TETHYS BLAST

February 8, 2019

The bi-weekly Tethys Blast will update you with new information on Tethys, news articles of international interest, and opportunities in wind and marine renewable energy. We hope you find this a valuable tool to keep you connected to colleagues, new research, opportunities, and industry milestones.

New Documents on Tethys

New documents are regularly added to Tethys, hand-selected for their relevance to the environmental effects of wind and marine renewable energy. Short excerpts from new or popular documents are listed below, accessible by the accompanying Tethys links:

Population-Level Effects of Wind Farms on a Desert Lizard – Keehn et al. 2019

> Renewable forms of energy production can have major societal benefits including reduced carbon pollution and decreased dependence on fossil fuels but are not without associated costs. For example, habitat degradation at renewable energy production sites may affect the persistence of wildlife populations. We assessed the effects of wind farms in the San Gorgonio Wind Resource Area near Palm Springs, California, 2013–2015, on local populations of the side-blotched lizard (*Uta stansburiana*).

A systematic review of transferable solution options for the environmental impacts of tidal lagoons – Elliot et al. 2019

> Tidal lagoons are presented as an environmentally friendly alternative to tidal barrages. This does not mean that their environmental impacts can be overlooked. A UK government review recommended a pilot scheme lagoon go ahead, with careful environmental monitoring. Despite recent government rejection of a lagoon scheme, it is still more important than ever to consider environmental solution options for any future lagoon developments.

Renewable Energy Technologies and Migratory Species: Guidelines for sustainable deployment – van der Winden et al. 2015

> In order to plan future renewable energy technologies (RET) in a sustainable way, impacts on migrating species should be minimised. As RET proceed rapidly worldwide, impacts might be serious but on the other hand knowledge on minimising these impacts increases as well. CMS, AEWA and BirdLife International realised this and started a cooperative initiative to present an overview of current knowledge to be used in minimising impacts on migratory species.

Wind Turbine Noise and Sleep: Pilot Studies on the Influence of Noise Characteristics – Morsing et al. 2018

> The number of onshore wind turbines in Europe has greatly increased over recent years, a trend which can be expected to continue. However, the effects of wind turbine noise on long-term health outcomes for residents living near wind farms is largely unknown, although sleep disturbance may be a cause for particular concern. Presented here are two pilot studies with the aim of examining the acoustical properties of wind turbine noise that might be of special relevance regarding effects on sleep.

The influence of maritime spatial planning on the development of marine renewable energies in Portugal and Spain: Legal challenges and opportunities – Salvador et al. 2019

> The objective of this study is to analyse, from a legal point of view, the influence of the transposition of Marine Spatial Planning Directive into both Spanish and Portuguese domestic laws on the development of marine renewable energies in both countries. This article concludes that the Portuguese legal system is more favourable for the development of marine renewable energies than the Spanish legal regime, since the former establishes a more flexible planning system, sets criteria for the prioritisation of marine uses, incorporates trade-off mechanisms, introduces an electronic single-window system and regulates a pilot zone.

News and Current Events

Marine Renewable Energy

SWEL Eyes Wave Device Commercial Deployment – Marine Energy Biz

> Cyprus-based Sea Wave Energy Ltd (SWEL), in collaboration with the University of Cyprus, Department of Mechanical and Manufacturing Engineering, performed a series of experimental tests for its wave energy technology. SWEL has been focused on the design and development of its wave energy converter, the “Wave Line Magnet” (WM).

Private investors to revive Swansea Bay Tidal Lagoon – New Civil Engineer

> Senior officials behind the Tidal Lagoon Swansea Bay project have confirmed that several "leading brands" are lined up to invest in the project. Developer Tidal Lagoon Power's application for a government subsidy to fund the lagoon off the coast of Swansea was rejected by ministers last year.

Waves4Power Developments – Maritime Journal

> Norwegian wave energy developer Waves4Power has announced its plans for the future development of its pioneering wave buoy writes Dag Pike. Designed to extract the energy from waves at exposed and remote sites, a prototype has been on trial at the exposed Runde site off the coast of Norway, and an improved version of their Waves EL 3.1 wave buoy has been renovated and will be installed at the grid connected site.

Basque Startup Takes On The Waves with Tech Patent – Marine Energy Biz

> Wave energy developer Arrecife Energy Systems has patented a system that absorbs the energy of the waves. The team has patented the developed technology at European level, which is an innovation in the field of marine-based renewable energies. The project consists of a floating system similar to a catamaran, whose origin is inspired by the functioning of coral reefs.

Subhub Gets the Go Ahead from Marine Coastguard Agency – QED Naval Limited

> Immediately after the launch of Subhub in mid-January, the QED Naval team succeeded in another major achievement which was the approval and certification of the Subhub to conduct towing operations in UK waters from the Marine Coastguard Agency.

Wind Energy

India issues draft rules to support offshore wind energy leasing – Renewables Now

> The Indian government has issued draft offshore wind energy lease rules for projects that will be developed within the country's Exclusive Economic Zone (EEZ), proposing areas to be allocated through international competitive bidding only.

U.S. Department of Energy Announces $28 Million for Offshore Wind Energy – energy.gov

> The U.S. Department of Energy today announced up to $28 million in funding for a new Advanced Research Projects Agency-Energy (ARPA-E) program, Aerodynamic Turbines, Lighter and Afloat, with Nautical Technologies and Integrated Servo-control (ATLANTIS). ATLANTIS projects will develop new technologies for floating, offshore wind turbines (FOWTs) using the discipline of control co-design (CCD).

Tepco Welcomes Orsted to Japan as Taiwan's Offshore Wind Opportunity Fades – Green Tech Media

> Tokyo Electric Power Company, Japan's largest utility, is wooing Ørsted to its shores, as the leading Danish offshore wind developer ponders its future in Taiwan. Tepco and Ørsted signed a memorandum of understanding last month, while the developer weighed whether to go ahead with 900 megawatts of offshore wind capacity in a wind farm off Taiwan's Changhua County.

Swarms of drones will soon keep tabs on our aging city infrastructure – Digital Trends

> When it comes to the future commercial applications of drones, it seems that inspecting the world's aging infrastructure may be one task where UAVs can corner the market. The latest demonstration of this? A project from researchers from Sweden's Lulea University of Technology who have been testing how teams of autonomous drones can be used to keep tabs on wind turbines: potentially alerting authorities of any impending problems.

Wind power capacity in the Americas grew 12 percent last year — with another jump predicted by 2023 – CNBC

> North, Central and South America installed 11.9 gigawatts (GW) of wind power capacity in 2018, according to new data from the Global Wind Energy Council (GWEC). This represents an increase of 12 percent compared to 2017, with total installed wind capacity for the Americas now standing at 135 GW.

Ocean Energy orjip working to accelerate offshore consenting

ORJIP Ocean Energy is a UK-wide collaborative programme of environmental research with the aim of reducing consenting risks for wave, tidal stream and tidal range projects. Partnering with Annex IV, ORJIP provides content input to Tethys Blasts and wishes to make you aware of the following opportunities:

- Ocean Energy ERA-NET Cofund has launched a second joint call for ocean energy research and development projects with a focus on pushing technologies from Technology Readiness Level (TRL) 3-6 through to TRL 4-8. Deadline to apply is 1 March 2019.
- Industry bodies Subsea UK and National Subsea Research Initiative (NSRI) in partnership with Scottish Enterprise have launched a second call for R&D partnerships between Scotland and Japan to drive forward innovative subsea technologies. Initial expressions of interest are open until 15 February 2019.
- The Marine Energy Alliance (MEA) project has launched its first call for applications from marine energy technology companies, which will receive access to leading expertise in marine energy development via project partners. Deadline to apply is 15 February 2019.