



29 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

[New WREN Summary](#)

Working Together to Resolve Environmental Effects of Wind Energy ([WREN](#)) has published a new [Short Science Summary on Raptor Monitoring and Minimization Technologies](#) on Tethys that summarizes the discussions from a recent WREN expert forum focused on strategies used to study raptor interactions with wind energy facilities.

[MECC Applications Open](#)

The U.S. Department of Energy's (DOE) Water Power Technologies Office (WPTO) recently opened applications for the sixth annual [Marine Energy Collegiate Competition \(MECC\)](#), which asks student teams to integrate marine energy with blue economy applications such as ocean-powered autonomous vehicles, aquaculture, and desalination. Applications are due 6 May 2024.

[CWC Applications Open](#)

The U.S. DOE's Wind Energy Technologies Office (WETO) recently opened applications for the [2025 Collegiate Wind Competition \(CWC\)](#), which helps students prepare for jobs in the wind energy workforce through real-world experiences with wind technology, project development, finance, communications, and outreach. Applications are due 13 June 2024.

SULI & CCI Applications Open

The U.S. DOE's Office of Science is now accepting applications for the [Science Undergraduate Laboratory Internships \(SULI\)](#) program and the [Community College Internships \(CCI\)](#) program for the Fall 2024 term. Through SULI and CCI, undergraduates and recent graduates can gain hands on experience at the DOE national laboratories. Applications are due 22 May 2024.

BOEM Seeking Public Comments

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

- Notice of Intent (NOI) to prepare an Environmental Assessment for offshore wind activities in the [Gulf of Maine](#) (due 17 April 2024);
- NOI to prepare an Environmental Impact Statement (EIS) for a proposed offshore wind energy project offshore [New Jersey](#) (due 2 May 2024);
- NOI to prepare an EIS for the proposed [Vineyard Northeast Offshore Wind Energy Project](#) (due 9 May 2024); and its,
- Proposed offshore wind energy auction in the [Gulf of Mexico](#) (due 20 May 2024).

Calls for Abstracts & Papers

The University of Southampton is now accepting abstracts for the [11th 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.

American Clean Power (ACP) has opened the [Call for Proposals](#) for the [ACP Resource & Technology Conference 2024](#) through 16 April 2024. The conference will take place from 30 September to 2 October 2024 in Phoenix, Arizona, U.S.

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.

Funding & Testing Opportunities

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. DOE has 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.

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 \(RFTS\) 13](#) applications through 28 June 2024 to support marine energy testing and development projects. Open Water Support applications can be submitted any time.

The U.S. DOE recently announced an [intent to provide nearly \\$5 million](#) in funding for programs that accelerate the commercialization and adoption of water power systems and solutions. DOE anticipates opening this funding opportunity in April or May 2024.

Career Opportunities

Biodiversity Research Institute is hiring a [Marine Ecologist](#) to join the organization's [Center for Research on Offshore Wind and the Environment](#) and work on projects related to offshore wind energy development. 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.

The Biodiversity Consultancy is seeking a [Principal Consultant](#) to join its Renewables team and manage projects and relationships with renewable energy sector clients and partners (including developers and investors). Applications are due 4 April 2024.

Aquatera is hiring a [Senior Consultant/Project Manager](#) to support the Island Centre for Net Zero project (ICNZ), as well as working on other decarbonisation projects in Aquatera's portfolio with connection to ICNZ. Applications are due 8 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.

The University of Southampton is also seeking a [Post-doctoral Research Fellow](#) to work on the Offshore Renewable Energy Supergen Hub project and focus on geotechnical challenges linked to the growth of UK offshore renewables. Applications are due 11 April 2024.

The Royal Society for the Protection of Birds (RSPB) are advertising for a [Senior Policy Officer](#) to join its UK marine policy team and lead and project manage the RSPB's vision for nature positive deployment of renewable energy across UK waters. Applications are due 11 April 2024.

RWE is looking for a [Technical Innovation Partner \(Sustainability & Biodiversity\)](#) to support work in renewables technologies, with a focus on biodiversity and ecology related innovation and engineering topics. Applications are due 12 April 2024.

The University of Southampton is also seeking a [Post-doctoral Research Fellow](#) to work on the TAILWIND project and support the development of new anchoring technologies for floating offshore wind turbines. Applications are due 12 April 2024.

Heriot Watt University's International Centre for Island Technology is offering a fully funded [PhD Scholarship](#) (UK only) in improving the accessibility of offshore wind infrastructure in hostile environments. Applications are due 26 April 2024.

The University of Southampton is also offering a [PhD Studentship](#) focused on developing robotic ground investigation tools for offshore renewable energy and infrastructure in support of the ROBOCONE project. Applications are due 30 April 2024.

Upcoming Events

Upcoming Webinars

Sandia National Laboratories is 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.

The Ecological Consequences of Offshore Wind (ECOWind) research program is hosting its [first webinar in its ECOWind Policy Masterclass Series](#) on 18 April 2024 from 11:00am-12:00pm UTC. The first session will kick off with an insightful exploration of the 2024 policy landscape.

The [second webinar in the ECOWind Policy Masterclass Series](#) will take place on 15 May 2024 from 11:00am-12:00pm UTC and will focus on strategic compensation. The webinar will include a presentation, panel discussion, and an interactive Q&A session.

Upcoming Workshops

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 TEAMER program is holding a one-hour workshop, “Waves of Opportunity: How to Write a Successful TEAMER Application”, on 8 April 2024 at 11:00am PST (6:00pm UTC) with a focus on how to write a successful TEAMER application. [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.

The Oceanic Platform of the Canary Islands (PLOCAN) is hosting its [2024 Glider School](#), which is a leading hands-on ocean-glider technology training forum, from 21-25 October 2024 in Telde, Gran Canaria, Canary Islands, Spain. Applications to attend are due 30 June 2024.

Upcoming Conferences

The Supergen Offshore Renewable Energy Hub is hosting its [7th Early Career Researchers Forum](#) on 23 April 2024 and [7th Seventh Annual Assembly](#) on 24 April 2024 at the University of Plymouth in Plymouth, England.

Offshore Wind California is hosting the [2024 Pacific Offshore Wind Summit](#) on 13-15 May 2024 in Sacramento, California, U.S.

Pacific Ocean Energy Trust is hosting the [Ocean Renewable Energy Conference \(OREC 2024\)](#) on 20-23 May 2024 in Portland, Oregon, U.S. Early registration is available until 5 April 2024.

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

[Wake characteristics behind a tidal turbine with surface waves in turbulent flow analyzed with large-eddy simulation](#) – Ouro et al. 2024

To design tidal stream turbine arrays, turbine wakes need to be fully characterized to assess the adequate row spacing considering environmental factors such as onset turbulence, velocity shear, and surface waves. The role of waves on wake development varies depending on their characteristics, such as wavelength and amplitude, and needs to be carefully understood. Here large-eddy simulations are performed to analyze the instantaneous and time-averaged wake characteristics developed downstream of a tidal stream turbine for four wave-current conditions ranging from nearly deep to intermediate waves and compared to current-only results. The tip-vortex convection near the free surface is highly influenced by the waves.

Assessing the impact of marine renewable energy in Portugal: an analysis based on ACO-TCN-attention – Song & Gao 2024

As the global demand for renewable energy continues to increase, marine renewable energy has attracted much attention as a potential source of clean energy. As a country with rich marine resources, Portugal's marine environment is of great significance to the development of marine energy. However, the current impact assessment of marine renewable energy projects has shortcomings such as incomplete understanding of ecosystems, incomplete consideration of fishery resources and socioeconomic impacts, lack of accuracy, and failure to consider geographical differences, thus lacking comprehensiveness and accuracy. To this end, we propose the ACO-TCN-Attention model to address these shortcomings in current impact assessments of marine renewable energy projects.

Research on the environmental benefits of marine tidal energy and its impact on regional economic structure – Kuan et al. 2024

Tidal power generation, being one of the earliest and largest developed new energy technologies, has evolved into a mature and increasingly competitive source of energy. This article delves into the evaluation of tidal energy's socioeconomic impact, establishing a connection between its environmental benefits and regional economic development. The focus is on marine economic efficiency, and the super-efficiency DEA model is employed to gauge this efficiency. The study conducts a thorough analysis of the green ocean economic efficiency in three major regions, introducing the Malmquist efficiency index for a comprehensive understanding of changing trends. Utilizing an economic effect model, the research explores the contribution of tidal energy development to regional economic growth, delving into industry-related effects.

Wind Energy

Larger wind turbines as a solution to reduce environmental impacts – Akhtar et al. 2024

The EU aims for carbon neutrality by 2050, focusing on offshore wind energy. Investments in North Sea wind farms, with optimal wind resources, play a crucial role. We employed a high-resolution regional climate model, which incorporates a wind farm parametrization, to investigate and address potential mitigating impacts of large wind

farms on power generation and air-sea fluxes. Specifically, we examined the effects of replacing 5 MW turbines with larger 15 MW turbines while maintaining total capacity. Our study found that substituting 15 MW turbines increases the capacity factor by 2–3%, enhancing efficiency. However, these turbines exhibit a slightly smaller impact on 10 m wind speed (1.2–1.5%) and near-surface kinetic energy (0.1–0.2%), leading to reduced effects on sea surface heat fluxes compared to 5 MW turbines.

[Long-term impacts of the Smøla wind farm on a local population of white-tailed eagles \(*Haliaeetus albicilla*\) – Stokke et al. 2024](#)

In the period 2020–2023, a full annual inventory of white-tailed eagle territories at Smøla was undertaken. In addition, searches for collision victims at Smøla wind farm were conducted with standardized protocols. Feathers from nestlings and adults at nest sites, and tissue from collision victims were used in subsequent DNA analyses and population modelling procedures. The main aim was to obtain knowledge of the status of the local population of white-tailed eagles. The results from the present study indicate that the breeding population of white-tailed eagles at Smøla has been rather stable in the period 1998–2023. In the period 2005–2023, a total of 133 white-tailed eagles have been found killed by collision with turbine blades at the Smøla wind farm.

[Cumulative effects of offshore wind farms on common guillemots \(*Uria aalge*\) in the southern North Sea - climate versus biodiversity? – Peschko et al. 2024](#)

Governments are under increasing pressure to reduce greenhouse gas emissions, and large-scale wind farms are being developed in marine environments worldwide. However, top predators are strongly affected by environmental change and anthropogenic activities. Common guillemots (*Uria aalge*, hereafter guillemots), as one of the world's most numerous seabird species, are prone to interference with offshore wind farms (OWFs). This study assessed the cumulative impacts of all operating OWFs on guillemots in the German North Sea. These estimates were applied to quantify the possible conflicts between guillemot occurrence and current German government plans to implement large-scale OWFs.

News & Press Releases

Marine Energy

[CalWave Selected as Technology Provider for Wave Energy Project in British Columbia – CalWave](#)

CalWave, a California-based wave energy technology developer, has been selected as the technology provider for a wave energy project at Yuquot, British Columbia (BC) with the Mowachaht/Muchalaht First Nation (MMFN). Located on Nootka Island, just off the west coast of Vancouver Island, Yuquot is the traditional home of the MMFN. It was also

the site of first contact between European explorers and Indigenous peoples on the west coast of North America, when Captain James Cook moored his ship in Nootka Sound in 1778. The community existed for thousands of years as a center of fish and fur trading until the late-20th century, when almost all residents were forced to relocate to Vancouver Island. Now, the MMFN is working to reclaim their land, rebuild their community, and harness the energetic North Pacific waves to help power their new microgrid and establish energy independence.

AW-Energy Successfully Completes the EMFF WaveFarm Project – AW-Energy

AW-Energy, a leading player in the ocean energy sector, announces the successful completion of the 3-year WaveFarm project that was funded by the European Maritime and Fisheries Fund through the Blue Economy Window. This initiative marks a significant milestone in advancing the WaveRoller wave energy converter, paving the way for sustainable and commercially viable wave energy solutions. This project represents a pivotal milestone where the hard-won knowledge and experience of the team crystallised into a reliable product that can be deployed around the world. This achievement not only underscores the team's dedication but also positions the product as a versatile and globally applicable solution, ready to address the growing demand for sustainable and dependable energy sources on a worldwide scale.

Construction of the Ocean Thermal Energy Conversion (OTEC) prototype to be tested at PLOCAN begins – PLOCAN

The Austrian company AGRU and the Hidramar shipyard in the port of Las Palmas have started the construction of a prototype that will advance Ocean Thermal Energy Conversion (OTEC) technology in regions prone to severe weather conditions, which will be tested at the PLOCAN test site. The structure, which consists of a cylindrical hull, a cold water pipe and a gimbal connection point, is being manufactured by AGRU in Austria and by the Hidramar shipyard in Gran Canaria, and the 1:5 scale prototype is expected to be ready for installation at PLOCAN in the coming months, where it will be subjected to the conditions of the Atlantic Ocean for approximately 12 months.

First step towards powering French Polynesia with wave energy – Ocean Energy Europe

Ys (project developer), Azura Wave Power and CalWave have signed a tripartite Memorandum of Understanding to launch two wave energy demonstrators in Tahiti. The objective is to prove that it is possible to produce carbon-free electricity thanks to the force of Polynesian waves and make French Polynesia more energy self-sufficient. Born from an idea of the University of French Polynesia, at the end of 2021, the TWEC (Tahiti Wave Energy Challenge) project was selected and presented at the Blue Climate Summit in May 2022. Its form evolved since then and the new demonstrator project has been taken over by Ys Energies Marines Développement to carry it out until its completion in co-construction with the local population.

SafeWAVE project extended until June 2024 – Offshore Energy

EU-backed SafeWAVE project, short for Streamlining the Assessment of Environmental Effects of Wave Energy, has been prolonged until June 2024. The decision to extend the project was revealed on March 20, stating it will enable SafeWave to make more progress in utilizing the abundant marine renewable energy resources of the Atlantic seaboard. The project works to improve knowledge of the environmental effects and risks of wave energy through the collection, processing, analysis, and sharing of environmental data around devices operating at sea and modeling of cumulative impacts of future larger-scale deployments. The project consortium, led by AZTI, includes a multidisciplinary team of partners bringing together technology device developers, consultants, and researchers and data managers.

Wind Energy

Sunrise Wind Receives Federal Record of Decision, Takes Final Investment Decision – Ørsted

Sunrise Wind today announced receipt of its Record of Decision (ROD) from the U.S. Department of the Interior's BOEM, crossing a critical milestone in the federal environmental review process for the offshore wind project serving New York. Additionally, Ørsted and Eversource today announced they have jointly taken a final investment decision on Sunrise Wind, solidifying the commitment to build the project, and will now advance with some important onshore construction activities. These major milestones bring the 924-megawatt project one critical step closer to delivering substantial economic benefits across New York and helping the state meet its climate goals. Located approximately 30 miles east of Montauk, N.Y., Sunrise Wind is expected to be the country's largest offshore wind farm upon completion, generating enough clean energy to power nearly 600,000 New York homes.

7SeasMed Floating Offshore Wind Project Receives Environmental Impact Assessment Approval, the First for a Floating Offshore Wind Project in Italy – COP

The 250MW 7SeasMed Floating Offshore Wind Project was recently granted approval of its Environmental Impact Assessment (EIA) by the Italian Ministry for Environment and Energy Security. This is the first EIA approval for a floating offshore wind project in Italy and marks an important milestone to jumpstart the offshore wind industry and support Italy's renewable energy and climate goals. Copenhagen Offshore Partners (COP), a global leader in offshore wind development and construction, serves as lead developer for the project, which is owned by a consortium including GreenIT, the Italian renewable energy joint venture between Plenitude (Eni) and CDP Equity (CDP Group), and Copenhagen Infrastructure Partners (CIP), a global leader in greenfield renewable energy investments.

EcoVadis, WindEurope and leading wind industry organisations launch ‘Wind Energy Initiative’ – WindEurope

EcoVadis, WindEurope and five leading wind energy industry organisations – ENGIE, Hitachi Energy, Siemens Gamesa, Statkraft and Vestas – recently announced the launch of the ‘Wind Energy Initiative’. The Initiative aims to accelerate the uptake of sustainable practices by fostering strong collaboration between trading partners and amplifying positive impacts across their value chains. The Initiative’s members pledge to work together to enhance supply chain transparency and bring up the wind industry’s performance standards on Environmental, Social and Governance topics. They commit themselves to be the flagship of a just, socially responsible, and sustainable energy transition.

Scotland’s First Minister opens world’s first Floating Wind Innovation Centre in Aberdeen – Offshore Renewable Energy (ORE) Catapult

Scotland’s First Minister, the Rt Hon. Humza Yousaf MSP recently officially opened the world’s first dedicated innovation centre for floating offshore wind. Located in the heart of Aberdeen’s Energy Transition Zone, ORE Catapult’s £9 million National Floating Wind Innovation Centre (FLOWIC), delivered in collaboration with ETZ Limited, is designed to help supercharge the development of floating offshore wind technology in the UK, with funding from both the Scottish Government and Innovate UK. FLOWIC provides unique facilities for companies to develop and derisk many of the technologies essential to the future success of the sector, with significant demand from industry for use of these services to capitalise on the unrivalled pipeline of floating offshore wind projects in UK waters.

Interior Department Proposes Second Offshore Wind Sale in Gulf of Mexico – U.S. Department of the Interior

In another step by the Biden-Harris administration to support the growing momentum across America for a clean energy economy, the Department of the Interior recently announced its proposal for a second offshore wind energy auction in the Gulf of Mexico. The proposed lease sale includes four areas offshore Louisiana and Texas, totaling 410,060 acres, which have the potential to power 1.2 million homes. The announcement is part of the Administration’s commitment to expand offshore wind opportunities, building on investments made by the President’s Investing in America agenda to develop a clean energy economy, create good-paying jobs for American workers and make our communities more resilient.