TETHYS BLAST

June 1, 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 Tethys Wind Webinar

An upcoming Tethys webinar will showcase the content and resources available on Tethys, with a focus on wind energy. Whether you are new to Tethys or have been involved for years, you are sure to learn something new. The webinar will be on 25 June 2018 at 16:00-17:00 UTC (9am PDT, 12pm EDT, 5pm BST). Login instructions are available on Tethys.

Annex IV Workshop at ICOE

OES-Annex IV invites you to a workshop in Cherbourg, France on June 12th from 9am-12:30pm (CEST) in conjunction with the International Conference on Ocean Energy (ICOE). The workshop focuses on ways to "transfer" data, information, and learning on environmental effects from early MRE projects to extend learning from these early projects and to reduce the high costs of environmental monitoring and accelerate consenting for future projects. To register, email mikaela.freeman@pnnl.gov. More information on the workshop can be found here.

Marine Energy Data

Do you use data and information associated with marine energy? Please help the US Department of Energy national laboratories develop the most useful system for storing and discovering data. Please take our survey at https://goo.gl/RkJ3n5.

MHK Maritime Markets Report

The US Department of Energy Waterpower Technologies Office has published a report on 12 maritime markets that represent potential opportunities for providing marine energy for new and emerging markets, most smaller than utility scale electricity market. They are seeking comments and input on the content. Please download the report and comment on any portions of the report you like; the deadline for online comments has been extended to July 21st.

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:

Do birds in flight respond to (ultra)violet lighting? – May et al. 2017

> Concerns for bird collisions with wind turbines affect the deployment of onshore and offshore wind-power plants. To avoid delays in consenting processes and to streamline the construction and operation phase, functional mitigation measures are required which efficiently reduces bird mortality. Vision is the primary sensory system in birds, which for a number of species also includes the ultraviolet spectrum. Many bird species that are known to collide with offshore wind turbines are sensitive in the violet or ultraviolet spectrum.

Understanding the Effectiveness of Acoustic Deterrent Devices on Minke Whale (*Balaenoptera acutorostrata*), A Low Frequency Cetacean – McGarry et al. 2017

> Increasing scale and complexity of offshore wind farms (OWF) and on-going concern for European Protected Species (EPS) has led to interest in identifying alternative mitigation strategies to commonly used visual observation and acoustic detection methods for marine mammals. Acoustic Deterrent Devices (ADDs) have been identified as a potentially effective tool for a number of small cetacean species, but research has been lacking for some other key species that occur within prospective OWF sites.

Impacts of onshore wind energy production on birds and bats: recommendations for future life cycle impact assessment developments – Laranjeiro et al. 2018

> Models for quantifying impacts on biodiversity from renewable energy technologies are lacking within life cycle impact assessment (LCIA). We aim to provide an overview of the effects of wind energy on birds and bats, with a focus on quantitative methods. Furthermore, we investigate and provide the necessary background for how these can be integrated into new developments of LCIA models in future.

Observing Fish Using Underwater Camera at the Test Site before Installing Ocean Power Generation – Yoshida et al. 2017

> Assessment of local ocean environment is significant when devices of marine renewable energy are installed at a demonstration site. A concern about how these devices affect the existence of fish is remained among local fishermen. To confirm variation of fish before and after installing the devices of marine renewable energy, we investigated fish using an underwater camera before installation as a main objective of this paper. First, fish-eye video camera was tested to monitor in a fish cage off Kamaishi city, Iwate prefecture, Japan. We aimed to observe the abundance of fish and to specify the species of fish.

Wind Energy's Impacts on Birds in South Africa: A Preliminary Review of the Results of Operational Monitoring at the First Wind Farms of the Renewable Energy Independent Power Producer Procurement Programme in South Africa – Ralston-Paton et al. 2017

Wind turbines can have both positive and negative environmental effects, and these impacts are likely to vary according to the local context. This report is the first of its kind for South Africa – it summarises the results of monitoring birds at eight wind farms. Monitoring was largely conducted according to standard procedures outlined in BirdLife South Africa and the Endangered Wildlife Trust's Best Practice Guidelines for assessing and monitoring the impact of wind-energy facilities on birds in southern Africa (*Best Practice Guidelines*). Post-construction phase monitoring was conducted for a minimum of one year, and for no more than two years at all wind farms in the study. No clear evidence for disturbance or displacement was found.

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. ORJIP wishes to make you aware of the following opportunities:

- The EU-funded MaRINET2 project has opened registration to ten short courses for industry and academic researchers in the offshore renewable energy sector.
- The FORESEA (Funding Ocean Energy through Strategic European Action) programme has launched its 4th call for proposals, due June 29.

News and Current Events

Marine Renewable Energy

Crown Estate Scotland extends Nova's Shetland seabed lease – Ocean Energy Europe

Tidal energy leader Nova Innovation has secured an extension of its seabed lease at the Shetland Tidal Array. Crown Estate Scotland has granted an extension to Nova's existing seabed lease at Bluemull Sound in Shetland, increasing the capacity of the site lease from 0.5MW to 2MW. The extension will also see the current lease period extend until 2041. The lease extension builds on the successful operation of Nova's Bluemull Sound turbines over the last two years.

Life DemoWave buoys reach installation site – Marine Energy Biz

> Two wave energy buoys, built as part of the EU-backed Life DemoWave project, have been transported to Punta Langosteira where they will shortly be deployed for trials. The buoys arrived at the site located in Galicia, northwestern Spain, on May 21, 2018, ahead of installation planned for the coming weeks, Life DemoWave project team informed. The devices – two oscillating water column type of wave energy converters rated at 25kW each – will be tested to demonstrate the viability of using wave energy converters for power production.

Flasc – a renewable energy storing system project – Malta Independent

> Flasc, a renewable energy storing system stemming from a project financed by the Malta Council for Science and Technology, was launched last week. Flasc is an interface between offshore renewables, solar, wind or wave energies, and uses compressed air for energy storage. Through storing the energy in the form of a pressurised fluid, the intermittent output of green renewable energy is smoothened and stored for a short period of time to better supply energy at peak hours.

University of Limerick Launches Robot for Use in Marine Renewable Energy Sector – Irish Tech News

> University of Limerick (UL) unveiled a unique €2-million underwater robot at the docks in Limerick city today. The Remotely Operated Vehicle (ROV) was officially launched by Minister of State for Trade, Employment, Business, EU Digital Single Market and Data Protection, Pat Breen TD. The Science Foundation Ireland (SFI) funded ROV Étaín can operate in challenging wind, wave, and tidal conditions and will be used to inspect, repair and maintain Marine Renewable Energy (MRE) facilities.

Second Phase of Holyhead Deep Installation Now Complete – Renewable Energy Magazine

> Marine energy developer Minesto has completed the second offshore installation phase of its DG500 project in Wales. Having installed the tether, micro grid system buoy and umbilical, all supporting components and systems needed to deliver the power produced by Minesto's first system of the unique Deep Green technology in Utility Scale are now in place. The Holyhead Deep site is in close proximity to the West Anglesey Demonstration Zone, an area which has been identified as a suitable location for installation of marine energy devices in the short to medium term.

Wind Energy

In Landmark Day, East Coast States Secure 1.2 GW of Offshore Wind for US – Renewable Energy World

> Massachusetts and Rhode Island today selected two offshore wind projects for development, securing a total of 1.2 GW of offshore generating capacity along the East Coast. "With today's landmark decisions, Massachusetts and Rhode Island are ready to pioneer large-scale offshore wind development that will light the way for our industry and nation," Tom Kiernan, CEO of the American Wind Energy Association, said in a statement.

Floating wind turbine developer SeaTwirl teams up with Siemens – Renewables Now

> SeaTwirl AB, the Sweden-based developer of a vertical-axis floating wind turbine, has joined forces with German engineering group Siemens AG to further advance its product. The two companies have entered into a cooperation agreement that should help SeaTwirl achieve its goal of launching a commercial size turbine in 2020.

Proposals launched for new offshore wind in Scotland's seas – Crown Estate Scotland

> Crown Estate Scotland has unveiled proposals to lease seabed to encourage a new generation of offshore wind projects in Scotland's waters. The paper outlines the draft process and asks those interested to feed back to help shape the final approach. Projects will have to be sited in areas identified in Marine Scotland's forthcoming Sectoral Marine Plan for Offshore Wind.

Luxcara opens 111.2MW wind farm in Norway – Power Technology

> Germany's asset management company Luxcara has officially opened a wind farm comprising 33 turbines in Egersund, Norway. The new farm has the capacity to generate 111.2MW of clean energy, and is expected to strengthen Norway's commitment to reduce the country's emissions by 40% by 2030. Luxcara managing partner Dr Alexandra von Bernstorff said: "Opening the Egersund wind farm on schedule demonstrates how important it is to us to respect the needs of the various stakeholders.

'Dawn' of Asia Offshore Wind Boom Lures Japanese Trading Houses – Bloomberg

> Untapped offshore wind is luring Japan's biggest commodity houses to invest in projects in Taiwan and at home, buoyed by favorable government policies that support development of the clean power. Mitsui & Co. this month bought a stake in the Taiwanese wind developer Yushan Energy Co. that gives the Tokyo-based company a 20 percent stake in a 300-megawatt offshore project that may cost $1.8 billion to develop.