



May 12, 2017

Welcome to the latest bi-weekly Tethys Blast, which will update you with new information available on Tethys, new features of Tethys, and current news articles of international interest on wind and marine renewable energy. We hope that this becomes a valuable tool to help you stay connected to your colleagues and to introduce you to new research, new contacts, and ongoing milestones in wind and marine renewable energy development.

Submit Documents to Tethys

Many of the documents on Tethys were provided by individuals in the Tethys community. If you or a colleague has published documents related to wind or marine renewable energy and the environment, then search on the Tethys Knowledge Base to see if the documents are already listed. If any relevant documents are missing, please send them in an email to tethys@pnnl.gov.

New Documents on Tethys

New documents are regularly added to Tethys, hand-selected for their relevance to the environmental effects of wind and marine renewable energy. Short introductions to new or popular documents are listed below, accessible by the accompanying Tethys links:

[Decommissioning of the SeaGen Tidal Turbine in Strangford Lough, Northern Ireland: Environmental Statement - MarineSpace Ltd 2016](#)

MarineSpace Ltd has been commissioned to prepare an additional Environmental Impact Assessment (EIA) to include the decommissioning methods not covered previously. Data used to inform the decommissioning EIA is based upon the evidence gathered during the Environmental Monitoring Plan since the pre-construction EIA. A scoping study was undertaken by MarineSpace Ltd to identify the key concerns and to consider the revised decommissioning methods. The SeaGen Decommissioning Scoping Report underwent a formal consultation in June 2016 to inform the potential impact pathways that are assessed in the EIA and presented in this Decommissioning ES.

Year-Round Spatiotemporal Distribution of Harbour Porpoises Within and Around the Maryland Wind Energy Area - Wingfield et al. 2017

Offshore windfarms provide renewable energy, but activities during the construction phase can affect marine mammals. To understand how the construction of an offshore windfarm in the Maryland Wind Energy Area (WEA) off Maryland, USA, might impact harbour porpoises (*Phocoena phocoena*), it is essential to determine their poorly understood year-round distribution. Incorporating more than 18 months of harbour porpoise detection data from passive acoustic monitoring, generalized auto-regressive moving average and generalized additive models were used to investigate harbour porpoise occurrence within and around the Maryland WEA in relation to temporal and environmental variables.

MeyGen Tidal Energy Project Phase 1 Project Environmental Monitoring Programme - Rolling et al. 2016

This document details the monitoring methods proposed for the commissioning and operational phases of the Development and how communication will be maintained between MeyGen, the Advisory Group, and the Regulators. The data collected during monitoring will be used by the Advisory Group to inform decisions on each subsequent stage of the Development. Empirically measured close range encounter or passage rates may be substituted for the density inputs into collision risk models, and any measured avoidance or evasion may be translated into avoidance rates. The combination of these two factors will allow a more realistic calculation of collision risk for subsequent stages.

Mammalian Mesocarnivore Visitation at Tortoise Burrows in a Wind Farm - Agha et al. 2017

There is little information on predator-prey interactions in wind energy landscapes in North America, especially among terrestrial vertebrates. Here, we evaluated how proximity to roads and wind turbines affect mesocarnivore visitation with desert tortoises (*Gopherus agassizii*) and their burrows in a wind energy landscape. In 2013, we placed motion-sensor cameras facing the entrances of 46 active desert tortoise burrows in a 5.2-km² wind energy facility near Palm Springs, California, USA.

Lack of Sound Science in Assessing Wind Farm Impacts on Seabirds - Green et al. 2016

There are several poorly quantified negative effects on wild species from renewable energy generation, including wind turbines. For example, birds and bats are killed by colliding with turbine blades or towers and there may be effects of wind farms on mortality and reproductive rates of a wide range of species from avoidance and displacement. Birds may incur additional costs or forego benefits because of reduced transit or foraging within or near to wind farms. Depending upon the strength of density-dependent compensatory processes, these effects could reduce the population to a lower stable level or cause its extinction. Except in the rare circumstances where density dependence is exactly compensating, such effects would always diminish population size.

Cumulative Impact Assessment of Tidal Stream Energy Extraction in the Irish Sea - Haverson et al. 2017

A cumulative impact assessment of tidal stream developments in the Irish Sea has been conducted on a high-resolution depth-averaged hydrodynamic model, using Telemac2D. Eight sites were investigated, representing the proposed developments at the time of study. These included: Ramsey Sound, Anglesey, Strangford Loch, Mull of Kintyre, Torr Head, Fair Head, Sound of Islay and West of Islay. Only three projects showed array-array interaction: Fair Head, Torr Head and Mull of Kintyre.



[ORJIP Ocean Energy](#) is a UK-wide collaborative programme of environmental research with the aim of reducing consenting risks for wave, tidal stream and tidal range projects. Partnering with Annex IV, ORJIP provides content input to Tethys Blasts. ORJIP wishes to make you aware of the following opportunities:

- [EU-funded Marine Renewables Infrastructure Network \(MaRINET2\) project has a funding call open until May 20. The call is open to offshore energy technology developers, including wind, wave and tidal energy at system and component level.](#)
- [Wave Energy Scotland \(WES\) has issued its fourth funding call for complete control systems suitable for use with a variety of wave energy converters. Applications must be submitted by June 12 mid-day.](#)

News and Current Events

Marine Renewable Energy

[InSTREAM turbulence kit deployed on EMEC monitoring pod](#)

The European Marine Energy Centre (EMEC) has redeployed its bespoke Integrated Monitoring Pod, fitted with innovative turbulence instruments to help measure the impact of turbulence on tidal energy devices. The sensor system combines standard flow measurement technology (acoustic and electro-magnetic) with novel non-acoustic measurement technology (shear probes).

SEAI gets green light to build wave test site substation

The Sustainable Energy Authority of Ireland (SEAI) has been granted permission to construct a 20kV substation that will connect the AMETS test site to the Irish grid. The permission relates to the construction of a 20kV substation building that will house the electrical equipment and offices, and serve the proposed offshore test facility for wave energy converters known as the Atlantic Marine Energy Test Site (AMETS).

Tasmania wins Asian Wave and Tidal Energy Conference 2020

Business Events Tasmania (BET) CEO Stuart Nettlefold said the win demonstrates Tasmania's capability to host international conferences. "Events such as this put Tasmania on the global stage and showcase Tasmania's leadership in the marine renewable energy industry sector and our world leading research institutes and universities," he said.

Waves4Power gears up for WaveEL redeployment in Norway

Waves4Power is preparing to relaunch its WaveEL wave energy system following the conclusion of service and maintenance operations on the device. Waves4Power informed that its system is ready for redeployment at Runde test site in Norway, which can possibly take place over the coming weekend, depending on the suitable weather conditions.

Wind Energy

Vast offshore wind farm opens in North Sea after \$3 billion backing

One of the world's largest offshore wind parks is now officially open. Located 85 kilometers off the coast of the Netherlands, the Gemini Offshore Wind Park has a 600 megawatt (MW) generating capacity, covers 68 square kilometers and is made up of 150 Siemens wind turbines. In a news release on Monday, the managing director of Gemini said the project was completed ahead of schedule and under budget.

America's first offshore wind farm just shut down a small diesel plant

America's first offshore wind farm just helped to shut down a small diesel-fired electric power plant on Block Island, Rhode Island. Block Island officials on Monday switched on a connection between the island and a cable linking the wind farm to Rhode Island's mainland power grid. The connection allowed the island's only electricity source — a small diesel-fueled power plant — to shut down. The island's 2,000 residents burned about 1 million gallons of diesel fuel annually.

From China to the US: Ten Wind Energy Powerhouses

The Global Wind Energy Council recently revealed that more than 54 gigawatts (GW) of wind power was installed in 2016, with cumulative capacity hitting 486.8 GW. Here, CNBC's Sustainable Energy looks at ten of the world's wind energy powerhouses, according to the Global Wind Energy Council's *Global Wind Report 2016*.

China's Goldwind buys \$82 million windfarm project from Origin Energy

Xinjiang Goldwind Science & Technology Co Ltd said on Monday it will buy a wind farm project in Australia for \$110 million AUD (81.5 million USD) in cash, as the Chinese wind turbine generator maker aims to boost its presence in international markets. Xinjiang Goldwind said it would buy Stockyard Hill Wind Farm Pty Ltd from a unit of Origin Energy Ltd, and would inject up to \$335 million AUD for further development to strengthen its competitive advantage in Australia.