TETHYS BLAST

October 19, 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.

Abstract Deadlines

- Abstracts for the European Wave and Tidal Conference (held 1-6 September 2019 in Naples, Italy) are due on October 31.
- Proposals for the AREA Wind Power Conference (held 20-23 May 2019 in Houston, Texas, US) are due on October 30.

Upcoming Conferences

- The OCEANS 2018 conference will be held in Charleston, South Carolina, US on October 22-25.
- Ocean Energy Europe will be held in Edinburgh, UK on October 30-31.
- The 2018 Australian Ocean Renewable Energy Symposium will be held in Melbourne, Australia on November 20-22.
- The Marine Renewables Canada Conference will be held in Halifax, Canada on November 21-22.
- The Wind Wildlife Research Meeting XII will be held in St. Paul, Minnesota, US on November 27-30.

Wind Energy Biodiversity Summit

Bioinsight and PANGALIA Environmental are pleased to share the announcement of an upcoming series of environmental knowledge exchange events in emerging wind farm regions (both onshore and offshore), known as WIBIS (Wind energy and Biodiversity Summit). The next WIBIS event will take place in Mexico City 20-21 November 2018, please see https://www.wibisummit.org/mexico.

Workshop on Fieldwork in Tidal Stream Sites

A workshop on *conducting fieldwork in tidal stream sites* will be held on 2 November 2018 as part of the 8th MASTS annual science meeting in Glasgow, UK. This workshop is centered on the challenges and best practices of working at high energy sites, and is aimed at a broad range of stakeholders, including technicians, marine renewable energy technology developers, scientific equipment companies, scientists and academics alike. Workshop details are available here.

Upcoming NYSERDA Workshop

The New York State Energy Research and Development Authority (NYSERDA) is hosting a State of the Science workshop on November 13-14 about wildlife and offshore wind energy development. More information is 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 excerpts from new or popular documents are listed below, accessible by the accompanying Tethys links:

Applying a simple model for estimating the likelihood of collision of marine mammals with tidal turbines – Copping and Grear 2018

> As tidal turbine deployments continue at test sites and in commercial areas, the potential risk for injury or death of marine mammals from colliding with rotating turbine blades continues to confound efficient consenting (permitting) of devices. Direct observation of collisions is technically very challenging and costly. Estimates of collision risk to date have been derived from complex collision risk models that depend on estimates of the number of marine mammals found in the area.

Ecological Impact of Airborne Wind Energy Technology: Current State of Knowledge and Future Research Agenda – Bruinzeel et al. 2018

> In this first review on the subject we describe the ecological impact of airborne wind energy technologies in general, with a particular focus on the rigid wing system developed by Ampyx Power. The chapter outlines a framework consisting of disturbance, ecological sensitivity, impact and legal aspects. We conclude that between 2–13 birds will collide annually with the autonomous aircraft alone. A challenging aspect is to estimate the mortality caused by the tether.

2018 Revisions to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0): Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts – NMFS 2018

> The Technical Guidance provides thresholds for onset of permanent threshold shift (PTS) and temporary threshold shifts (TTS) in marine mammal hearing for all underwater sound sources. It is intended to be used by NOAA analysts and managers, other federal agencies, and other relevant user groups/stakeholders to better predict how a marine mammal's hearing will respond to sound exposure.

Windpower and Reindeer – Strand et al. 2018

> In this report, we have summarized existing knowledge about the effects of wind power on reindeer. The effects of technical installations and disturbance in general and the effects of wind power plants in particular have been studied by different research groups. Their efforts have improved our knowledge about the effects of such installations on reindeer and reindeer husbandry. In some cases, various projects reported contrasting results. We have tried to explain the results from the respective investigations. (Report in Swedish)

Information gaps in understanding the effects of noise on fishes and invertebrates – Hawkins et al. 2015

> The expansion of shipping and aquatic industrial activities in recent years has led to growing concern about the effects of man-made sounds on aquatic life. Sources include (but are not limited to) pleasure boating, fishing, the shipping of goods, offshore exploration for oil and gas, dredging, construction of bridges, harbors, oil and gas platforms, wind farms and other renewable energy devices, and the use of sonar by commercial and military vessels.

News and Current Events

Marine Renewable Energy

Scotrenewables Renamed Orbital Marine – Offshore Engineer

> The floating tidal turbine developer Scotrenewables Tidal Power Limited has announced a comprehensive company-wide rebranding to Orbital Marine Power. The new name is inspired by the orbital cycle of the moon around the earth, the reliable provider of tidal energy. "After a comprehensive exercise, we are really pleased to introduce our new brand identity, and to do so at such an exciting time for the business, as we begin the build of our next generation turbine, the Orbital O2 2MW (previously referred to as the SR2 2000)."

CorPower completes stage 3 demonstration in Orkney – EMEC

After 18 months of combined dry and ocean testing of the C3 Wave Energy Converter (WEC), CorPower and project partners have taken important steps towards proving commercial viability of wave energy. By verifying the ability to solve the two major challenges for wave energy, storm survivability combined with significant power production, a major demonstration milestone has been completed.

Minesto generates electricity for the first time with commercial-scale unit – Minesto

Marine energy developer Minesto has achieved initial electricity generation with its first commercial-scale marine energy kite during the commissioning program of the company's ground-breaking low-flow tidal energy project in Wales. The first utility-scale system of Minesto's patented and awarded Deep Green technology is commissioned at the Holyhead Deep site off the coast of North Wales.

Sabella sends off D10 tidal turbine to installation site – Marine Energy Biz

French company Sabella has started the redeployment operation of its D10 tidal energy turbine at the Fromveur Passage site, near Ushant Island in France. After two years of optimization and maintenance, the 1MW tidal energy turbine has reached the site where it was once tested for over a year to take up another round of trials, and – once more – supply clean electricity to the residents of Ushant Island.

Wave energy to power undersea data centers – Network World

Offshore, underwater data centers are going to be powered using wave motion, says a sustainable energy developer. And it's going to happen soon. Commercial wave energy company Ocean Energy says it's almost completed a marine hydrokinetic wave generator build and that the 1.25 Megawatt power-production capacity vessel will be ready to deploy in 2019.

Wind Energy

Orsted buys Rhode Island offshore wind business for $510 million – CNBC

Danish energy business Orsted has entered into an agreement with the U.S.-based D.E. Shaw Group to buy a 100 percent equity interest in its offshore wind developer Deepwater Wind. In a statement Monday, Orsted said that the purchase price for the deal was $510 million. Rhode Island-based Deepwater Wind is responsible for the only operational offshore wind farm in the U.S., the 30 megawatt (MW) Block Island facility.

RES to repower first French wind farm – Wind Power Monthly

RES will repower an entire project for the first time by upgrading the first wind farm it built in France. Working alongside PomaLeitwind – a merger of cable and infrastructure

specialist Poma and turbine manufacture Leitwind – RES will repower the 20.8MW Souleilla-Corbières wind farm in Aude, southern France.

Wind Energy Tariffs Stable in India's 1.2 Gigawatt Auction – Clean Technica

The sixth national-level wind energy auction in India witnessed stable, and relatively high, tariff bids from project developers. The Solar Energy Corporation of India (SECI) had offered 1.2 gigawatts in its fifth auction, after initially offering 2 gigawatts.

Walmart Procures 233-MW Wind-Energy PPA from EDP Renewables – Power Engineering

Retail giant Walmart signed a deal for 233 MW of utility-scale wind power from EDP Renewables, the companies announced Tuesday. The deal with Bentonville, Arkansas-based Walmart includes three wind farms—all developed, owned and operated by EDP Renewables—in the states of Illinois and Indiana.

Grid operators plan 100-MW power-to-gas plant using offshore wind – Offshore Wind Journal

Three grid operators are coming together to develop a power-to-gas facility using electricity from offshore wind in order to stabilise the grid, limit curtailment and reduce the future need for grid expansion. TenneT, Gasunie Deutschland and Thyssengas have put forward detailed plans for coupling the electricity and gas grids in their respective countries and advancing the energy transition. The trio are planning to build a 100-MW power-to-gas pilot plant in Lower Saxony which will be the largest of its kind in Germany.

Ocean Energy ORJIP working to accelerate offshore consenting

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 and wishes to make you aware of the following opportunities:

- The Inter-American Development Bank (IDB) opens calls for proposals for technology projects and business models under the Blue Tech Challenge, supporting the blue economy in the Caribbean region, deadline 30 November 2018.
- The Basque Energy Agency Ente Vasco de la Energia (EVE) has launched a call for marine renewable energy demonstration projects, set to close on 31 October 2018 or when the allocated budget is exhausted.