



Tethys Blast

December 12, 2014

Welcome to the first December edition of the bi-weekly Tethys Blast!

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 13 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:

[Using Hydroacoustics to Understand Fish Presence and Vertical Distribution in a Tidally Dynamic Region Targeted for Energy Extraction](#) – Viehmann et al

The use of tidal currents by fishes for movements to and from onshore spawning, foraging, and nursery grounds is well documented. However, fishes' use of the water column in tidal currents frequently exceeding $1.5 \text{ m} \cdot \text{s}^{-1}$ is largely unknown. With growing interest in extracting energy from the tides, understanding animal use of these dynamic environments has become essential to determining environmental effects of tidal energy devices.

Review of Environmental Data Associated with Post-Consent Monitoring of Licence Conditions of Offshore Wind Farms – MMO

This report examines outcomes and conclusions from monitoring regimes undertaken as a result of statutory requirements imposed on developers of OWFs in UK waters through consent conditions. Consent conditions are typically developed between the regulator (advisors and stakeholders) and developer as a project evolves. The terms of the consent conditions are translated into monitoring specifications which are required to be undertaken for defined durations. The consent conditions require that the outcomes of these monitoring programmes are subsequently reported to the regulator.

Rights and Ownership in Sea Country: Implications of Marine Renewable Energy for Indigenous and Local Communities – Kerr et al

The adoption of UN Convention of the Law of the Sea in 1982 created optimism for indigenous peoples and marginalised coastal communities that they may (re)gain control of, or improve access to, marine resources. However concerns were also raised that opening the seas to industrial development might create threats for traditional users of the sea. Twenty-five years later the potential enclosure of large areas of coastal seas to marine renewable energy development is reigniting debates about marine governance, access and control over marine resources.

Survival and Behavioral Effects of Exposure to a Hydrokinetic Turbine on Juvenile Atlantic Salmon and Adult American Shad – Castro-Santos & Haro

This paper describes a series of experiments designed to measure the effect of exposure to a full-scale, vertical axis hydrokinetic turbine on downstream migrating juvenile Atlantic salmon ($N = 175$) and upstream migrating adult American shad ($N = 208$). Controlled studies were performed in a large-scale, open-channel flume, and all individuals approached the turbine under volitional control.

Greenhouse Gas Emissions from Electricity Generated by Offshore Wind Farms – Reimers et al

For wind power generation offshore sites offer significantly better wind conditions compared to onshore. At the same time, the demand for raw materials and therefore the related environmental impacts increase due to technically more demanding wind energy converters and additional components (e.g. substructure) for the balance of plant. Additionally, due to environmental concerns offshore wind farms will be sited farshore (i.e. in deep water) in the future having a significant impact on the operation and maintenance efforts (O&M).

Current News

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

[1.2 Gigawatt North Sea Offshore Wind Farm Receives Green Light](#)

The UK Government has granted approval for the development of Hornsea Project One, a 1.2 GW offshore wind farm to be located in the North Sea which will be the first in a possible 4 GW offshore wind farm zone. The announcement came Wednesday from the office of the Secretary of State, and when the Hornsea project begins operation in 2020, it is expected to generate enough electricity to meet the needs of approximately 800,000 UK homes.

[Magallanes Floating Tidal Turbine Installed At European Marine Energy Centre](#)

Magallanes, a Spain-based tidal turbine company, has successfully finished the installation of one of its “ATIR” floating turbine prototypes at the European Marine Energy Centre (EMEC), according to recent reports. The 1:10 scale ATIR prototype turbine was installed at the EMEC Shapinsay Sound testing site, with support coming from the EU-funded Marinet project.

[Ulster’s First Offshore Wind Farm Scrapped](#)

Northern Ireland’s first offshore wind farm has become the latest renewable project to be scrapped following a change in the UK subsidy scheme. Under the original plans, the £1bn project off the east coast of the province would have supplied almost 20 per cent of its electricity

[Alstom, GDF Suez Selected for Pilot Raz Blanchard Tidal Energy Project](#)

Engineering company Alstom and French utility GDF Suez have been selected to equip a pilot tidal energy farm at Raz Blanchard, which is located near the port of Cherbourg in France's Lower Normandy region. The announcement was made following the group's selection by French Prime Minister Manuel Valls based on analysis conducted by France's Agency for Environment and Energy Management, ADEME.