



Tethys Blast

October 2, 2015

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 offshore 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 renewable ocean energy development.

AWTEC 2016

The Asian Wave and Tidal Energy Conference (AWTEC) will be held 24-28 October 2016 in Singapore. Affiliated with EWTEC, the purpose of this conference is to facilitate the transnational and regional sharing of knowledge and understanding from research of wave and tidal renewable energy systems, their interactions with the environment and the identification of barriers to establishing the marine renewable energy industry.

Abstract submissions are due by December 15, 2015. Visit the event page on Tethys for more information: <http://tethys.pnnl.gov/events/3rd-asian-wave-and-tidal-energy-conference-awtec>.

New Documents on Tethys

New documents have been added to Tethys in the last two weeks. These documents have been hand-selected for their relevance to the environmental effects of offshore renewable energy. The listings below are short introductions to several new or popular documents that can be accessed through the accompanying Tethys links:

Guidance to Inform Marine Mammal Site Characterisation Requirements at Wave and Tidal Stream Energy Sites in Wales - Sparling et al. 2015

There is a growing consensus amongst regulators, statutory nature conservation advisors and developers and their environmental consultants that a 'one size fits all' approach to marine mammal site characterisation survey to inform consenting processes for wave and tidal stream projects is not fit for purpose. Furthermore, it is generally recognised that they may not always provide useful information for underpinning environmental assessments. There is a need to tailor pre-application surveys to a) provide specific information in relation to the particular types of impacts posed by the project, and b) to the likely degree of risk of significant impacts to marine mammals posed by the project.

NYSERDA Environmental Research Program Plan Research Area 4: Marine Wind and Wildlife - New York State Energy Research Development Authority 2015

This research plan was developed with input from state and federal regulators, academia, nonprofit organizations, industry, and other stakeholders. It identifies environmental information gaps and research needs for marine wind energy development offshore of New York State. Specifically, the aim of this report is to identify immediate information needs, and ensure that offshore research and monitoring efforts are orchestrated to address the data gaps of greatest need for New York State at this time.

Optimising Array Form for Energy Extraction and Environmental Benefit (EBAO) - Smith 2015

The EBAO project was developed to establish robust modelling methodologies that could be embedded into the marine energy project design cycle in order to protect, and even enhance, the natural environment while enabling array designs to maximise energy production. To achieve this, a unique consortium was assembled comprising marine environmental modellers with expertise covering the physical environment, marine ecosystems, acoustic propagation and marine mammal behaviour.

Offshore Wind Farms in the Southwestern Baltic Sea: A Model Study of Regional Impacts on Oxygen Conditions - Janßen et al. 2015

Offshore wind farm piles are secondary hard substrate and hence an attractive colonization surface for many species. Especially in marine areas dominated by soft sediments, wind farms may lead to a significant increase in biomass by enlarging habitats from benthos layers into the pelagic column. A concomitant effect is the increase in oxygen consumption through respiration of living biomass and especially through degradation of dead biomass, mainly *Mytilus edulis*. This leads to impacts on the regional oxygen budget, and local anoxia in the direct vicinity of wind farm piles has been documented in scientific literature.

Noise-Induced Hearing Loss in Marine Mammals: A Review of Temporary Threshold Shift Studies from 1996 to 2015 - Finneran 2015

One of the most widely recognized effects of intense noise exposure is a noise-induced threshold shift—an elevation of hearing thresholds following cessation of the noise. Over the past twenty years, as concerns over the potential effects of human-generated noise on marine mammals have increased, a number of studies have been conducted to investigate noise-induced threshold shift phenomena in marine mammals.

Current News

Current news articles of international interest on offshore renewable energy include:

BOEM (US) Measures Environmental Effects of Offshore Wind Turbine Construction

The Bureau of Ocean Energy Management (BOEM) has begun a new study to conduct real-time, independent observations and data collection during construction of offshore wind turbines. According to BOEM, field work took place in August and September through the Real-Time Opportunity for Development Environmental Observations (RODEO) study, which is taking direct measurements of visual effects, sound produced by various activities, and seafloor disturbances caused by cabling or anchoring.

Tidal Energy Firm Minesto gets £2.5m Funding Boost to Help Develop Underwater Kites Installation Near Anglesey

A Swedish company that plans to develop a tidal energy project off the coast of Anglesey has received a £2.5m funding boost. Marine energy company Minesto, based in Gothenburg, Sweden, plans to use innovative underwater kites tethered to the sea bed to harness the energy from passing tidal currents.

E.on UK Cuts Ribbon on 219-MW Humber Gateway Offshore Wind Farm

The UK unit of German utility E.on SE (ETR:EOAN) announced on Wednesday the official opening of its 219-MW Humber Gateway wind farm off the British coast. E.on UK Plc produced first power from the offshore wind park in end-February and the plant became fully operational in May. It consists of 73 units of 3-MW Vestas turbines, which together are able to generate enough power for about 170,000 households.

The Crown Estate Launches Small-Scale MHK Leasing Program

The Crown Estate, one of the largest property owners in the United Kingdom, has launched a program of offshore leasing for small-scale marine hydrokinetic (MHK) testing and demonstration projects less than 3 MW. The program opened on Sept. 21 in a MHK market projected to be worth a possible US\$6.85 billion in exports alone by 2050.