TETHYS BLAST

August 10, 2018

The bi-weekly Tethys Blast will update you with new information on Tethys, news article of international interest, and opportunities in wind and marine renewable energy. We hope you find this a valuable tool to keep you connected to colleagues, new research, opportunities, and industry milestones.

Upcoming WREN Webinar

WREN is hosting a public webinar on August 23 that will take a *First Look at a New Generalized Fatality Estimator, GenEst*. You can register for the event here.

US DOE Wind Funding Opportunity

The US Department of Energy (DOE) Wind Energy Technologies Office (WETO) released a funding opportunity announcement on advanced wind research to reduce costs and environmental impacts. There are three topic areas:

- Topic Area 1: Advancing Smart Curtailment Strategies
- Topic Area 2: Advanced Component Research and Development
- Topic Area 3: Development and Validation of Offshore Wind Monitoring and Mitigation Technologies

More information can be found here. Concept papers are due August 15.

13th Ocean Renewable Energy Conference

The 13th Ocean Renewable Energy Conference will be held in Portland, Oregon, USA on September 18-19. More information is available here.

Upcoming NYSERDA Workshop

The New York State Energy Research and Development Authority (NYSERDA) is hosting a State of the Science workshop on wildlife and offshore wind energy development. More information will be available on the workshop site.

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:

A Summary of Bat Fatality Data in a Nationwide Database – AWWI 2018

> Bats collide with wind turbines resulting in fatalities, and much has been learned about the pattern and magnitude of this mortality in the U.S. and Canada. Previously, cumulative assessments of this mortality have relied almost entirely on data gleaned from publicly available studies of bat collision fatalities at wind energy facilities. In this report we describe and summarize the bat fatality rate and fatality incident data contained in the American Wind Wildlife Information Center, which includes both publicly available and confidential bat collision fatality data from wind energy facilities.

Ocean Energy: Governance Challenges for Wave and Tidal Stream Technologies – Wright et al. 2018

> Energy from wave and tidal power is a key component of current policies for renewable sources of energy. This book provides the first comprehensive exploration of legal, economic, and social issues related to the emerging ocean energy industry, in particular wave and tidal energy technologies.

Taiwanese white dolphins and offshore wind farms – Tougaard and Mikaelsen 2017

> Taiwan has proposed development of offshore wind energy in the Eastern Taiwan Strait, which is home to the endemic and critically endangered Taiwanese white dolphin (*Sousa chinensis taiwanensis*). The most significant source of disturbance from offshore wind is noise from percussive piling on turbine foundations. The direct impact on Taiwanese white dolphins from construction and operation of offshore wind farms in the Taiwan Strait is considered to be manageable by appropriate mitigation measures and within limits that will not further endanger the population of dolphins.

Can tidal stream turbines change the tides in the Pentland Firth, and is there an acceptable limit? – Murray 2018

> Around half of Scotland's tidal stream resource is located in the Pentland Firth and Orkney Waters (PFOW), with most of it in the Pentland Firth. This work investigates the effect that extracting tidal stream energy in the region may have on the tide (tidal amplitudes, speeds, phases and transport) and addresses the following questions: (i) what is the maximum energy that can be extracted, and (ii) is there a sustainable upper limit of energy extraction?

Eagle Take Minimization System – Petr et al. 2018

> Laufer Wind (LW) has developed a prototype Eagle Take Minimization System that shows capabilities for autonomously detecting, tracking, and visually identifying eagles and other protected avians out to approximately 1 km range with no human-in-the-loop. This type of detection system is important for animals that fly too close to facilities that can harm them, such as large wind turbine farms.

Spotlight on Ocean Energy: 20 Projects + 5 Policy Initiatives – Ocean Energy Systems 2018

> This report provides insights of 20 ocean energy projects and 5 policy initiatives on the OES member countries. These projects are good examples of the intense activity of this emerging sector but there is a much larger number of relevant projects being developed world wide.

News and Current Events

Marine Renewable Energy

Carnegie completes offshore survey on Albany wave site – Marine Energy Biz

> Australian wave energy developer Carnegie Clean Energy has wrapped up a geophysical site survey of the proposed Albany offshore deployment site for the CETO 6 wave project. Carnegie completed a survey whose purpose was to establish the offshore geology and suitable strata thickness to inform the technical and economic feasibility of the foundation design for the CETO 6 wave energy converter to be deployed at the Albany site.

Liverpool City Region approves £650,000 for Mersey project business case – Marine Energy Biz

> According to information from the meeting's agenda documents, the funding will enable the completion of the full business case by November 2019. As of July 2018, detailed information in the form a skeleton outline business case have been available to reach the next stage in the development of the business case, as a result of a process for which LCRCA gave approval in November 2017.

EMEC data to stimulate innovation - ReNews

> The European Marine Energy Centre (EMEC) in Orkney has provided metocean data sets for Scotland's Blue Growth Data Challenge competition. The competition aims to stimulate new or innovative solutions for analysis of the marine environment for the benefit of the Highlands and Islands region of Scotland.

Naval Energies exits tidal energy, OpenHydro seeks liquidation – Renewables Now

Just a day after successfully deploying an in-stream tidal turbine in Canadian waters, Naval Energies has decided to cease all investments in tidal turbines as it has determined that the market for this technology is closing. The French marine renewables specialist announced its decision today, saying that it plans to focus on floating wind power and Ocean Thermal Energy Conversion (OTEC)

Wind Energy

Siemens Gamesa & Van Oord Chosen To Build 380 Megawatt Fryslân Nearshore Wind Farm – Clean Technica

A two-company consortium of Siemens Gamesa Renewable Energy and Van Oord has been selected as the preferred contractor for the 380 megawatt (MW) Fryslân nearshore wind farm in the Netherlands. Originally proposed in 2008 and finally awarded consent to proceed earlier this year, the Fryslân nearshore wind farm in the Netherlands has taken its next step towards construction and completion.

Changes to up to 800MW project made in response to feedback from Fishermen - ReNews

The developers of the up to 800MW Bay State Wind offshore project off the coast of Massachusetts have made changes to the proposed layout of the turbines. Orsted and Eversource said the new plan is in response to feedback from fishermen and community members.

Horizon Geosciences starts three-month geophysical survey for 600MW project - reNews

Red Rock Power has begun a geophysical survey campaign for its 600MW Inch Cape wind farm off Scotland. The developer said a fleet of four vessels will spend the next three months working 24/7 to gather data on the project's proposed 150 square-kilometre array area, which lies 15km off the Angus coast.

Blockchain firm Soluna to build 900MW wind farm in Morocco - Reuters

Blockchain company Soluna plans to build a 900-megawatt wind farm to power a computing center in Dakhla in the Morocco-administered Western Sahara, its chief executive John Belizaire said in an interview. Work on the initial off-grid phase will start in 2019 and complete a year later, with the possibility of connecting the site to the national grid, Belizaire told Reuters.

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:

- New Horizon2020 funding call on "developing the next generation of renewable energy technologies." Deadline is 16 October 2018.
- The UK Department for Business, Energy and Industrial Strategy (BEIS) has launched the Regulators' Pioneer Fund competition to fund regulator-led projects worth up to £1 million. Competition closes 14 August.
- Menter Môn has launched two tenders to support the development of a tidal energy demonstration area proposed off Anglesey known as the Morlais Demonstration Zone.