



Tethys Blast

December 26, 2014

Welcome to another December edition of the bi-weekly Tethys Blast! Happy Holidays!

Tethys Blasts will keep you updated with new information available on Tethys, new features on 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.

New Articles on Tethys

A total of 10 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 popular documents that can be accessed through the accompanying Tethys links:

[Assessing Environmental Impacts of Offshore Wind Farms: Lessons Learned and Recommendations for the Future](#) – Bailey et al

Offshore wind power provides a valuable source of renewable energy that can help reduce carbon emissions. Technological advances are allowing higher capacity turbines to be installed and in deeper water, but there is still much that is unknown about the effects on the environment. Here we describe the lessons learned based on the recent literature and our experience with assessing impacts of offshore wind developments on marine mammals and seabirds, and make recommendations for future monitoring and assessment as interest in offshore wind energy grows around the world.

Integrating Ocean Wave Energy at Large-Scales: A Study of the US Pacific Northwest – Parkinson et al

This paper assesses operational impacts of large-scale ocean wave energy development in the US Pacific Northwest. High-resolution wave power production and forecasting data is synthesized for wave energy arrays spatially-distributed along the region's coast. Geographic diversification is found to limit the rate at which production variability scales with installed capacity, over timescales ranging from minutes to hours. The reduced variability makes it easier to forecast short-term wave generation accurately.

Offshore Energy Structures – Karimirad

Due to the rapid growth of offshore renewable energy structures such as offshore wind and ocean energy devices (such as wave energy converters and tidal current turbines), the science, technology and engineering in this field are seeing a phenomenal development. However, the needed competencies and knowledge are not available in a single reference. Particularly, for hybrid marine playforms, where wind and wave energy devices are combined to use possible synergies through proper combinations, limited information is available.

Guidance on the Assessment of the Impact of Offshore Wind Farms: Methodology for Assessing the Marine Navigational Safety Risks of Offshore Wind Farms – DTI

The Department of Trade and Industry (DTI) have produced this document, with the co-operation of the Department for Transport (DFT), as a Methodology for Assessing the Marine Navigational Safety Risks of Offshore Wind farms. Its purpose is to be used as a template by developers in preparing their navigation risk assessments, and for Government Departments to help in the assessment of these.

Experimental Results on Power Absorption from a Wave Energy Converter at the Lysekil Wave Energy Research Site – Lejerskog et al

Power generation from wave power has a large potential to contribute to our electric energy production, and today, many wave power projects are close to be commercialized. However, one key issue to solve for many projects is to decrease the cost per installed kW. One way to do this is to investigate which parameters that have a significant impact on the wave energy converters (WEC) performance.

Current News

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

[Atlantis tidal energy schemes power forward in Scotland and Canada](#)

Plans by Atlantis Resources to deploy tidal power devices off the coasts of Scotland and Canada have taken two significant leaps forward in the past few days. The company announced yesterday that it had secured a feed-in tariff agreement with the Nova Scotian government to deploy three of its AR-1500 turbines at the Fundy Ocean Research Centre for Energy (FORCE).

[LIPA Says No to Offshore Wind Farm](#)

A proposed offshore wind farm to be situated 30 miles east of Montauk is in doubt in the wake of the Long Island Power Authority's rejection of the project, announced at a Dec. 17 meeting of its board of trustees. The wind farm, which was to be constructed and operated by the Rhode Island company Deepwater Wind, was prohibitively expensive, according to LIPA officials. LIPA will, however, pursue 11 land-based solar farms in Suffolk County, though none in the Town of East Hampton. When completed and operational, those installations are projected to provide 122 megawatts of power, a figure that falls short of the 280 megawatts of clean, renewable energy the authority had previously announced as a goal.

[269 Sunken Turbines To Make Scotland Home To World's Largest Tidal Farm](#)

The world's largest tidal energy project, capable of powering nearly 175,000 homes in the U.K. with 400 megawatts of power, will break ground next month in northeast Scotland. Atlantis, majority owner of the MeyGen project, announced that its flagship project had met all the conditions required to start drawing down finance through the U.K.'s Renewable Energy Investment Fund. The completed project will have 269 sunken turbines, according to Atlantis, which expects to have about 60 of these installed and delivering power by 2020.

[DONG Energy confirms Burbo Bank offshore wind farm extension](#)

DONG Energy's decision to push ahead with a 258MW extension to its Burbo Bank offshore wind farm shows how attractive the UK is to clean energy investors, Ed Davey has said. The Energy and Climate Change Secretary welcomed the Danish utility's announcement over the weekend that it is to start the construction of 32 turbines eight kilometres off the coast in Liverpool Bay, which are expected to be commissioned in 2017.