



June 24, 2016

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.

Next WREN Webinar

WREN is hosting a public webinar on June 28 about Wind Energy Development Impacts on Marine Environment. Webinar information is available on Tethys: <http://tethys.pnnl.gov/wren-7>.

Eagle Impact Minimization Technology FOA

The US Department of Energy's Wind Program issued a Funding Opportunity Announcement (FOA) to advance the readiness of technologies intended to reduce eagle mortalities at operational wind turbines or wind facilities. This FOA would aim to expand technical options available for further development and testing and support the field testing and evaluation of near-commercial technologies. If successful, it will provide wind plant owners and operators with viable and cost-effective tools to reduce eagle impact risks and ease regulatory hurdles. [Register for the FOA webinar](#) on Monday, June 27 from 11–12pm EDT.

2016 INORE North American Symposium

Young professionals involved in offshore renewable energy are invited to INORE's annual North American Symposium at the University of Maine from October 29 - November 2. Abstracts are due by July 31, 2016. To apply, please visit www.bit.do/Inore2016NorthAmerica.

New Documents on Tethys

A total of 8 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 wind and marine renewable energy. The listings below are short introductions to several new or popular documents that can be accessed through the accompanying Tethys links:

[Ground-Level Climate at a Peatland Wind Farm in Scotland is Affected by Wind Turbine Operation](#) - Armstrong et al. 2016

The global drive to produce low-carbon energy has resulted in an unprecedented deployment of onshore wind turbines, representing a significant land use change for wind energy generation with uncertain consequences for local climatic conditions and the regulation of ecosystem processes. Here, we present high-resolution data from a wind farm collected during operational and idle periods that shows the wind farm affected several measures of ground-level climate.

[Multiple-Pulse Sounds and Seals: Results of a Harbor Seal \(*Phoca vitulina*\) Telemetry Study During Wind Farm Construction](#) - Hastie et al. 2016

Offshore construction and survey techniques can produce pulsed sounds with a high sound pressure level. In coastal waters, the areas in which they are produced are often also used by seals, potentially resulting in auditory damage or behavioral avoidance. Here, we describe a study on harbor seals during a wind farm installation off southeast England. The study used GPS/global system for mobile communication tags on 23 harbor seals that provided distribution and activity data.

[Offshore Wind Farm Site Selection Study around Jeju Island, South Korea](#) - Kim et al. 2016

This study suggests strategies for conducting an offshore wind farm site selection and evaluates feasible offshore wind farm sites in the coastal areas of Jeju Island, South Korea. The site selection criteria are classified into four categories: energy resources and economics, conservation areas and landscape protection, human activities, and the marine environment and marine ecology.

[Harbor Seal - Tidal Turbine Collision Risk Models. An Assessment of Sensitivities](#) - Wood et al. 2016

There has been growing interest in generating electricity from tidal currents, but there are still concerns about the potential environmental effects of tidal turbines. One of these concerns is the risk of collision by marine mammals with spinning tidal turbines. Most estimates of marine mammal collision risk with tidal turbines have used either an Encounter Risk Model (ERM) which is based on a predator-prey model, or a Collision Risk Model (CRM) which was first developed for predicting bird collisions with wind turbines.

Renewable Energy in SITU Power Cable Observation - Love et al. 2016

It is likely that for the foreseeable future, offshore renewable energy technologies (e.g., wind and wave) will focus on the generation of electricity. These technologies harness energy from an array of individual devices and, through power cables, send electricity to shore via cables. These cables will transmit either alternating current or direct current, and, if the cable uses alternating current, this current will generate both electric and magnetic fields.

Current News

Current news articles of international interest on wind and marine renewable energy include:

Atlantis Resources announces milestone for marine energy project

Tidal power developer Atlantis Resources has connected its MeyGen array to the 33 kV Ness of Quoy's distribution network, marking a significant technical milestone for the Scottish marine hydrokinetic installation. The underground cable, installed by network operator Scottish Hydro Electric Power Distribution plc (SHEPD), is one of the longest such lines in the United Kingdom at more than 25 km in length.

India Proposes Auction For 1 GW Of Wind Energy Projects

India may soon launch its first-ever auction for wind energy projects as it plans to keep the investors interested even as some crucial financial incentives are set to expire by early next year. The Ministry of New & Renewable Energy has issued a proposal to auction 1 GW of wind energy capacity across various states in India. The ministry has called for suggestions and comments from stakeholders about the same.

Dutch minister opens 144-MW Westermeerwind offshore wind farm

The 144-MW Westermeerwind wind farm in Dutch waters was officially opened on Tuesday by the minister of economic affairs Henk Kamp and the project initiators, Tjitte de Groot and Peter Meulendijks. The offshore wind park is capable of generating enough power to cover the annual consumption of some 160,000 homes. About 99% of the output is bought via Eneco by the Dutch Railways.

Tariff issues stall Philippine ocean energy project

Has the Philippines lost the opportunity to be the first country in the world to commercialise ocean thermal energy conversion (OTEC)? In 2011, the Department of Energy (DOE) announced that the first OTEC plant in Zambales province will be operational in 2018. That would have made the Philippines the first country to scale up OTEC technology.

The largest wind turbine in the world is being built in Denmark - capable of powering 10,000 homes

Denmark already holds a few records for wind power, but two Danish wind power companies really raised the bar this week. LM Wind Power and Adwen are jointly developing the largest wind turbine in the world, and the first of its gigantic wind blades was just finished. The blade measures a staggering 88.4 meters. With a rotor diameter of 180 meters LM's monolithic turbine will not only be the largest wind turbine in the world, but also one of the largest mechanical structures on Earth.

California tries to capture offshore wind energy

Offshore wind farms are finally coming to the United States but don't expect to see spinning blades off the shores of California any time soon. While the industry predicts a clean-energy bonanza from the West Coast's steady and powerful breezes that may go a long way to help the state meet its ambitious clean energy mandates, reaping the wind must first overcome a whirlwind of technological, economic and political challenges.