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The tendancies of the international watch in May 2011 seen through the 19 articles of the blog

MONTHLY ANALYSIS LETTER

POLICY AND STRATEGY

Two recent studies shed an optimistic light on the future of offshore wind energy. According to **Pike Research**, the global offshore wind capacity will multiply by 17 in the next 6 years, from 4.1 GW today to 70.1 GW planned for 2017. The champions in Europe are, of course, the United-Kingdom, Denmark and Germany. They will soon be overtaken by China, though. The key factor of growth will be the ability to reduce costs. (May 10th)

In effect, the recent study by **PWC (PriceWaterhouseCoopers)** that included 8 government representatives (6 from Europe and 2 from Asia), shows that offshore wind energy is expected to reach a competitive price with other energy sources within 15 years, and even be able to do without state subsidies over the coming 10 years. Developers are already satisfied with the return on investment – a yield of 10-15%. But there is a major obstacle to this growth : The possible shortage of components and installation vessels. Because of the forecast exponential growth, each state is trying to secure its own resources. (May 16th).

In France, we have seen different local or regional initiatives within days of the publication of the government tender for offshore wind energy.

In Brittany, the merger of the « Agence Economique de Bretagne » (a partner of the blog) and Britain Innovation gave birth to **Brittany Development Innovation (BDI)** to give a boost to the industrial sector and in particular the emerging industry sectors. A study by GL Garrard Hassan in Britain Naval Pole has also shown the skill of Breton companies in the construction of masts, steel structures and steel hulls that can benefit from offshore wind energy development. (May 2nd)

Dunkirk also has the assets to become a regional cluster for offshore wind power. They are:

- its favourable geographical position,
- experience of the offshore oil and gas industries,
- major land reserves.

There are companies in the energy, metallurgy, mechanics and logistics sectors, and 100 wind turbines for the British wind farm of Thanet have recently been assembled there by Vestas with the assistance of specialist cranes firm Sarens France. The Renewable Energies union (SER) and many organizations support the Dunkirk project. (May 17th)

In Saint-Nazaire, **STX France** signed an agreement with **Pays de la Loire Region** for 3 projects:

- Fondéole for offshore wind turbines foundations,
- Poséole for the installation of wind turbines and
- Wattéole to build a power station for offshore wind farms.

STX estimated that it was necessary to invest up to €100 million but it could also generate a turnover of €200 million and create 600 jobs. (May 18th)

In southern France, 53% of the shares of the **Compagnie du Vent** are now owned by GDF Suez which led to a change at its head. Jean-Michel Germa, who owns the remaining 47% was replaced by Thierry Conil. It appears that a difference of opinion about the development of the Compagnie du Vent lies behind this decision. GDF Suez wants to create a competitive way forward via the collaboration agreements recently signed with Areva and Vinci. (May 30th).

Herman Van Rompuy, the European Council President, has invited future engineers in the field of energy to be innovative to address the challenges that will arise very soon, particularly in three areas:

- securing supply in the face of rapidly increasing demand,
- the erratic escalation of oil and gas prices, and, finally
- the environmental challenge of fighting against climate change. (May 13th)

In Canada, **FTI (Fundy Tidal Inc.)** has become a partner to **New Energy** to exploit Grand Passage currents and to the **American Ocean Renewable Power Company (OPRC)** to test a turbine in Petit Passage. Two types of turbines are now being tested before being placed in battery at a site yet to be defined in consultation with all the participants concerned. The exploitation of the tidal resource of Fundy Bay will allow the economic recovery of the region. (May 11th)

The UK government launches a competition to create **ORETIC (Offshore Renewable Energy Technology and Innovation Center)** an R&D centre dedicated to offshore renewable energy: wind, wave and tidal energies. By continuously providing significant financial support to this sector, it demonstrates its willingness to maintain its position as world leader in offshore engineering and the development of the low-carbon economy. (May 31st)

FINANCES AND BUSINESS

The Danish company **Floating Power Plant A/S** has just joined up with **Bridgeworks Capital** to expand its Poseidon mixed energy technology, in the US. This original technology combines a maximum of 10 recovery systems of energy from waves and 3 twin-bladed wind turbines on a 100 to 420 meters long floating platform, and can reach a capacity of 20 MW. A test module should be put in the water soon, probably along the coast of Oregon. (May 3rd)

The British marine test centre **EMEC (European Marine Energy Center)** has signed a strategic agreement with the Canadian R&D centre, **FORCE (Fundy Ocean Research Center for Energy)** to provide developers with optimum facilities. EMEC now houses 11 tidal or marine energy projects from testing to manufacturing. FORCE will host four advanced technology turbines and will test submarine cables for a total capacity of 64 MW. Sharing knowledge and lessons learned should help industries to grow faster. (May 24th)

TECHNOLOGIES

Offshore wind energy

Official opening of the German wind energy flagship project: **EnBW Baltic 1**. Located 22 km off the Western Pomerania coast, it has 21 turbines with a total capacity of 48.3 MW and annual production of 185 GWh. A transformer station, 16 km away from the coast, can direct the current towards the coast. This project has received a €80 million financial contribution from the EIB (European Investment Bank). (May 9th)

The Chinese company **Envision Energy** and **Converteam** have signed a co-operation agreement covering the integration of the generator on the wind offshore turbine prototype

DD-PMG and of the MV 3000 converter on the new GC-1 turbines. Two prototypes will be tested in Denmark, near the Envision Energy research centres. (May 19th)

Waves

Simple but effective, the **Wavenrg** tidal system, developed by the Polish engineer Slawomir Klukowski, is being tested in a wave tank of the **Centre des Techniques Navales de Toulon** (France) in collaboration with the **University of Technology of Gdansk** (Poland). It consists of a float, a column, a propeller and a generator. Balance and stability are ensured by a set of cables attached to the bottom. The floats may also be used to warn of offshore wind turbines and / or carry beacons; the submarine propeller could also be exploited as a tidal system. Therefore there is a lot of potential for a limited cost that tests currently under way should validate. (May 23rd)

SQUID is the first wave energy converter for individual use. Developed by the Scottish company **AlbaTERN**, this converter comes in the form of a balloon filled with water, placed just below the water surface and whose oscillations create energy. Simple, compact, easy to implement but it produces little electricity. SQUID is particularly suitable for users far from the usual channels of fossil fuels distribution of, but close to the sea. The tests will begin this summer at EMEC. (May 25th)

Biomass

Micro-Algae **Atlanpole Blue Cluster** (Pays de la Loire), supported by many local and regional organisations, today brings together one hundred participants – laboratories, smaller companies, training bodies, and other groups working on biomass and its processing, and in particular the manufacture of algal biofuel from micro-algae. They will start three projects :

- a Regional Innovation Platform on the Guérande, Pen Bron and Le Croisic sites,
- a microalgae / biofuel platform,
- a microalgae Institute. (May 27th)

Methanisation

There is a new source of energy to exploit: fishing residues. After its success with its **Valorfat** transformation process for turning animal fat into biofuel, **S3D** (Solutions for Waste and Sustainability) has formed a consortium with **GEPEA** (process engineering laboratory) and **IFREMER** to exploit fish waste and transform it into fuel. This method would avoid the discharging at sea of industrial fishing waste and would reduce greenhouse gas emissions, and help achieve the 2020 targets. (May 26th)

Energy mix

The problem of energy storage may well have found a solution with the **CAES (Compressed Air Energy Storage)**. The electricity generated by offshore wind turbines, and later by other energy recovery systems, may be stored as compressed air in this big balloon, designed and built by **Thin Red Line Aerospace** in a flexible material. Attached to the seabed 600 meters deep, thereby balancing the pressures, CAES will eventually have a capacity of 6000 m3. (May 12th)

Another innovation to recover wind, waves and tide energies: the **Gel Lift System (GLS)** developed by **Aubin**, in partnership with **Subsea Scotland**. The use of this low density and environmentally friendly gel, enables the installation of infrastructures weighing up to 1000 tons up to 100m deep. (May 20th)

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BLOG NEWS

The English language version of the monthly blog summary is now a reality as a result of an agreement with Marine Renewable Energy Ltd. The first three issues are with our compliments by way of thanks to our readers for all their past support.

Your opinion matters. It needs a few minutes only to tell us about your hopes and wishes for the blog. Click on **www.3bconseils.com/enquete** or send the file by e-mail to : paul@3bconseils.com
The questionnaire is however only available in French.

The blog is regularly quoted up by numerous websites.

Please see also the blog heading « *latest news* » in the right column which refers to articles in English for the topics that cannot be tackled in the blog.

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Statistic (May 2011)

2065 subscribers to the daily newsletter and 14 553 visits, making a total of **53 788 connections** from 94 countries and territories.

As a consequence of the hacker attack, we were unfortunately unable to publish articles on the 4, 5, 6th of May.

Member of the French Maritime Cluster, the blog is sponsored by :

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