TETHYS BLAST

January 6, 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.

Upcoming Annex IV Webinar

Annex IV is hosting a public webinar on January 18 about recent research of interest to the marine renewable energy industry. This webinar will feature two recent sets of research findings that will further elucidate the importance of EMF from cables and fish interaction with devices to the industry. Login instructions are available on Tethys: https://tethys.pnnl.gov/annex-iv-11.

Call for Abstracts

The Conference on Wind energy and Wildlife impacts (CWW) 2017 will be held in Estoril, Portugal on September 6-8. The call for abstracts is now open and will run until February 15, 2017. Submit your abstract here.

The European Wave and Tidal Energy Conference (EWTEC) 2017 will be held in Cork, Ireland on August 27-September 2. The call for abstracts closes today, January 6, 2017. Submit your abstract here.

Altamont Pass Symposium

In conjunction with the Wildlife Society Western Section 2017 Conference, the U.S. Fish and Wildlife Service is hosting a symposium in Reno, Nevada, US on February 6-7, 2017 to present in a series of talks an overview of the history of the Altamont Pass Wind Resource Area, its controversies, science, and lessons learned, with the goal of promoting use of the information elsewhere to meet the challenges of balancing increasing wind-energy development with minimizing impacts to wildlife. The cost is $80 early rate ($35 early rate for students, early career, and retirees). More information available here.

New Documents on Tethys

New documents 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 Sound Approach to Assessing the Impact of Underwater Noise on Marine Fishes and Invertebrates - Hawkins & Popper 2016

> Increasing attention is being paid to the ecological consequences of underwater noise generated by human activities. There is particular concern over the extension of these activities into previously undeveloped areas of the oceans, including Polar Regions and areas of coral reef habitat. Most of the concern by regulators and others has focussed upon effects upon marine mammals and other protected species. However, examining the impacts upon the overall ecology of affected habitats is also important as it may be dominated by effects upon the far larger biomasses of fishes and invertebrates, which do not have the same degree of legal protection.

A Synchronized Sensor Array for Remote Monitoring of Avian and Bat Interactions with Offshore Renewable Energy Facilities - Suryan et al. 2016

> A major environmental concern and potential market barrier for expansion of wind energy is bird and bat mortality from impacts with turbine blades, towers, and nacelles. Carcass surveys are the standard protocol for quantifying mortality at onshore sites. This method is imperfect, however, due to survey frequency at remote sites, removal of carcasses by scavengers between surveys, searcher efficiency, and other biases as well as delays of days to weeks or more in obtaining information on collision events. We developed and experimentally tested an array of sensors that continuously monitors for interactions (including impacts) of birds and bats with wind turbines.

Offshore Renewable Energy and Nature Conservation: The Case of Marine Tidal Turbines in Northern Ireland - Haslett et al. 2016

> Technological advances towards offshore renewable energy sources have not been matched by a clear understanding of the environmental impacts of the new devices, with most existing research concentrated on the impacts of offshore wind farms. Decisions often continue to be made without the support of a clear evidence base. Here we use an underwater tidal turbine, SeaGen, constructed and operated within the Strangford Lough marine protected area in Northern Ireland, as a case study to explore the potential impacts of the turbine as points of concern and argumentation in the decision-making processes.

Massachusetts Study on Wind Turbine Acoustics - Resource Systems Group Inc. 2016

The Research Study on Wind Turbine Acoustics (RSOWTA) was launched in the fall of 2012 to advance the understanding of wind turbine acoustics, taking into account the influence of variables such as turbine size, technology, wind speed, topography, and distance from the turbine. In the fall of 2013, the Wind Turbine Technical Advisory Group (WNTAG) was formed as a first step in the process of incorporating the latest research on wind turbine acoustics into policy and regulations. This final report provides additional information on the topics addressed in the interim reports and addresses the following additional topics: low frequency sound and infrasound, tonality, meteorological data, and standards analysis.

Canada's Advantage: A Vision for Renewable Electricity in Canada - Haffner & Vriesendorp 2016

The successful Paris climate change negotiations in December 2015 marked a turning point: the world is committed to addressing climate change. Canada has set a target of reducing economy-wide emissions by 30 per cent below 2005 levels by 2030, and it also recognizes scientific findings that global reductions of at least 80 per cent will be required by 2050 to limit climate change. Achieving such deep reductions in Canada will not be easy, especially given significant emissions from its transportation and oil sectors.

Events:
ORJIP Ocean Energy (http://www.orjip.org.uk/) 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 provided content input to this Tethys Blast.

Industry News

Marine Renewable Energy

FORESEA programme announces support for ocean energy technology testing

Early in November, the EU backed Funding Ocean Renewable Energy through Strategic European Action (FORESEA) Programme confirmed that it had awarded a 'recommendation for support' to several marine renewable energy technology developers in an effort to help them commercialise their systems by providing free access to North-West Europe's world-leading network of open-sea test centres.

US Feds dangle $12M for wave energy development, and Oregon is interested

Oregon was tapped last week for a grid-connected wave energy test center, but what about projects to fill the facility? The U.S. Department of Energy this month announced it will make up to $12 million available to back development and open-water testing of wave energy converters "that show high potential to succeed commercially in large utility-scale markets and compete with other forms of energy generation in the longer term."

What Are the EU Plans for Ocean Energy?

In the wake of the Paris climate change talks last December, it's clear that the time for change is now when it comes to amending our polluting habits and reducing our carbon footprint. With 193 leaders from all over the world agreeing to curb global warming by a maximum of 2°C and a preferred target of 1.5°C, governments and companies everywhere are attempting to wean themselves off of fossil fuels. The EU is hoping to meet its own ambitious targets by investing heavily in ocean energy, among other avenues of renewable energy production.

DNV GL issues Statement of Feasibility to Tocardo T2s tidal energy turbine

Independent certification body DNV GL has awarded Tocardo's innovative bi-directional open rotor T2s tidal energy converter with a Statement of Feasibility. Tocardo is an inventive technology developer, based in the Netherlands, offering concepts such as the patented bi-blade bearing system, which allows efficient operation in ebb and flood tides.

Wind Energy

NJ offshore wind project loses DOE funding

The U.S. Department of Energy withdrew its $47 million grant commitment to Fishermen's Energy LLC, after the stalled New Jersey offshore wind energy project passed a deadline to find a power purchaser. The six-turbine, 24 MW project, planned for state waters off Atlantic City, once appeared to be in line as an early East Coast demonstration of a nascent U.S. offshore wind industry. But changing political fortunes and disputes with utility regulators have held the project back.

Vattenfall revives plan to extend UK offshore wind farm

Swedish energy company Vattenfall plans to extend its 300-megawatt Thanet offshore wind farm off the coast of Kent in southern England, it said, after scrapping the idea in 2010 due to grid constraints. The extension would include an additional 34 wind turbines on the edges of the existing site, or up to 340 MW of capacity, a company spokesman told Reuters.

S. Korea to Create Offshore Wind Farm in Saemangeum Area

South Korea will create its largest offshore wind farm in the Saemangeum area on the southwest coast. The government said on Monday that it will spend 440 billion won to build an offshore wind farm at Saemangeum Lake and the Saemanguem Industrial Complex inside the Saemangeum breakwater. Manufacturing facilities related to the farm will be set up at the industrial complex, while 28 wind power generators, with a capacity of 99 point-two megawatts, will be built at the lake.

Enercon tops 20GW in Germany

Turbine manufacturer Enercon has installed more than 20GW of wind power in Germany. The German company reached the milestone at the end of last year at Wind Energies' Ellwanger Berge wind farm. The project, which is located at Ostalbkreis in Baden-Württemberg, consists of 11 E115 3MW machines.

Galloper offshore wind farm gets 1st foundation

The first wind turbine foundation has been installed at the 336-MW Galloper wind project off Suffolk in UK waters, it was announced Wednesday. All 56 foundations are expected to be in place early next summer, while installation of the 6-MW Siemens turbines is planned to start in the second quarter of 2017.