



Tethys Blast

June 26, 2014

Welcome to the June edition of the “Tethys Blast”! This is the continuation of the News Blast, expanding the scope of information available. A new Tethys Blast will be sent every 2-4 weeks, unless you choose to unsubscribe; instructions to unsubscribe are at the bottom of this email.

The Tethys Blasts will keep you updated on 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 48 new documents have been added to Tethys in the last month! These documents have been hand-selected for their relevance to the environmental effects of offshore renewable energy. The listings below are short introductions to the full documents that can be found through the accompanying Tethys links:

EIMR International Conference

The EIMR (Environmental Impacts of Marine Renewables) conference was held April 30 - May 1 2014 on the Isle of Lewis in the Hebrides, Scotland, UK. Two hundred scientists from the UK, Europe, and North America came together at the An Lanntair Arts Centre in Stornoway, for two days of oral and poster presentations, with a series of workshops on closely related topics rounding out the week, including an Annex IV workshop.

<http://tethys.pnnl.gov/eimr-international-conference-2014>

Underwater Active Acoustic Monitoring Network for Marine and Hydrokinetic Energy Projects

This project saw the completion of the design and development of a second generation, high frequency (90-120 kHz) Subsurface-Threat Detection Sonar Network (SDSN). The system was deployed, operated, and tested in Cobscook Bay, Maine near the site the Ocean Renewable Power Company TidGen™ power unit...

<http://tethys.pnnl.gov/publications/underwater-active-acoustic-monitoring-network-marine-and-hydrokinetic-energy-projects>

Environmental Impacts of Offshore Wind Farms in the Belgian Part of the North Sea: Learning from the Past to Optimise Future Monitoring Programmes

Belgium has allocated a 238 km² zone in the Belgian part of the North Sea (BPNS) to offshore renewable energy production, for example offshore wind farms. The first wind turbines were built in 2008. At present (October 2013, 109 turbines are operational in the BPNS. The installed wind turbines differ in foundation type and generated power: while the first six wind turbines have gravity based foundations (GBF), the majority are monopiles (55) followed by jacket foundations (48). The power that can be generated ranges between 3 and 6.15 megawatt (MW) per wind turbine...

<http://tethys.pnnl.gov/publications/environmental-impacts-offshore-wind-farms-belgian-part-north-sea-learning-past-optimise>

Environmental Risk Evaluation System – An Approach to Ranking Risk of Ocean Energy Development on Coastal and Estuarine Environments

The pressure to develop new and renewable forms of energy to combat climate change, ocean acidification, and energy security has encouraged exploration of sources of power generation from the ocean. One of the major challenges to deploying these devices is discerning the likely effects those devices and associated systems will have on the marine environment...

<http://tethys.pnnl.gov/publications/environmental-risk-evaluation-system-approach-ranking-risk-ocean-energy-development>

Rearing in a Distorted Magnetic Field Disrupts the Map Sense of Juvenile Steelhead Trout

We used simulated magnetic displacements to test orientation preferences of juvenile steelhead trout (*Oncorhynchus mykiss*) exposed to magnetic fields existing at the northernmost and southernmost boundaries of their oceanic range. Fish reared in natural magnetic conditions distinguished between these two fields by orienting in opposite directions, with headings that would lead fish towards marine foraging grounds...

<http://tethys.pnnl.gov/publications/rearing-distorted-magnetic-field-disrupts-map-sense-juvenile-steelhead-trout>

Most Recent Blog Article

A new blog post will be available on *Tethys* every 2-4 weeks, so please rate and comment on the blog to engage with your colleagues. If you are interested in submitting a blog article, reply to tethys@pnnl.gov. Check out our most recent article:

US Department of Energy Announces Funding for Three Pioneering Offshore Wind Projects

Currently, Europe is the world-leader in offshore wind energy developments, with the first offshore wind farm installed in Denmark in 1991. Since then, offshore wind energy projects in Europe have been supplying significant amounts of power to European grids, with the United Kingdom having the largest capacity of offshore wind farms, and Denmark and Belgium ranking second and third, respectively. To date, the US does not operate any offshore wind turbines in US coastal waters, yet there are several offshore wind farms in development. To that end, the US Department of Energy's (DOE) Wind and Water Power Technologies Office is leading the nation's efforts to improve the performance, lower the costs, and accelerate the deployment of wind power technologies.

<http://tethys.pnnl.gov/blog/doe-announces-funding-three-pioneering-offshore-wind-projects>

Current News

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

British Offshore Wind Energy Fund Launched

The British government-backed bank that focuses on green energy projects is launching a new fund. It is dedicated to buying stakes in offshore wind energy in the UK. The Green Investment Bank will put one billion pounds (1.25 billion euros) into projects in the sector, which has been hit by a number of cancellations of such projects in recent months.

<http://www.euronews.com/2014/06/24/british-offshore-wind-energy-fund-launched/>

First Wave Hub Device Now Plugged In

The first device to be plugged into the £30million Wave Hub is now in place. A&P Falmouth has now completed its second major renewables project, after wave energy firm Seatricity's next generation Oceanus 2 device left the docks earlier this week for the Wave Hub.

<http://www.westernmorningnews.co.uk/Wave-Hub-device-plugged/story-21295025-detail/story.html>

Nation's Largest Offshore Wind Energy Area Available

As part of President Obama's Climate Action Plan to create American jobs, develop domestic clean energy resources and cut carbon pollution, Secretary of the Interior Sally Jewell and Bureau of Ocean Energy Management (BOEM) Acting Director Walter Cruickshank joined Massachusetts Governor Deval Patrick to announce more than 742,000 acres offshore Massachusetts will be available for commercial wind energy leasing. The proposed area is the largest in federal waters and will nearly double the federal offshore acreage available for commercial-scale wind energy projects.

<http://www.maritime-executive.com/article/Nations-Largest-Offshore-Wind-Energy-Area-Available-2014-06-19>

Innovative Pendulum-Dynamo for Converting Tidal Energy into Electrical Power

Okayama University's Shinji Hiejima is looking for industrial partners to commercialize his experimentally proven and patented concept of the Hydro-VENUS system for converting tidal energy into electrical power.

<http://phys.org/news/2014-06-pendulum-dynamo-tidal-energy-electrical-power.html>