

Belgian contractor for 'northwind' wind farm

GeoSea, part of the Belgian DEME Group specialising in offshore structures, has just signed a €230m contract with North Wind NV for the construction and installation of foundations for the 'Northwind' offshore wind power project off the Belgian coast.

Global wind day in Sofia



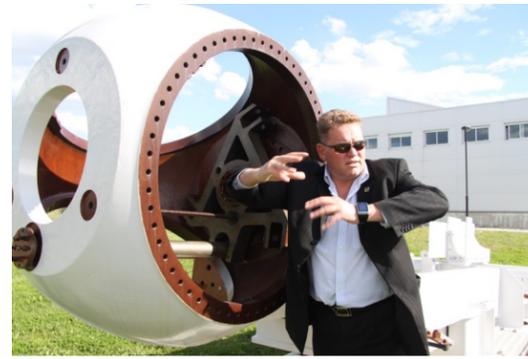
The exhibition was organized by the Bulgarian Wind Energy Association. It presented the modern wind industry, its heritage from the past, wind parks in Bulgaria and abroad, and the opportunities wind power holds for the future.

4th Annual Bulgarian wind energy workshop

This year the annual Bulgarian wind energy workshop is taking place in November. The Bulgarian Wind Energy Association is once again among the organizers of the event, together with the European Wind Energy Association (EWEA) and the Association of Producers of Ecological Energy (APEE).

E-Learning and Skype conference

One action of the project, and to be completed after the Pamplona meeting, was to assess the existing content of the CENIFER E-learning course and gave feedback to the TUV, the lead partner, as to where changes in the existing course need to be made. This was then followed up with a Skype conference call to discuss the project to date and to make sure the project is on schedule.



Contacts

Bulgaria,
Varna, Studentska str. 1
Technical University of Varna
tel. +359 52 383 266, +359 896 87 53 02
PhD Vencislav Valchev—Coordinator of The Project
Ralitsa Ivanova—technical assistant
⇒ <http://www.tu-varna.bg/trainwind/>
⇒ e-mail: trainwind@tu-varna.bg

Editorial TrainWind Newsletter No 2

Embrace Cooperation Ltd.
245a Coldharbour Lane
SW9 8RR, London, UK
0044 (0) 2072749450
⇒ www.myembrace.org



ISSUE

02

2012

NEWSLETTER



this issue

- Summary of Needs Analysis **P.1**
- Wind News of each country **P.1**
- Summary of Meeting in Spain **P.3**



Wind News

Planning consent for new 6.6GW offshore windfarm

The Department of Energy and Climate Change (DECC) reports that the UK government has given its consent for the construction of two wind farms off the Norfolk Coast that will have a combined capacity of over 1 GW. With this plan, in the UK there is now 6.6 GW of offshore wind power either currently operational, under construction, or approved. The wind farms will cost around £3 billion.

Vattenfall inks £104m Ormond offshore wind farm cable deal

Vattenfall has completed the finishing touches to its high profile Ormonde offshore wind farm off the coast of Cumbria, announcing yesterday that it has finalised the sale of the facility's transmission assets to Transmission Capital Partners (TCP) in a deal worth £103.9m.

Overview of Needs Analysis

Within the TrainWind partnership, one of our first steps was to analyse the wind sector in the partner countries (UK, Spain, Belgium, Bulgaria). We also assessed each country's wind potential, current wind production, employment stats and trends. Our focus was

specifically to find out how the training sector in each country is shaped, what training is available and how our proposed e-learning platform could fit in. Here is a short summary of the most important parts of the Needs Analysis.

Here are the counties' facts & figures (for short comparison)

	Belgium	Bulgaria	Spain	UK
Area	30 528 km ²	110 510 km ²	505 990 km ²	243 610 km ²
Population	10.4M	7.4M	47.2M	62.2M
GDP	€ 412 billion	€ 42 billion	€ 1.1 trillion	€ 1.8 trillion
GDP per capita	€ 39,524	€ 5,779	€ 22,745	€ 29,172
Unemployment rate	7,2%	12,4%	24.44%	8.2%

The chart below shows current and planned capacity for wind in the different countries. All countries are showing significant capacity growth.

	Total installed capacity	Onshore	Offshore	Capacity Planned 2020
UK	6,615 MW	4757 MW	1858 MW	30-42 GW
Bulgaria	502 MW	502 MW	n/a	2,420 MW
Spain	20,774 MW	1,750 MW	0	35,750 MW
Belgium	978 MW	883 MW	195 MW	1,500 MW

Last Turbine Installed at Sheringham Shoal, UK



The final blade of the eighty-eighth and last wind turbine at the Sheringham Shoal Offshore Wind Farm was bolted into place marking one of the few remaining milestones in the construction of this 317MW project in the Greater Wash off the coast of North Norfolk.

Spain and China to build 500mw experimental project

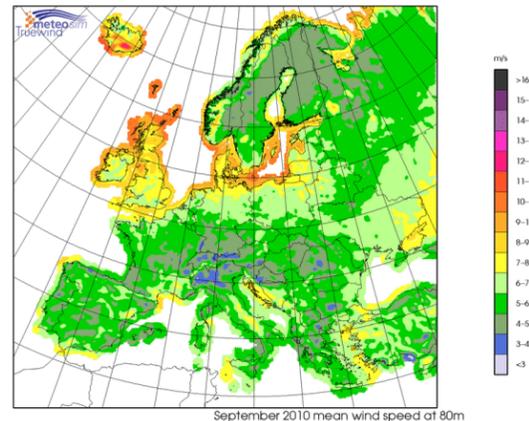
CHINA: Spain's grid operator and China's energy regulator will build a 500MW experimental wind plant in China, fitted with Gamesa 4.5MW turbines.

The project, which will serve as a laboratory for grid integration technology and methods, was revealed by Spain's industry minister, Jose Manuel Soria.

Reported Training Gaps (summary)

Reported training gaps in employees	Additional training required in
General - Knowledge of Wind Industry (its development, scope etc) - Knowledge about the market today and special challenges faced when going from onshore to offshore.	1. Information on Wind Sector (general, to provide context) 2. Information on current market, challenges going from on-shore to off-shore (to provide context)
Theoretical: - Energy content in the wind and about how this energy is extracted from the wind - Wind load on turbines - Grid integration	1. Knowledge of energy & how energy is extracted from the wind 2. Knowledge of the mechanical structure and the loads on a turbine 3. How wind turbines are integrated into the grid (both on-grid, off-grid systems)
Project Management	1. Project Management: Knowledge of how to develop and run project (project inception, delivery, monitoring, evaluation)
Working on heights and rescue from height	1. Basic safety training 2. Working on heights 3. Rescue from WTG (nacelle, hub, ladder)
Electrical units and equipment	1. Electrical components (generators, motors, relays, fuses, and etc).
Mechanical parts	1. Mechanical parts and how do they work (main mechanical components) 2. Knowledge of the mechanical structure and the loads on a turbine
Hydraulic systems	1. Main hydraulic components 2. Hydraulic systems (and how they work)

Wind speeds in Europe:



Ewea calculates true cost of energy generation

The European Wind Energy Association (EWEA) has developed an online tool that instantly calculates electricity costs, including any fuel and carbon risks, for gas, coal, nuclear, onshore and offshore wind. Users can type in their own assumptions on, for example, coal and gas prices, future carbon costs, capital costs and availability.

Belgium has almost 500 windturbines

In 2011 over 80 new wind turbines were constructed in Belgium, to bring the total to 498 operational turbines. This is according to figures from Edora, the renewable energy federation, and Apere that promotes renewable energy.

Belgium's total wind capacity now exceeds 1,080 MW. This corresponds to the annual electricity consumption of 650,000 households. This is comprised of 246 in Wallonia, 61 in Flanders and 191 offshore.

Summary Needs Analysis

The needs analysis has given the partners the confidence to continue the development of the e-learning platform. The wind sector itself will see a lot of growth in the coming years and there are not enough trained personnel available. People to be retrained will possibly come from the oil & gas sector as well as engineers from the military. There will also be a limited number of new employees because of the technical requirements involved. The e-learning platform now has to be developed both technically (as a software environment sitting on TUV's servers) as well as changing the content of the individual units to be up-to-date with current legislation, information on service and repairs as well as general theoretical knowledge.

Pamplona Meeting

On the 3rd and 4th of May 2012 the European partners Embrace (UK), Syntra West (Belgium), Cenifer (Spain), Technical University of Varna (TUV) (Bulgaria) and ABC Wind Farm Ltd. (Bulgaria) met for the 2nd Transnational Meeting of the TrainWind Project, the first having been in Bulgaria in November 2011. For the meeting, each partner prepared country-specific Needs Analysis Reports (see above). The UK (Embrace) was given the task of combining each country report into one aggregate report, and present the findings at the meeting. The findings were then discussed by all partners, to analyse how the TrainWind e-learning course has to be adapted.

The second part of the day saw presentations from different partners. Mrs Rozalina Dimova, TUV on Validation of the Project. Svetlana Lesidrenska (TUV) – made a presentation on Work package 7 (WP7) – Monitoring and Control of the Project. Mrs Valerie Vanheske (Syntra West), explained the assessment tool and the content of the competence profile. Mrs Idoia Arteta of CENIFER discussed

course design, choice of E-learning platforms (MOODLE - the current format of the courses, or WBT ExpressPro), and the CISCO strategy for designing the courses.

Discussions and agreement on content and E-platforms continued into the afternoon. The meeting was highly productive and the coordinator, Prof. Valchev, and all partner representatives set deadlines for the upcoming actions.

That night our Spanish hosts brought us for a Spanish meal, typical for the area. Over dinner, discussions on renewable training continued and good bonds between the partners formed.

Visit to the Cenifer training facilities



On day 2, the hosting partner, CENIFER, showed its training center to the partners. The training facilities of CENIFER are located near Pamplona. As Spain is one of the leading countries in the World in the wind sector it was interesting to see how they train wind technicians, using turbine components in the classroom workshops. Mrs Arteta presented their low carbon building, incorporating many renewable technologies together with innovative low carbon design. The result is a highly energy efficient building with excellent heating and cooling properties.