoi Stakeholder Event](#) on 20 June 2026 at 2:00pm CEST (12:00pm UTC). The event will feature presentations on the project and its next steps, chemical emissions from offshore wind to the marine environment, differences in offshore regulations, and potential effects from offshore wind leachates.

Renewable Energy Wildlife Institute (REWI) is continuing its *Technology Catalog webinar series* with a new topic: Wings Unharmed: Global Approaches to Mitigating Wildlife Collisions, which will feature risk minimization technologies from the [REWI Technology Catalog](#).

- [Part 1](#) will take place on 22 June 2026 at 1:00pm EDT (5:00pm UTC) and will feature Turbine Integrated Mortality Reduction (TIMR) and ThruTracker.
- [Part 2](#) will take place on 23 June 2026 at 12:00pm EDT (4:00pm UTC) and will feature Optimized Smart Curtailment™ (OSC™) and Thermal Tracker 3D.
- [Part 3](#) will take place on 25 September 2026 at 12:00pm EDT (4:00pm UTC) and will feature Song Meter® with Analysis and Remote Transfer (SMART™) and Acoustic and Thermographic Offshore Monitoring (ATOM).

### Upcoming Short Courses & Masterclasses

The Southeast National Marine Renewable Energy Center at Florida Atlantic University is offering a [Marine Energy Short Course](#) on 10–14 August 2026 in Boca Raton, Florida, USA. This short course will introduce energy, energy conversion, and renewable energies; followed by two days focused on current energy production; a day on wave energy conversion; and a day on ocean thermal energy conversion (OTEC). Apply by 30 April 2026.

The Supergen Offshore Renewable Energy (ORE) Hub is offering a series of [Masterclasses](#) for professionals and early career researchers to deepen their expertise, including:

- [Virtual Prototyping of Offshore Renewable Energy Technologies](#) on 29–30 April 2026 at the National Decommissioning Centre in Newburgh, Scotland
- [Advanced Experimental Fluid Mechanics for Offshore Renewable Energy](#) on 13 May 2026 at the University of Plymouth in Plymouth, England
- [Environmental Contours & Extreme Value Analysis](#) on 14–15 May 2026 at the University of Exeter in Exeter, England
- [Offshore Geotechnics](#) on 18–19 May 2026 at the University of Southampton, in Southampton, England.

ABPmer is offering an [Environmental Impact Assessment \(EIA\) in Practice: Training Course](#) on 7 July 2026 in Southampton, England. The course develops knowledge of the project-level EIA process, from screening and scoping through to submission of a Marine Licence application, including data and information needed to inform the assessment, as well as mitigation measures and consulting obligations.

### Upcoming Workshops

The [OES-Environmental](#) team at PNNL is hosting an interactive workshop, [From Evidence to Action: Applying Data Transferability to Simplify Marine Energy Permitting](#), at the [2026 Ocean](#)

[Renewable Energy Conference \(OREC\) + Marine Energy Collegiate Competition \(MECC\)](#) from 8:00–10:00am PDT on 19 May 2026 in Portland, Oregon, USA.

The [Triton Initiative](#) team at PNNL, in collaboration with OES-Environmental and the [Pacific Marine Energy Center](#), is also hosting an interactive workshop, [From Risk to Readiness: Mapping Environmental Effects and Information Needs](#), at [OREC+MECC 2026](#) from 1:00–3:00pm PDT on 19 May 2026 in Portland, Oregon, USA.

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## New Documents on Tethys

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

### Marine Energy

#### [A coupled LES–aeroacoustic framework for predicting hydrodynamic noise from tidal-stream turbines](#) – Botero-Bolívar et al. 2026

A high-fidelity numerical framework is developed to predict the hydrodynamic noise generated by tidal-stream turbines under realistic flow conditions. The approach couples large-eddy simulations (LES) using the actuator-line method (ALM) with Amiet’s aeroacoustic theory to quantify underwater sound emissions from turbine blades. The model accounts for both trailing-edge and turbulence-interaction noise sources. Simulations are performed for a full-scale 1 MW, 18 m-diameter tidal turbine operating at various tip-speed ratios and inflow turbulence intensities. The results show that higher tip-speed ratios lead to amplified hydrodynamic noise, while increased turbulence broadens the affected frequency range. Cylindrical sound propagation is applied to represent shallow-water effects, and predictions are extended to a nine-turbine array configuration.

#### [Exploratory study on offshore aquaculture suitability and co-location with marine renewable energy in Portugal](#) – Costa et al. 2026

The increasing global demand for seafood, coupled with the urgent need of transition to renewable energy sources, has led to a growing interest in innovative and sustainable uses of marine space through the development of Marine Spatial Planning protocols. Offshore aquaculture and renewables are two sectors poised for significant growth along the Portuguese coast, a country with outstanding potential for both sectors. Therefore, this paper seeks to assess the technical and environmental feasibility of co-locating these two industries along the continental coastline. The study focused on identifying suitable sites for the farming of 3 key species – *Dicentrarchus labrax* (European Seabass), *Mytilus galloprovincialis* (Mediterranean Mussel) and *Laminaria hyperborea* (“curvie” Kelp) - by generating multicriteria suitability indexes and evaluating their compatibility with areas allocated for marine renewable energy deployment.

**[A review of biofouling characteristics and issues for offshore renewable energy industry – Portas et al. 2026](#)**

The development of offshore renewable energy (ORE) is accelerating to reach global decarbonisation objectives, but it faces technical and ecological challenges, including biofouling. This review synthesises current knowledge on biofouling colonising ORE structures, focusing on: 1) its technical impacts (increased hydrodynamic drag, corrosion, decreased component lifespan), and 2) its environmental impacts (modification of habitat, reef effect, non-native species dispersal). Special focus is given to floating systems, such as floating wind turbines, where biofouling significantly influences mooring lines and dynamic cables. Despite increasing interest in the field, many uncertainties remain, notably the lack of in situ offshore data, limited understanding of biofouling-structure interactions, and absence of standardised measurement protocols.

## **Wind Energy**

**[Implications of surveyor accuracy in bird flight height estimation for wind farm collision risk assessment – Largey et al. 2026](#)**

The increasing anthropogenic use and modification of the airspace, particularly through the expansion of wind energy, has led to an increase in collision-related mortality of aerial wildlife. Environmental impact assessments rely on accurate bird flight height estimates to predict collision risk, yet these estimates are typically made by surveyors visually estimating flight height, with limited validation of their accuracy. This study evaluates the accuracy of surveyor flight height estimates against measurements from an unmanned aerial vehicle (UAV) and investigates whether accuracy can be improved by the use of annotated maps (spatial cues) and/or prior survey experience. Results indicate that there was generally a discrepancy between surveyor flight height estimates and the UAV measurements, particularly for inexperienced surveyors.

**[Community benefit agreement preferences for energy development offshore California, Oregon, and Washington: Insights from a choice-based conjoint experiment – Taufiq et al. 2026](#)**

Energy development projects can bring both opportunities and challenges to local host communities. Legal agreements between developers and communities – often referred to as Community Benefit Agreements (CBAs) – can facilitate social acceptance, address distributive justice, and mitigate local impacts. While prior studies highlight the risks of poor CBA design and the importance of distributive and procedural fairness, we know little about public preferences regarding CBA design. This study addresses this gap in understanding public preferences for CBAs related to ocean-based renewable energy development. Using a choice-based conjoint survey experiment with West Coast respondents (California, Oregon, and Washington; n = 2999), we evaluate preferences across three key CBA attributes: benefit size, primary recipient, and fund management.

## [Airflow Dynamics and Bat Behavior Near Wind Energy Turbines and Trees](#) – Electric Power Research Institute 2026

Most bat collisions with wind turbine blades coincide with fall migration. Previous studies showing video data of bats approaching wind turbines from downwind suggest bats may be attracted to the areas of reduced airflow (i.e., windbreaks) downwind of turbines. Because the main fatalities at wind turbines are tree-roosting bat species, and bats are sensitive to air flow, it is also possible that bats are attracted to wind turbines because they associate the wakes with tall trees and roosting or foraging opportunities. Better understanding bat behavior near wind turbines and tall trees could provide insights into potential attraction/repulsion dynamics and development of fatality minimization techniques. In this study, we used 3-D thermal video to collect bat flight data to generate a detailed view of bat movements to better understand why bat collision events occur.

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## News & Press Releases

### Marine Energy

#### [UK Firm Installs Floating OTEC Prototype in Atlantic Ocean](#) – Marine Technology News

UK-based Global OTEC has installed a floating ocean thermal energy conversion (OTEC) prototype off the Canary Island in Spain. The platform is designed to generate electricity by using the temperature difference between warm surface water and cold deep ocean water, a process known as OTEC. The installation marks the first purpose-built offshore platform of its kind and is intended to address challenges in scaling the technology for island and coastal markets. OTEC has previously been demonstrated onshore at small scale, but its development has been constrained by the size and length of pipes needed to access seawater. Offshore systems reduce pipe length requirements and enable larger-scale deployment. The prototype was installed at the Oceanic Platform of the Canary Islands (PLOCAN), a marine test site off Spain, where engineers will assess system performance and environmental impact.

#### [Dutch wave energy converter for ‘very small sea states’ begins testing](#) – Offshore Energy

The Hague-based Wave Energy Collective (Weco) has teamed up with Rijkswaterstaat, part of the Dutch Ministry of Infrastructure and Water Management, to test its wave energy converter (WEC) capable of generating power even in very small sea states. Weco reported today, April 23, that it had been developing the Denshi WEC over the past months and is collaborating with Rijkswaterstaat to test the device in a sheltered area at the Offshore Expertise Center (OEC) in the Netherlands. According to the Dutch firm, Denshi generates power even in very small sea states, effectively delivering baseload power from the ocean and is designed for rapid, low-cost deployment from small vessels, excluding the need for cranes, large vessels or complex infrastructure. The testing is said to mark a major step toward real-world implementation.

## **Brazil joins the IEA-OES, with INPO designated as national representative – IEA OES**

Brazil has officially joined the IEA-OES, marking an important milestone for international cooperation in ocean energy. The formal signature took place on 13 April 2026 at the Instituto Nacional de Pesquisas Oceânicas (INPO), in Rio de Janeiro, on the occasion of PAMEC 2026 – the Pan-American Conference on Marine Energy. The ceremony brought together representatives from key Brazilian institutions and highlighted the country's growing commitment to collaboration in the field of ocean energy. As the IEA-OES continues to promote international cooperation on wave, tidal, ocean thermal and salinity gradient energy, the inclusion of Brazil strengthens the shared effort to accelerate innovation, support enabling frameworks, and advance ocean energy as part of the global clean energy transition.

## **Using the ocean to power data centers – CBS News**

There are two global problems you probably don't like to think about. First, burning gas and coal is still heating up the planet. Second, the thousands of AI data centers popping up all over the country consume enormous amounts of power, which produces even more carbon pollution – and drives up our electric bills. Sheldon-Coulson, the CEO and co-founder of Panthalassa, in Vancouver, Wash., hopes to address both problems at once with wave energy. "The ocean is really unlimited in terms of how much energy is available," he said. He likened Panthalassa's test model, the Ocean-2, to a floating hydroelectric dam. "As it goes up and down with the waves, it causes water that's in that tube to be forced up into the top. Once it's in the ball, the water is forced through a turbine. The turbine spins, and that's what makes the electricity."

## **Ocean Energy Among the Technologies to Support the Transition to Climate Neutrality – Environment Coast & Offshore (ECO)**

Ocean energy, encompassing wave, tidal, and other marine renewable energy technologies, offers an indigenous, predictable, and complementary resource to variable sources. However, achieving its potential, a shared understanding and action are needed. Ocean Energy Forum Support (OEFS), a Horizon Europe project dedicated to strengthening and professionalizing the network of stakeholders engaged in ocean energy in Europe, was officially launched. The project brings together a consortium with expertise in renewable energy, digital tools, and policy makers' engagement, supporting the activities of the Ocean Energy Forum. The consortium aspires to elevate the Ocean Energy Forum from an ad-hoc technical network to a structured, data-driven, and impact-oriented partnership that provides trusted intelligence, coordinates priorities, and amplifies the sector's visibility across Europe.

## **Wind Energy**

### **IQIP, EnBW and Vattenfall announce full-scale offshore monopile installation using EQ-Piling technology – IQIP**

IQIP, together with EnBW and Vattenfall, is proud to announce that EQ-Piling will go offshore for its first full-scale monopile installation, marking a major milestone in the advancement of offshore wind foundation technology. Building on the successful inshore demonstration at Maasvlakte 2 in Rotterdam, the Netherlands, the upcoming offshore installation represents a critical step toward commercialisation of this new, low-noise and low-carbon installation method. The full-scale offshore monopile installation will take place at the planned Dreekant offshore wind farm in Germany, owned and developed by EnBW. IQIP has contracted DEME, who will execute the installation using their top in class offshore installation vessel Orion. Vattenfall, consortium partner alongside IQIP and EnBW, is also supporting the project. Installation of the demonstration monopile is planned to take place in the coming month, subject to issuance of the final permit.

### **Repowering Existing Offshore Wind Farms Part of New EU Strategy ‘to Protect Europeans from Fossil Energy Crisis’ – Offshore Wind**

The European Commission has identified offshore wind repowering as one of the key measures to strengthen energy security and reduce reliance on fossil fuel imports, as part of its newly unveiled AccelerateEU strategy. Announcing the strategy on 22 April, the Commission highlighted the rapid repowering of large renewable assets, including offshore wind farms, as a way to quickly increase generation capacity and deliver additional energy to the system without the need for entirely new infrastructure. Alongside repowering, the Commission plans to accelerate electrification across industry, transport and buildings, with an Electrification Action Plan scheduled for release by this summer. The plan will set targets and address barriers to wider electrification deployment.

### **ScottishPower Renewables and Masdar set UK record for biggest blade install at East Anglia THREE offshore windfarm – ScottishPower Renewables**

ScottishPower Renewables and Masdar’s East Anglia THREE offshore windfarm has set a UK offshore wind record with the installation of its first turbine – the first in the UK to feature 115 metre blades, each one longer than a Premier League football pitch. All 285 of the record-breaking blades for the project’s 95 turbines are being manufactured in the UK at Siemens Gamesa’s factory in Hull. Standing around 262 metres tall – higher than the observation deck at the Shard – the 14MW Siemens Gamesa turbines have a rotor diameter of 236 metres. A single revolution of just one turbine will produce enough electricity to power a UK home for more than four days, charge around 1,700 mobile phones, or brew nearly a thousand cups of tea.

### **EolMed Partners Switch On French Floating Wind Pilot Project – Offshore Wind**

The EolMed floating wind pilot project in the south of France has been energised, according to Qair, which has been developing the project together with TotalEnergies and BW Ideol. The 30 MW floating offshore wind farm is located some 20 kilometres off the coast of Port-La Nouvelle and Gruissan, in water depths of around 60 metres, and comprises three Vestas V164-10.0 MW wind turbines installed on BW Ideol’s Damping

Pool floating foundations. The first of the three floating wind turbines left the Port of Port-La Nouvelle for the project site in December 2025. The EolMed project entered its final phase with the launch of maritime operations in August 2025, with the installation of anchors and anchor lines, followed by the launch of floaters and the integration of wind turbines on the foundations in September last year.

### **China Commissions Wind Farm at Its Deepest Offshore Position – The Maritime Executive**

Chinese officials highlighted the commissioning of its newest offshore wind farm, which is also setting a record for the country's deepest fixed-bottom wind turbines and is located far out to sea. They highlighted the complex geology and challenges of extreme sea conditions in developing and operating the 504 MW wind farm, the Huaneng Shandong Peninsula North L Site. The wind farm was developed by the state-owned China Huaneng Group and will be managed and operated by the Yantai Power Plant. The wind farm is located in northern China approximately 70 kilometers (43 miles) off the northeast coast of the Shandong Peninsula in the Yellow Sea. The position meant that the developers had to overcome the challenges of a 95.6-kilometer (59-mile) submarine cable to bring the power to the grid.