



**15 March 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**

### [Tethys Wind User Review](#)

We want your feedback! Please complete this year's short 3-minute [Tethys Wind User Review Survey](#) by 15 March 2024 to help us understand how the wind-wildlife community uses Tethys and determine how we can continue to expand and improve the site!

### [New Tethys Story](#)

#### **[ScotMER: Scottish Marine Energy Research Programme](#) by the ScotMER Team**

The Scottish Marine Energy Research (ScotMER) programme is a Scottish Government initiative that identifies and addresses key evidence needs to help inform licensing, consenting, and planning decisions around offshore renewable energy and disseminates that evidence back to a broad stakeholder community. [Learn more about ScotMER in the latest Tethys Story here.](#)

### [U.S. Distributed Wind Resource Hub](#)

The new National Distributed Wind Network recently launched the [Distributed Wind Resource Hub](#), which includes general information about distributed wind energy; project funding and technical assistance opportunities; case studies of successful distributed wind energy projects; and models, tools, and toolkits to help users assess their location for distributed wind energy.

## E-TWG Whales and Offshore Wind Resources

A specialist committee of the New York State Offshore Wind Environmental Technical Working Group (E-TWG) has released a [Frequently Asked Questions \(FAQ\) Document](#) to aid in the dissemination of scientifically sound and readily understandable information about whale mortality events and the level of potential risk to whales from offshore wind energy development activities. New sections of the FAQ document will be publicly released as they are finalized.

## New AviSite Tool

The Norwegian Institute for Nature Research (NINA) recently launched a new tool, [AviSite](#), that allows users to assess the impact of onshore wind power on bird diversity from a life-cycle assessment perspective and identify areas that minimize impacts.

## BOEM Seeking Public Comments

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

- Draft Environmental Assessment (EA) for the [Beacon Wind project](#) (due 4 March 2024);
- Its Draft Programmatic Environmental Impact Statement for potential development of six [wind lease areas in the New York Bight](#) (extended – now due 13 March 2024);
- Intent to prepare an EA for the [Oregon wind energy lease areas](#) (due 15 March 2024).

## Calls for Abstracts & Papers

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

The [Call for Abstracts](#) for the [Asian Offshore Wind, Wave and Tidal Energy Conference \(AWTEC 2024\)](#) is now open through 20 March 2024. AWTEC will take place on 20-24 October 2024 in Busan, Korea.

The International Council for the Exploration of the Sea (ICES) is [accepting abstracts](#) for the [ICES Annual Science Conference \(ASC 2024\)](#) through 22 March 2024. ICES ASC will take place 9-12 September 2024 in Gateshead, England.

The [Call for Abstracts](#) for the [International Conference on Ocean Energy \(ICOE 2024\)](#) has been extended through 28 March 2024. ICOE 2024 will take place 17-19 September 2024 in Melbourne, Australia.

The University of Southampton is now accepting abstracts for the [11<sup>th</sup> Partnership for Research in Marine Renewable Energy \(PRIMaRE\) Conference](#) until 29 March 2024. The PRIMaRE Conference will take place 27-28 June 2024 in Southampton, England.

The Energy Modelling Hub and Net Zero Atlantic have opened the [Call for Abstracts](#) for the [Atlantic Canadian Conference on Energy System Modelling](#) through 29 March 2024. The conference will take place on 19-20 June 2024 in Moncton, New Brunswick, Canada.

The [Call for Abstracts](#) for [OCEANS 2024 Halifax](#) is now open through 26 April 2024. OCEAN Halifax will take place 23-26 September 2024 in Halifax, Nova Scotia, Canada.

The University of Maine has opened the [Call for Abstracts](#) for the [American Floating Offshore Wind Technical Summit \(AFloat 2024\)](#) through 1 May 2024. AFloat will take place on 24-25 September 2024 in Portland, Maine, U.S.

The [Call for Abstracts](#) for the [North American Wind Energy Academy \(NAWEA\) / WindTech 2024 Conference](#) will open 25 March 2024 and close 3 May 2024. NAWEA/WindTech will take place from 28 October to 2 November 2024 in New Brunswick, New Jersey, U.S.

### Funding & Testing Opportunities

The Offshore Wind Innovation Hub Accelerator has opened its [2024 Call for Innovators](#) to support the growing offshore wind industry in New York, by bringing the most promising and impactful innovations to scale. The application deadline is 25 March 2024.

The New York State Energy Research and Development Authority (NYSERDA) has extended the deadline for its [Request for Proposals for a Regional Fund Administrator for an Offshore Wind Fisheries Mitigation Fund](#). Proposals are now due 26 March 2024.

The UK Research and Innovation (UKRI) recently announced the [Ayrton Fund](#), which is a UK government commitment of up to £1 billion that aims to accelerate the clean energy transition in developing countries, by creating and demonstrating innovative clean energy technologies and business models. Applications close on 9 April 2024.

The U.S. Department of Energy (DOE) announced \$25 million in funding to [support clean energy technology deployment on Tribal lands](#). DOE is soliciting applications from Indian Tribes, which include Alaska Native Regional Corporations and Village Corporations, Intertribal Organizations, and Tribal Energy Development Organizations. Applications due 30 May 2024.

### Career Opportunities

The University of Strathclyde Glasgow is offering a postgraduate research opportunity in [Hybrid Ocean Renewables in a Changing Climate](#). The project includes research activities such as feasibility analysis and stakeholder engagement. Applications are due 15 March 2024.

The University of Manchester is seeking a [Research Associate](#) to apply computational fluid dynamics (CFD) models to the analysis of offshore wind and tidal turbine farms and farm-scale wakes, subject to turbulent atmospheric and marine flows. Applications are due 27 March 2024.

Biodiversity Research Institute is hiring a [Marine Ecologist](#) to join the organization's [Center for Research on Offshore Wind and the Environment](#). Applications are due 29 March 2024.

Pacific Northwest National Laboratory (PNNL) is seeking an [Operations Specialist](#) to provide leadership and safety oversight of its Energy and Environment Directorate's portfolio of research operations across the PNNL Sequim Campus. Applications are due 31 March 2024.

The European Marine Energy Centre (EMEC) is looking for a [Project Engineer](#) and an [Assistant Project Manager](#) to contribute to projects across EMEC's portfolio, including marine energy, green hydrogen, offshore wind, and other associated services. Applications are due 1 April 2024.

The University of Southampton is offering a fully funded [PhD research project](#) (UK only) focused on developing new concepts for the anchoring design of floating renewable facilities and harnessing beneficial 'whole-life' responses of the seabed. Applications are due 1 April 2024.

Joint Nature Conservation Committee (JNCC) is hiring a [Marine Ornithologist](#) to provide advice to statutory bodies, regulators, and industry on the potential impacts of marine industries on seabird populations. Applications are due 1 April 2024.

University of Galway is inviting applications for a [Professor in Environment and Marine](#) with relevant research and teaching interests to join its School of Business and Economics. Applications are due 11 April 2024.

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## Upcoming Events

### Upcoming Webinars

Sandia National Laboratories is hosting a webinar, "[MASK4 Test Report and Data Webinar](#)", on 26 March 2024 from 8:00-9:30am PDT (3:00-4:30pm UTC), to provide information on its recently completed testing of the WaveBot device at the U.S. Navy's Maneuvering and Sea Keeping (MASK) basin to further explore wave energy converter co-design principles.

Sandia National Laboratories is also hosting a webinar, "[Pioneer WEC Concept Design Report Webinar](#)", on 2 April 2024 from 8:00-9:30am PDT (3:00-4:30pm UTC), which will focus on a novel "pitch resonator" wave energy convertor (WEC) concept to support the power needs of the Coastal Surface Mooring system within the Ocean Observatories Initiative Pioneer Array.

### Upcoming Workshops

The U.S. DOE's Water Power Technologies Office is hosting a [Resilient Coastal Communities Strategy Development Input Session](#) on 27 March 2024 from 12:00-4:00pm EDT (4:00-8:00pm UTC). The virtual, facilitated strategy session will cover systems providing power or water delivery for nearshore marine energy technologies for coastal and island stakeholders.

PNNL and the North Carolina Coastal Studies Institute are hosting two identical workshops on environmental effects of marine energy on [25 March 2024 from 1:00-5:00 pm EDT](#) at the Coastal Studies Institute in Wanchese, North Carolina, U.S., and on [27 March 2024 from 1:00-5:00 pm EDT](#) at the Duke University Marine Laboratory in Beaufort, North Carolina. Please register for the workshop most suitable to your location and schedule.

The Dutch Marine Energy Centre (DMEC) is hosting an in-person [Deep Dive on Environmental Implications of Offshore Green Hydrogen Production](#) on 2 April 2024 from 5:30-7:00pm CEST (4:30-6:00pm UTC) in The Hague, Netherlands. [Register here.](#)

The Supergen Offshore Renewable Energy Hub is hosting a [Masterclass on Advanced Experimental Fluid Mechanics for Offshore Renewable Energy](#) on 22 April 2024 at the University of Plymouth in England. Participants will be introduced to the world-leading facilities at the Coast Laboratory and the new UK Floating Offshore Wind Turbine Test Facility, Babbage wind tunnel, and Hexapod. [Register here.](#)

The Marine Environmental Data and Information Network (MEDIN) is hosting an [Open Meeting](#) on 24 April 2024 in London, England and online to introduce the new MEDIN Business Plan 2024-2029 and to discuss how the wider community can contribute to the future developments of UK marine data management. Registration closes on 31 March 2024.

The [Detection, Classification, Localisation and Density Estimation \(DCLDE\) of Marine Mammals Workshop](#) is taking place on 3-7 June 2024 in Rotterdam, The Netherlands. During the hybrid workshop, participants will share their recent insights into algorithms and technology for automated acoustic monitoring of marine mammals.

### Upcoming Conferences

The [13th Annual North Carolina Renewable Ocean Energy Program Research Symposium 2024](#) will take place on 8-9 April 2024 in Wanchese, North Carolina, U.S.

The [Environmental Interactions of Marine Renewables \(EIMR 2024\) Conference](#) will take place 15-19 April 2024 in Kirkwall, Orkney, Scotland and online.

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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**

**[From Science to Consenting: Environmental Effects of Marine Renewable Energy](#) – Freeman et al. 2024**

The OES-Environmental international initiative aims to address uncertainty around environmental effects of MRE and aid the development of the MRE industry in a responsible manner. Despite a growing knowledge base and extensive ongoing environmental monitoring and data collection, barriers to consenting and deploying projects remain. In addition, data collected by scientists may not be presented in a way that is accessible to regulators, advisors, and developers and the datasets are not always publicly available. Making this information accessible so that it is relevant across MRE projects, as well as easy to interpret, is key for industry-wide progress. OES-Environmental has worked to forge these connections and develop regulatory guidance documents to move the industry forward in an environmentally responsible manner.

### **[A synthesis of approaches to support integrated assessments of hazards for the emerging Blue Economy](#) – Turschwell et al. 2023**

Growth in offshore blue economies is predicted to accelerate as emerging food and energy production industries look to expand into these environments. Faced with uncertainty, a precautionary, flexible, and cross-disciplinary (integrated) approach is recommended to optimize the potential for hazards to be identified in a timely, comprehensive, and robust manner, and mitigated. However, relevant disciplines – such as aquaculture production, marine engineering, and marine renewable energy design, and associated interactions with society and the environment – often evolve with their siloed techniques and lexicons. Here we first provide an overview of selected discipline-specific approaches to hazard analysis as a first step in a pathway that can generate a holistic synthesis of hazards to and from multiple emerging sectors in novel environments.

### **[The power of wave energy converters arrays to mitigate coastal erosion](#) – Berrio et al. 2024**

There are several works regarding the effects of wave energy converters (WECs) on sediment transport and beach morphology, some experimental. In Mendoza et al. (2014) the performance of different WEC arrays is discussed, along with their effects on coastal erosion due to the cumulative forces of waves, currents, and tides. The present research focuses on determining the beach response to the hypothetical placement of a WEC array off the coast at Riohacha, in northern Colombia, by computing the modified wave field produced. For this, the wave module of the Delft-3D model was tuned to estimate the extraction and transmission of wave energy by each WEC. Then, the XBeach model was used to calculate the nearshore wave field and the evolution of the coastline.

## **Wind Energy**

### **[Geese migrating over the Pacific Ocean select altitudes coinciding with offshore wind turbine blades](#) – Weiser et al. 2024**

We used GPS tags to track Pacific Flyway geese (Pacific greater white-fronted goose, tule greater white-fronted goose and lesser snow goose) on transoceanic migrations between Alaska and the Pacific Coast of the contiguous United States, an area where offshore windfarm development is beginning. We evaluated how geographic and

environmental covariates affected (1) whether birds were at rest on the water versus in flight (binomial model) and (2) altitude selection when in flight (similar to a step-selection framework). We then used a Monte Carlo simulation to predict the probability of flying at each altitude under various conditions, considering both the fly/rest decision and altitude selection.

### **[Ecological indicators to monitor offshore wind interactions with fisheries resources](#) – Methratta 2024**

Offshore wind development (OWD) will generate much needed renewable energy, but it will also introduce several stressors to the marine ecosystem. Therefore, there is a need to develop information-rich monitoring programs to assess ecological impacts and inform solutions to mitigate adverse effects. This paper evaluates potential indicators of OWD impacts on fisheries resources that could be considered for monitoring programs, including indices of aggregate biomass, sensitive species, fish size, and trophic dynamics. Short-term (year-to-year) variability and the direction and strength of long-term trends were explored at both the scale of the US Southern New England wind energy area (WEA) and at the scale of the Southern New England region.

### **[Experimental trials of species-specific bat flight responses to an ultrasonic deterrent](#) – Fritts et al. 2024**

Unintended consequences of increasing wind energy production include bat mortalities from wind turbine blade strikes. Ultrasonic deterrents (UDs) have been developed to reduce bat mortalities at wind turbines. Our goal was to experimentally assess the species-specific effectiveness of three emission treatments from the UD developed by NRG Systems. We conducted trials in a flight cage measuring approximately 60 m × 10 m × 4.4 m (length × width × height) from July 2020 to May 2021 in San Marcos, Texas, USA. A single UD was placed at either end of the flight cage, and we randomly selected one for each night of field trials. The trials occurred during three treatment emissions: low (emissions from subarrays at 20, 26, and 32 kHz), high (emissions from subarrays at 38, 44, and 50 kHz), and combined (all six emission frequencies).

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## **News & Press Releases**

### **Marine Energy**

#### **[First milestone passed as Orbital prepares for first dip into US waters](#) – Orbital Marine Power**

Orbital Marine Power Ltd, the renewable energy company focused on the deployment of its pioneering floating tidal turbine, has been confirmed as the technology partner for Orcas Power & Light Cooperative (OPALCO)'s proposed site off Blakely Island in Rosario Strait, Washington State. Building on a memorandum of understanding (MOU)

signed between Orbital and OPALCO in 2021, this latest update follows the US Department of Energy (DOE) shortlisting two marine energy projects to receive \$6 million for the development of a tidal energy research, development, and demonstration pilot site. At the end of the Phase 1 term, one of the two organisations will be funded to move forward with development of a full project.

### **Basque Energy Agency awards €2.1m to support CETO Deployment at BiMEP – Carnegie Clean Energy**

Carnegie Clean Energys wholly owned subsidiary, Carnegie Technologies Spain, has been awarded €2.1m for the ACHIEVE+ project by the Ente Vasco de la Energia (EVE), the Basque Energy Agency. This award complements the contract awarded by the EuropeWave Project (€3.75m) and RENMARINAS DEMOS funding (€1.2m) creating a total funding pool of €7.05m (\$11.66m AUD) for the deployment of CETO at the Biscay Marine Energy Platform (BiMEP) in the Basque Country. The EVE funding awarded provides targeted support for elements of the CETO deployment such as the Buoyant Actuator (BA), Mooring System, Power Take-Off (PTO), and Reinforcement Learning (RL) Controller.

### **Tadek backs Magallanes Renovables in delivering its first commercial-scale tidal energy array – Offshore Energy**

Spanish tidal energy developer Magallanes Renovables has partnered up with Tadek Ocean Engineering for support related to its first commercial-scale tidal energy array. Magallanes secured two contracts in Contracts for Difference (CfD) allocation rounds – the first at the Morlais Demonstration Zone in North Wales, where it will install two 1.5 MW tidal energy platforms, adding 3 MW to the 6 MW secured in 2022. The second project will take place at the European Marine Energy Centre (EMEC) in Scotland where the company has its UK base and plans to install a 1.5 MW tidal energy array. Tadek, which provides specialist consultancy, complex analysis, engineering solutions and practical project delivery for marine, offshore and subsea projects, is delivering a broad package of support to Magallanes Renovables.

### **Plans progress to build world’s largest tidal scheme on the banks of the River Mersey – Liverpool City Region**

Advanced proposals to build the world’s largest tidal scheme on the banks of the River Mersey have been unveiled by the Liverpool City Region’s Mayor Steve Rotheram. Mayor Rotheram has revealed that the city region will pursue a barrage between the Wirral and Liverpool as the preferred option for the city region’s flagship Mersey Tidal Power project. The barrage scheme – the “first of a kind” in the UK – could generate clean, predictable energy for 120 years and create thousands of jobs in its construction and operation. The announcement comes as the multi-billion-pound scheme moves towards the formal planning consent process. It opens the possibility of a first-ever cycling and pedestrian route over the river between Liverpool and Wirral and could also provide a defence against future flooding risks associated with climate change.



## **Danish firm to explore wave energy deployment offshore Barbados – Offshore Energy**

Danish company Wavepiston and Export Barbados (BIDC), an agency of the Barbados Government, are set to explore the deployment of wave energy farms offshore Barbados. According to Wavepiston, Barbados and most of the Caribbean region hold a large potential for wave energy. Barbados has set a net-zero by 2030 goal, but like most islands in the Caribbean region it cannot cover all its needs with wind and solar PV and other renewable energy sources are needed. Under the acronym WEB (Wave Energy in Barbados), Wavepiston and Export Barbados will perform a pre-feasibility study for the deployment of wave farms in the Atlantic waters of Barbados. The project is planned to commence in the second quarter of 2024.

## **Wind Energy**

### **Over £1 billion budget for renewable energy auction – UK Government**

Britain's flagship renewables scheme has received its biggest ever funding boost from government, with more than £1 billion for its upcoming auction. The budget for the sixth Contracts for Difference (CfD) allocation round – confirmed by the Chancellor at Spring Budget – signals large-scale government backing to drive further investment into the UK's thriving renewables sector and roll out more clean, secure and affordable energy – while helping grow the economy. Following an extensive review of the latest evidence, including the impact of global events on supply chains, the government has allocated a record £800 million for offshore wind, which has been given a separate funding pot. This makes this the largest round yet, with 4 times more budget available to offshore wind than in the previous round.

### **Salamander floating wind project to collaborate with Scottish universities on marine environment study – Simply Blue Group**

Salamander, a joint venture between Ørsted, Simply Blue Group and Subsea7, has partnered with two Scottish universities to investigate any potential impact of floating windfarms on marine ecosystems. The PREDICT 2.0 initiative forms part of a research programme led by experts at the University of the Highlands and Islands' (UHI) Environmental Research Institute and the University of Aberdeen, and is designed to develop a better understanding of fish migration patterns. With significant renewable infrastructure set to be installed in coming years, any potential impacts of future developments on fish and their predators must be considered. The proposed Salamander site will be used as a monitoring base to gather data on the drivers of variation in fish movement and availability as prey.

### **Renewable Energy Wildlife Research Fund Announces 2024 Projects – Renewable Energy Wildlife Research Fund**

The Renewable Energy Wildlife Research Fund, an industry-led initiative that supports independent, peer-reviewed research on wildlife interactions with renewable energy, is announcing four new projects for 2024. The Fund studies critical issues and implements cutting-edge projects and technologies that deliver meaningful results and help advance the clean energy transition. “Since its creation 2018, the Fund has supported 21 priority research projects that enhance our understanding of the ways in which wind and solar projects may impact wildlife and habitat, so the twin imperatives of expanding clean energy and ensuring conservation are addressed,” said Allison Poe, Senior Environmental Manager at EDP Renewables.

### **The Crown Estate outlines significant progress in data & evidence programme helping to sustainably accelerate growth of the UK’s world-leading offshore wind industry – The Crown Estate**

The Crown Estate outlines significant progress in data & evidence programme helping to sustainably accelerate growth of the UK’s world-leading offshore wind industry. The Crown Estate announces significant progress in collating world-class data, evidence and research through the Offshore Wind Evidence and Change programme (OWEC) to help shape and deliver future offshore wind development in a way that protects and helps restore nature and the vital marine natural environment. OWEC, a partnership between 26 members, provides a collaborative platform for organisations with an important role to play in offshore wind development. It funds projects to help fill evidence gaps, helping to inform better decision making for nature and, in turn, helping to derisk investment, accelerate delivery and maintain the UK’s attractiveness to invest.

### **Japan Expands Offshore Wind Development into Exclusive Economic Zone – Offshore Energy**

The Japanese Government has passed an amendment to the “Act on Promoting the Utilization of Sea Areas”, expanding the area for setting up offshore wind to the Exclusive Economic Zone (EEZ). The Japanese government aims to deploy 10 GW of offshore wind capacity by 2030 and 30-45 GW by 2040, including floating wind, as part of its target to reach net-zero emissions by 2050. The new legislation would allow wind farms to be installed further out to sea from current territorial and internal waters, according to a joint statement by the government, the Ministry of Economy, Trade and Industry and the Ministry of Land, Infrastructure, Transport and Tourism. According to the “Act on Promoting the Utilization of Sea Areas”, a successful bidder can occupy sea areas within Japan’s territorial waters for up to 30 years.