TETHYS BLAST

November 2, 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

- The abstract deadline for the European Wave and Tidal Conference (held 1-6 September 2019 in Naples, Italy) was extended to November 12.
- The proposal deadline for the AREA Wind Power Conference (held 20-23 May 2019 in Houston, Texas, US) was extended to November 5.

Upcoming Conferences

- The 2018 Australian Ocean Renewable Energy Symposium will be held in Perth, Western 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.

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:

Generic monitoring programme for monitoring watercourses in relation to onshore wind farm developments – Marine Scotland Science 2018

> Appropriate site selection and design, good construction techniques and implementation of appropriate site specific mitigation measures are the primary means of avoiding and/or minimising impacts on the freshwater environment from wind farm developments. In addition, integrated monitoring programmes that include water quality, macroinvertebrate and fish population assessments can also provide important and rapid information on impacts, ensuring effective site management, mitigation and, if necessary, restoration throughout the course of a wind farm development.

Compatibility of offshore energy installations with marine protected areas – Thurstan et al. 2018

> Central to marine environmental policy is the preservation and maintenance of biodiversity and ecosystem services, which includes the mitigation of negative anthropogenic activities and their effects. Designating marine protected areas is one of the principal tools advocated to achieve these objectives, and as such they have been incorporated into international commitments (e.g., the Convention on Biological Diversity and Sustainable Development Goal 14) and national legislation (e.g., the Marine Strategy Framework Directive for the European Union).

Practical implementation of auditory time and frequency weighting in marine bioacoustics – Tougaard and Beedholm 2019

> Much effort is currently directed at describing the behavioral reactions of marine mammals following exposure to sound with the aim of deriving generalized thresholds and dose-response functions. The perceived loudness of a given sound is a candidate for a common metric for sound exposure. The loudness of a signal relates to various factors, including the stimulus duration and frequency content, and it can be approximated by an appropriate time and frequency weighting of the signal.

Estimating habitat loss due to wind turbine avoidance by bats: Implications for European siting guidance – Barre et al. 2018

> Wind energy is rapidly growing as a renewable source of energy but is not neutral for wildlife, especially bats. Whereas most studies have focused on bat mortality through collision, very few have quantified the loss of habitat use resulting from the potential negative impact of wind turbines, and none of them for hub heights higher than 55 m. Such impacts could durably affect populations, creating a need for improvement of knowledge to integrate this concern in implementation strategies.

Efficient unstructured mesh generation for marine renewable energy applications – Avdis et al. 2017

> Renewable energy is the cornerstone of preventing dangerous climate change whilst maintaining a robust energy supply. Tidal energy will arguably play a critical role in the renewable energy portfolio as it is both predictable and reliable, and can be put in place across the globe. However, installation may impact the local and regional ecology via changes in tidal dynamics, sediment transport pathways or bathymetric changes. In order to mitigate these effects, tidal energy devices need to be modelled, to predict hydrodynamic changes.

News and Current Events

Marine Renewable Energy

Plans to enhance MeyGen project returns and deliver 40% increase in yield through the installation of at least two new Atlantis turbines – SIMEC Atlantis Energy

> SIMEC Atlantis Energy Limited is pleased to provide an update on its future plans for the MeyGen project. The Company now has advanced plans to enhance the existing 6MW MeyGen array through the addition of at least two of the Company's new tidal turbines. When installed, these new Atlantis turbines, which are capable of generating up to 2.0MW using more powerful generators and larger rotor diameters, will use a new subsea connection hub and share a single export cable.

A World-First for Nova Innovation: the 'Holy Grail' of Baseload Tidal Power – NOVA Innovation

> Leading Scottish cleantech company, Nova Innovation, announces the integration of its tidal energy array with Tesla battery storage. The Tesla Powerpack was successfully integrated with Nova's existing tidal array, delivering the world's first grid-connected 'baseload' tidal power station.

New offshore renewable energy project developer launches in South East Asia - Oceantera

> Oceantera Energy Corporation (Oceantera)'s first Ocean Energy Service Contract has been approved by the Philippine Department of Energy (DOE). The Northwest Capul Energy Project Service Contract was approved by the DOE Secretary on 15 October 2018, permitting Oceantera to commence activities associated with the pre-development of a utility scale tidal energy development within a 2,600 hectare site in the San Bernardino region of the Philippines.

Brouwersdam tidal power plant up for market input – Marine Energy Biz

The Dutch authorities have set up a market consultation for the development of the Brouwersdam as a tidal power plant, inviting commercial parties to show interest and make the project a reality. In an effort to improve the quality of water in Lake Grevelingen – a closed off part of the estuary on the border of the Dutch provinces of South Holland and Zeeland – the local authorities plan to build a flood barrier that would allow for the limited reintroduction of tides to the lake.

Massachusetts Legislature Approves Funding for Tidal Energy Data Transmission - MRECo

MRECo has received word that $205,000 has been included in the Massachusetts Economic Development Bill to put the BTTS on the grid. When the funds are approved and released by the Governor's office, and permits are approved, work will be done to wire the Bourne Tidal Test Site (BTTS) structure to shore to enable turbines and devices to receive shore power and to produce power to the grid.

MeyGen Operational Update with World First Turbine Service Completed Offshore – SIMEC Atlantis Energy

SIMEC Atlantis Energy Limited is pleased to announce that it successfully completed offshore operations on MeyGen Phase 1A with two Andritz 1.5MW turbines returned to service and the Atlantis 1.5MW turbine successfully retrieved for ancillary systems maintenance. The Andritz turbines have recommenced generation at full capacity.

Wind Energy

Group led by EDP Renewables to invest in floating wind farm - Reuters

A consortium led by Portugal's EDP Renewables (EDPR) will invest 125 million euros ($144 million) over three years in a 25 megawatt (MW) floating offshore wind farm, EDPR's principal shareholder Energias de Portugal said on Friday. The project, Europe's second floating wind farm, involves anchoring three turbines on semi-submersible platforms at water depths of up to 100 metres.

Vineyard Wind Signs Milestone Lease Deal With Massachusetts – North American Windpower

Massachusetts' Baker-Polito administration and Vineyard Wind have announced a lease agreement to use the New Bedford Marine Commerce Terminal as the primary staging and deployment location for Vineyard Wind's offshore development. In May, an 800 MW offshore wind farm proposed by Vineyard Wind, a joint venture of Avangrid Renewables and Copenhagen Infrastructure Partners, was selected as the winning bid under Massachusetts' 83C offshore wind solicitation.

Gillespie Macandrew secures landmark decision on Shetland wind farm – Renewable Energy Magazine

Gillespie Macandrew acted for Viking Energy in its application to the Scottish Land Court for permission to proceed with a wind farm development on central Mainland Shetland, much of which is subject to crofting tenure. The development will consist of 103 wind turbines with a consented total capacity of up to 457 megawatts. The wind farm will be located on land held under a mixture of private and public ownership.

US wind energy capacity tops 90 gigwatts, with 38GW more still to come - Compelo

US wind energy capacity continues to grow as the country's latest installation of 612 megawatts (MW) brings its total to more than 90 gigawatts (GW), according to a new report. The American Wind Energy Association's research showed this is set to increase at an exponential rate, with a further 38GW under construction or in advanced stages of development today.

Double time for Siemens Gamesa in India - ReNews

Siemens Gamesa has won an order from ReNew Power for two wind farms with a combined capacity of 177MW in the Indian states of Gujarat and Maharashtra. The manufacturer will supply, erect and commission 48 of the 2.1-122 model for a 100.8MW project in Kutch district, in the state of Gujarat and 38 units of 2.0-114 machines for a 76MW project in Osmanabad district, Maharashtra.

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:

- A further £215m of investment for the UK's internationally-renowned Catapult innovation centres has been announced as part of the government's modern Industrial Strategy.
- €2.5m from the Atlantic Arc Blue-GIFT (Blue Growth and Innovation Fast Tracked) is available to support ocean energy demonstration over 36 months. A series of test site access vouchers will be offered to support testing of devices and subsystems at test centres across Europe.
- The EU-funded MaRINET2 project has launched its third call for applications. Successful applicants will receive free access to a world-leading network of testing and research infrastructures. The call is open to offshore energy technology developers, including wind, wave and tidal energy at system and component level. It is open until 15 December 2018.