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[Tethys](#) is an online knowledge base that facilitates the exchange and dissemination of information on the environmental effects of wind and marine renewable energy (MRE). The bi-weekly *Tethys Blast* highlights new publications in the [Tethys Knowledge Base](#); relevant announcements, opportunities, and upcoming events; and news articles of international interest. [ORJIP Ocean Energy](#) has partnered with OES-Environmental to provide additional content. If you have specific content you would like circulated to the greater wind and MRE communities, please send it to tethys@pnnl.gov for consideration.

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Announcements

[Mocean Energy Decommissioning Programme Consultation](#)

Mocean Energy has requested consent from Marine Scotland to deploy and test their 1/2-scale M100 wave energy converter prototype at the European Marine Energy Centre's (EMEC) Scapa Flow test site in October 2020. As part of the consenting process, EMEC has opened a [consultation on the Decommissioning Programme](#) and would like to invite stakeholders and members of the public to provide responses via email info@emec.org.uk by 5:00pm BST (4:00pm UTC) on 11 September 2020.

[Call for Papers](#)

The Journal of Marine Science and Engineering has extended its manuscript submission deadline for the [special issue](#) entitled, *Environmental Interactions of Marine Renewable Energy Installations*. Manuscript submissions are now due 27 September 2020.

[Funding/Testing Opportunities](#)

The Wind Wildlife Research Fund released a [Request for Proposals](#) for research projects on bats and wind energy to start in early 2021. The Fund seeks research projects designed to increase our understanding of bat behavior and ecology that influences temporal, spatial, and interspecific variation in collision risk and response to minimization strategies. Pre-proposals are due by 11:59pm PDT (6:59am UTC+1) on 24 August 2020. An [informational webinar](#) is now available.

The Offshore Wind Growth Partnership (OWGP) has issued [two calls](#) to enable diversification, improve competitiveness, and drive innovation across the UK offshore wind supply chain. Stage 1 of the Open Call closes 21 August 2020 at 5:00pm BST (4:00pm UTC). The Cross-Sector Support Call closes 18 September 2020 at 5:00pm BST (4:00pm UTC).

Employment Opportunity

The University of Groningen (Netherlands) is seeking a candidate for a [PhD Position in Climate-Energy Modelling](#) to support the Energy and Sustainability Research Institute Groningen (ESRIG) and the Royal Netherland Meteorological Institute (KNMI). Apply [here](#) by 6 September 2020.

Upcoming Events

Upcoming Webinars

The U.S. Department of Energy's [Water Security Grand Challenge](#) will be hosting a webinar on the [Waves to Water Prize](#) on 25 August 2020 at 12:00pm EDT (4:00pm UTC). This webinar will cover the research motivation and initial findings in wave powered desalination, the structure and intent of the prize, future stages of the prize, and how stakeholders can get involved in the prize. Register [here](#).

The Pacific Ocean Energy Trust (POET) will be hosting a webinar, "[Wind Resource Assessments](#)", on 27 August 2020 at 10:00am PDT (5:00pm UTC). The webinar will feature speakers from the National Renewable Energy Laboratory (NREL), Pacific Northwest National Laboratory (PNNL), and U.S. Bureau of Ocean Energy Management (BOEM). Register [here](#).

The National Renewable Energy Laboratory and Defenders of Wildlife will be hosting a free, nine-part webinar series, *Wildlife & Wind Energy Webinar Series: Considerations for monitoring and managing impacts*, from late August through mid-November 2020. Sign up [here](#) to receive updates on and invitations for all nine webinars in this series. All webinars will be recorded and available on *Tethys*.

- Register for the first webinar in the series, "Wind Energy & Wildlife Interactions: History of wind energy and wildlife interactions and overview of the webinar series", on 28 August 2020 at 9:30am PDT (4:30pm UTC) [here](#).
- Register for the second webinar in the series, "Federal and State Perspectives on Environmental Review of Wind Energy and Wildlife", on 1 September 2020 at 9:00am PDT (4:00pm UTC) [here](#).

- Register for the third webinar in the series, “Grouse - Considerations for developing wind energy in grouse habitat”, on 16 September 2020 at 11:00am PDT (6:00pm UTC) [here](#).

Upcoming Conferences

The Marine Alliance for Science and Technology for Scotland’s (MASTS) [10th Annual Science Meeting \(ASM\)](#) will be held online from 5-9 October 2020. Abstract submissions for e-poster presentations are due by 4:00pm BST (3:00pm UTC) on 31 August 2020.

The [110th Association of Fish & Wildlife Agencies Annual Meeting](#) will be held online on 9-11 and 14-15 September 2020. Register [here](#) by 1 September 2020 for early bird rates.

The [Floating Offshore Wind Turbine Conference](#) (FOWT) will be held both online and in Marseille, France on 7-8 September 2020. Register [here](#).

The American Wind Energy Association’s (AWEA) [Wind Resource & Project Energy Assessment Conference](#) and [Wind Project Siting and Environmental Conference](#), originally scheduled for late September 2020 in Minneapolis, Minnesota (US), will now be held virtually.

New Documents on *Tethys*

Marine Renewable Energy

[Flume experiments on the impact of a cross-flow turbine on an erodible bed](#) – Ebrahimi et al. 2020

Understanding the effect of tidal turbines on local erosion of the estuarine bed is crucial for design and maintenance of turbines with stable foundations and assessment of their environmental impacts. This report describes the results of flume experiments on clear-water scour caused by a single cross-flow turbine in steady flow conditions. The turbine investigated is a Momentum Reversal Lift turbine originally designed in collaboration with the University of Exeter. Results show that the turbine can cause significant bed scour, particularly when it was not spinning and in a particular orientation of blades.

[The European environmental regulation of marine renewable energies](#) – Soria-Rodríguez 2020

The marine renewable energy (MRE) industry is growing exponentially in the European Union (EU) due to, among other factors, its potential contribution to mitigating climate change. However, there are negative environmental effects associated with the development of MRE that could compromise the protection of the marine ecosystems. In this context, the EU requires environmental protection and sustainable growth for the development of MRE. This article identifies and analyses the main features of the legal framework provided by the EU secondary law instruments regulating the protection of the environment against impacts of MRE and explores options to strengthen protection.

Pilot Study of Integration of Wildlife Impact Analysis into Spatial Environmental Assessment Tool for Marine Hydrokinetic Energy – Coates et al. 2020

This study aimed to produce a pilot spatial model, building upon the existing quantitative Spatial Environmental Assessment Tool (SEAT), to evaluate risks associated with marine hydrokinetic energy (MHK) development within the Pacific Marine Energy Center South Energy Test Site, located off Newport, Oregon. The goal is to establish an approach for integrating natural resource sensitivities with changes in physical conditions caused by wave energy converter arrays to inform planning and impact assessment.

Wind Energy

Deep learning–based automatic bird identification system for offshore wind farms – Niemi and Tantt 2020

Practical deterrent methods are needed to prevent collisions between birds and wind turbine blades for offshore wind farms. It is improbable that a single deterrent method would work for all bird species in a given area. An automatic bird identification system is required in order to develop bird species–level deterrent methods. This system is the first and necessary part of the entirety that is eventually able to automatically monitor bird movements, identify bird species, and launch deterrent measures. A prototype system has been built on the Finnish west coast.

A Scheimpflug lidar used to observe insect swarming at a wind turbine – Jansson et al. 2020

Wind turbines have considerable impact on flying animals, particularly bats, which are sometimes killed in large numbers by the moving rotors. A longstanding question remains why bats are attracted to wind turbines and risk their lives among the moving rotor blades. One hypothesis is that they feed on insects swarming around the turbine towers and another is that they congregate there to court. In this study, we monitored insects at the top of a wind turbine using a novel high-resolution Scheimpflug lidar. The instrument was employed around dusk during ten late summer nights in 2018, with the principal aim to evaluate its performance under real field conditions.

Observations and Simulations of a Wind Farm Modifying a Thunderstorm Outflow Boundary – Tomaszewski and Lundquist 2020

On June 18, 2019, National Weather Service (NWS) radar reflectivity data indicated the presence of thunderstorm-generated outflow propagating east-southeast near Lubbock, Texas. A section of the outflow boundary encountered a wind farm, and then experienced a notable reduction in propagating speed, suggesting that interactions with the wind farm impacted the outflow boundary progression. We use the Weather Research and Forecasting model and its Wind Farm Parameterization to address the extent to which

wind farms can modify thunderstorm outflow boundaries. We conduct two simulations of the June 2019 outflow event, one containing the wind farm and one without.

News & Press Releases

Marine Renewable Energy

[EMEC Achieves World's First Ocean Energy RETL Designation](#) – European Marine Energy Centre (EMEC)

EMEC has been designated with Renewable Energy Testing Laboratory (RETL) status, the highest international designation for marine energy test laboratories. EMEC is the first RETL for ocean energy in the world. RETL designation is awarded by the International Electrotechnical Commission (IEC) – Renewable Energy System which operates a global certification system addressing three renewable energy sectors: solar photovoltaic, wind energy, and marine energy. RETL designation enables EMEC to perform tests to assess the power performance of tidal energy converters anywhere in the world in compliance with IEC Technical Committee 114 Technical Specifications.

[Sustainable Marine Energy secures contract for world's first floating tidal energy array](#) – Sustainable Marine Energy

Sustainable Marine Energy will supply three next generation PLAT-I floating tidal energy systems, with a rated power output of 420kW each, to project entity Spicer Marine Energy who has signed a Design Build and Operate agreement with reconcept GmbH for the first phase of the Pempa'q In-stream Tidal Energy Project. Spicer Marine Energy will deliver and operate the project over its 15-year lifetime, on behalf of reconcept's RE13 Meeresenergie investment fund. Construction work will start at the Fundy Ocean Research Centre for Energy in the 2nd quarter of 2021 where this first platform, alongside a further two, will be installed to deliver phase 1 of the Project.

[Ocean Energy Europe \(OEE\) calls for European target of 100MW by 2025](#) – OEE

The new EU Strategy on Offshore Renewable Energy must include a target of 100MW of ocean energy installed in Europe by 2025. This would be enough to power 100,000 European homes a year and would pave the way for installing 3GW by 2030 and 100GW by 2050. This target would provide the political impetus and incentives needed to maintain Europe's position as the global leader in ocean energy and create a new industry for Europe. Four priority actions are needed to achieve this, according to Ocean Energy Europe. First on the list is the formation of a pan-European alliance of EU decision-makers, national governments and industry representatives.

[Ocean Power Technologies Unveils Its Subsea Battery Solution](#) – Ocean Power Technologies (OPT)

OPT recently announced the launch of their latest product, the OPT Subsea Battery solution. OPT's Subsea Battery solution is an environmentally friendly lithium-iron phosphate battery system with a nominal storage capacity of 132 kilowatt-hours. It utilizes OPT's proprietary and highly efficient battery management system which maximizes the amount of energy available for subsea payloads. Modular design allows multiple Subsea Battery units to be linked together to meet larger energy requirements for a wide range of subsea equipment. The Subsea Battery solution can be integrated with an OPT PowerBuoy® for charging or used for standalone power.

Marine Energy Wales Support Morlais Project's Phased Approach to Marine Renewable Energy Development – Marine Energy Wales

Marine Energy Wales (MEW) supports the Morlais tidal demonstration project's Phased Approach to deploying devices in the test zone. Much emphasis is placed on a targeted environmental monitoring programme designed to identify and mitigate adverse impacts on the marine environment and other users of the sea. MEW is the secretariat of a Welsh Consenting Strategic Advisory Group which brings together experienced representatives of the marine energy industry, environmental non-governmental organizations, including the Royal Society for the Protection of Birds and The Wildlife Trust, the regulator Natural Resources Wales and Welsh Government.

Wind Energy

Greentown Labs and Vineyard Wind Announce Offshore Wind Challenge Startup Participants – Greentown Labs

Greentown Labs, the largest climate tech startup incubator in North America, and Vineyard Wind, developer of the first utility-scale offshore wind energy generation facility in the United States, have selected three startups for the Offshore Wind Challenge. The startups will focus on innovations in marine mammal monitoring through data collection, real-time transmission, and analysis. The advancement of their technologies will support the responsible development of the offshore wind industry off the coast of Massachusetts, and well beyond.

Vestas wins 443 MW landmark deal in the UK that will be Vestas' largest single wind park in Europe to date – Vestas

SSE Renewables, a leader in renewable energy in the UK and Ireland, has placed a 443 MW order for the Viking wind project on the Shetland Islands in the Northern Atlantic. With this landmark deal, Vestas reinforces its presence in the UK onshore wind market, where they have installed more than 2,000 wind turbines with a total capacity of more than 4 GW. The Viking wind project will be Vestas' largest stand-alone wind park order in Europe to date. Vestas will supply SSE Renewables with 103 V117-4.2 MW turbines in 4.3 MW Power Optimised Mode.

BlueSATH, Saitec's first floating wind installation in continental Spain – Saitec

BlueSATH floating wind platform has been installed and commissioned in its final deployment site in El Abra del Sardinero (Santander, Spain). The Spanish engineering company Saitec Offshore Technologies has set off towing operation from Astander's Dock Pontejos, where it was tied up for its set-up, towards its destination 800 meters away off Cantabrian coast. Then, the already-laid mooring lines were retrieved from the seabed and the platform hook-up was accomplished in less than 3 hours. Finally, commissioning offshore has successfully completed so the turbine is ready to operate.

Atlantic Shores Offshore Wind Launches Conservation-Focused Study on Red Knot Migratory Patterns – Atlantic Shores Offshore Wind

Atlantic Shores Offshore Wind has partnered with Dr. Larry Niles of the New Jersey-based Wildlife Restoration Partnerships, the U.S. Fish and Wildlife Service and professional wildlife research organization Normandeau Associates to research the movement of endangered red knots off the coast of New Jersey during their southbound migration. Red knots, a state endangered and federally threatened shore bird, migrate each year from as far south as Tierra del Fuego, Argentina, stopping in the Delaware Bay to feast on horseshoe crab eggs before going to the Canadian Arctic to breed.

Blue Gem Wind Secures Seabed Rights for Wales' First Floating Offshore Wind Farm – Marine Energy Wales

Blue Gem Wind, the joint venture between Total, one of the world's largest energy companies, and Simply Blue Energy, a pioneering Celtic Sea blue economy project developer has secured seabed rights to develop Wales' first floating offshore wind farm. The Crown Estate, which acts as manager of the seabed around Wales, England and Northern Ireland, has awarded seabed rights, in relation to the 96 MW Erebus floating wind demonstration project, located approximately 44km off the Pembrokeshire coastline. This is the first time that rights have been awarded for floating wind in Wales, marking a significant moment for the nation's offshore wind sector and the Celtic Sea.