



TETHYS BLAST

May 26, 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.

Events Calendar on Tethys

Tethys collates events from around the world with relevance to the environmental effects of marine renewable energy and wind energy - including webinars, conferences, workshops, and more. [You can explore the events calendar here.](#)

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:

[Pacific Region Marine Renewables Environmental Regulatory Workshop Report - Copping et al. 2017](#)

The Pacific Region Marine Renewables Environmental Regulatory Workshop was held in conjunction with the 11th Annual Ocean Renewable Energy Conference in Portland, Oregon, on September 21, 2016 in response to frustrations and concerns expressed by members of the marine renewable energy (MRE) industry about permitting processes for MRE development being long, drawn out, challenging, and expensive, even for very small devices and pilot-scale deployments.

[Harbor Porpoises and Offshore Wind Energy, a WREN Short Science Summary](#) - Brookes et al. 2017

Harbor porpoises (*Phocoena phocoena*) are a small and abundant cetacean species. Found throughout the temperate and subarctic waters of the northern hemisphere, they prefer shallow, coastal waters, and feed near the bottom on small fish, squid, and crustaceans. Most concerns about offshore wind energy and Harbor porpoises are associated with construction activities, particularly if pile driving is required to install turbine foundations. This summary represents a general overview of the research, produced by WREN under IEA Wind.

[Characterisation of the Biofouling Community on a Floating Wave Energy Device](#) - Nall et al. 2017

Wave energy devices are novel structures in the marine environment and, as such, provide a unique habitat for biofouling organisms. In this study, destructive scrape samples and photoquadrats were used to characterise the temperate epibenthic community present on prototypes of the Pelamis wave energy converter. This research provides an insight into the variation of biofouling assemblages on a wave energy device as well as the potential technical and ecological implications associated with biofouling on marine renewable energy structures.

[Wildlife and Wind Farms - Conflicts and Solutions, Volume 1 Onshore: Potential Effects](#) - Perrow 2017

Wind farms are an essential component of global renewable energy policy and the action to limit the effects of climate change. There is, however, considerable concern over the impacts of wind farms on wildlife, leading to a wide range of research and monitoring studies, a growing body of literature and several international conferences on the topic. This unique multi-volume work provides a comprehensive overview of the interactions between wind farms and wildlife. ([Volume 2 has also been published](#))

[Modelling the Effects of Marine Energy Extraction on Non-Cohesive Sediment Transport and Morphological Change in the Pentland Firth and Orkney Waters](#) - Fairley et al. 2017

This paper considers the process of modelling sediment transport and morphological change in the Pentland Firth and Orkney Waters using coastal area models. This region is atypical of regions commonly modelled using such techniques: it is high energy with limited and highly variable regions of mobile sediment. This causes challenges with regards both model capability and availability of data. Computational time restrictions for fully coupled modelling solutions should also be recognised which limits practical duration of simulation. Impacts to modelled bed level change over test periods are noted for both wave and tidal energy extraction scenarios.



[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:

- [Energy Catalyst Round 5 is now open. The Energy Catalyst competition supports innovators addressing business opportunities created by the global need for clean, affordable and secure energy. The deadline for registration is 21st June 2017 and the deadline for applications is 28th June 2017.](#)
- [H2020 Ocean Energy Call opens: LCE-16-2017 2nd Generation of design tools for ocean energy devices and arrays development and deployment. Deadline: 7th September 2017.](#)
- [Offshore Energy Research Association \(OERA\) has launched a research call in Tidal Energy for expressions of interest to be submitted by 19th June 2017. The funding will support new projects that offer innovative and practical technology solutions and novel approaches to resolve fundamental knowledge gaps impacting the tidal sector.](#)

News and Current Events

Marine Renewable Energy

[OpenHydro plans Orkney array](#)

DCNS OpenHydro is planning to deploy two of its next-generation 2MW open centre tidal turbines at the European Marine Energy Centre on Orkney. The company was recently given the all-clear by planning agency Marine Scotland for the mini-array of 16-metre machines at the Fall of Warness test site in the UK. DCNS is in the early stages of development for the project with no timeline yet identified for deployment. The licence for the project runs until 2043.

[EU launches initiative to bring clean energy to its islands](#)

Aimed at accelerating the clean energy transition on Europe's more than 2700 islands, the initiative is expected to help islands reduce their dependency on energy imports by making better use of their own renewable energy sources, such as marine energy, and embracing more modern and innovative energy systems. This will help reduce energy costs and at the same time improve air quality and lower greenhouse gas emissions, the European Commission said.

WaveEL Buoy Redeployment

After undergoing an overhaul and systems upgrade at Ulstein Shipyard, the WaveEL Buoy has been successfully redeployed at the same test site off of Runde Island in Norway, where it spent the better part of 2016. The mooring system that served the WaveEL buoy so well during last year's tough storms and waves was reconnected to the buoy on May 5th.

GWave launches Wave Hub Project

American wave energy developer, GWave has today announced its plans for a 9MW wave energy project to be deployed at Wave Hub, Cornwall. GWave, based in Portland, Maine, USA has spent the past decade developing its Power Generation Vessel (PGV) technology, an innovative wave energy device of a scale that is unprecedented, and is preparing to bring the first full-scale vessel across the Atlantic for installation at the Wave Hub site in Cornwall.

Wind Energy

Formosa 1 Offshore Windfarm, Taiwan

Formosa 1 is an offshore windfarm being developed near Miaoli, in the west coast of Taiwan. The 130MW windfarm will be Taiwan's first commercial-scale offshore wind project. The farm is planned to be developed in two phases - a demonstration phase with two wind turbines, and a commercial phase.

Britain installs world's largest wind turbines in new offshore wind farm

Off the coast of Liverpool, a new wind farm features the largest wind turbines that the market has to offer. Most wind farms currently consist of turbines in the 1 - 4 MW range, but this latest offshore installation, the Burbo Bank extension, shows off impressive 8-MW turbines from Dong Energy. The massive turbines are 195-meters tall and this project is the first time they've been used commercially anywhere in the world.

GE's LM Wind Power Opens Up 15th Blade Plant

LM Wind Power, a designer and manufacturer of blades for wind turbines, has opened up another blade factory, located in the Baodi District in northeastern China. The new facility is situated 40 kilometers from the company's existing plant in Tianjin. This factory was established in 2001 as the first foreign wind company in the area, according to LM Wind Power, which was recently acquired by GE Renewable Energy.

AWEA 2017: Senvion to launch 10MW+ offshore wind turbine

Manufacturer Senvion has said it will give details on a 10MW+ offshore wind turbine at the WindEurope Offshore Wind event in London next month. Senvion's vice-president of

corporate communications and marketing, Immo von Fallois, revealed the plans at the AWEA Windpower 2017 event (23-25 May) in California. He told reporters that Senvion is planning to reveal the, as yet, unnamed turbine in London, and stopped short on giving any further details.