

# EWEA 2014

DAY FOUR

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## Google searching for wind in Europe

Internet giant launches 'open call' for project opportunities, writes Anamaria Deduleasa



Google is looking to invest heavily in European wind, having already spent more than \$1.5bn on 2GW of projects in the US and elsewhere, the internet giant's director of global infrastructure told EWEA 2014 yesterday.

"This is definitely an open call [for opportunities]," François Sterin, *pictured*, told the Outside the Box panel session.

Over the past decade, Google, which has been carbon-neutral

since 2007, has emerged as one of the world's largest investors in wind and solar, currently obtaining 34% of its electricity from renewable sources.

It is looking into both power-purchase agreements (PPAs) and project ownership in Europe — its only wind-related investments on the continent so far being 131MW of PPAs from five Swedish wind farms.

"Google is not married to Sweden, so this is definitely an

open call for similar opportunities in other parts of Europe," he said.

"We are cost-centred, but if over ten years we get a good cost, we are happy to make a commitment.

He added: "We don't want to say 'we have a plant [data centre]

in Belgium, so we need a project in Belgium'. If we can make energy in another country, where a project makes sense for everybody and [we can] transport [the energy] to our site, then that's what we would like to do."

Google wants to fuel its continuing growth with renewable electricity, and is seeking to diversify its energy sources geographically and technologically, Sterin added. □

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Photograph | Jason Bickley/EWEA

## BERND RADOWITZ

Manufacturers and developers have been told to stop complaining about “unrealistically” low prices at recent Brazilian wind tenders.

Lauro Fiúza, vice-president of the Brazilian wind-energy association, ABEEólica, says prices at auctions are determined by companies themselves, most of which are well structured.

ABEEólica predicts a giant leap in wind capacity in South America’s economic powerhouse, although Fiúza does acknowledge that there is a chance that, due to rock-bottom prices, some companies may be unable to follow through with their construction commitments.

European turbine makers and utilities have either told *Recharge* that the low prices at recent Brazilian tenders have impeded them from entering this promising market, or expressed hopes that prices will not fall further.

“If companies are saying there is no way to supply the market with such prices, they have to think about the offers they are bringing to the market,” Fiúza replied to a question from *Recharge* at the “Doing business in Brazil, South Africa, Mexico” panel yesterday.

The lowest price at Brazil’s last wind-only tender in 2013 was actually offered by a “very big Portuguese company”, working together with a “big Spanish manufacturer” as turbine supplier, he said.

“Those are very well-structured companies, they are [planning] to stay in Brazil for [the] long run to get their market share,” he



**GREAT LEAP FORWARD:**  
Lauro Fiúza speaking at EWEA 2014 yesterday

## Stop grumbling about Brazil prices, says Fiúza

said, adding that those “big guys” would hardly make auction offers they could not fulfil.

At Brazil’s last A-3 auction, the top price for wind was R\$126 (\$53.24) per MWh. Average wind prices came in at R\$124.43/MWh — 1.25% below the maximum.

Still, some developers may stop construction of their projects at

some point, or even default, he conceded, without giving details. To avoid possible defaults on wind projects, the government’s energy planning agency, EPE, asks companies for guarantees, demands to see their balance sheets and imposes requirements on the financial and technical side, Fiúza pointed out.

Brazil’s installed wind capacity will jump to nearly 8GW by the end of 2014, from 3.4GW at the start of the year, he said, bringing it closer to mature markets such as the UK or Italy. By 2018, ABEEólica expects the figure to have risen to 21.8GW — 11.9% of the country’s power generation. □

## 15MW R&D project generates advances in key technologies

## DARIUS SNIECKUS

The European consortium aiming to hatch a 15MW offshore wind turbine concept this decade has completed the Azimut project’s €30m R&D phase.

Advances have been made in a number of “key technologies”, including blade and drivetrain design, through the four-year

programme, which was funded by the Spanish economy ministry’s Cenit scheme.

Programme co-ordinator Gamesa developed a resin with improved flow properties for infusion during blade manufacture, as well as an anti-icing coating called Bladeshield, which has a high resistance to erosion.

Consortium member Alstom validated a thick-profile offshore blade concept that should streamline designs for ultra-large-diameter rotors, while Acciona fashioned a drivetrain-fatigue estimator that gauges load limits of a gearbox and other rotating parts.

Other contributions to Azimut’s R&D work included

Técnicas Reunidas’ demonstration of a new energy-storage technology based on a zinc/air-flow battery.

Azimut brings together 11 companies: Gamesa, Acciona Windpower, Alstom Wind, Acciona Energía, Iberdrola, Ingeteam, Imatia, Ingeciber, DigSilent Ibérica, Técnicas Reunidas and Tecnitest.

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Replacing Europe's coal, gas and nuclear power stations with wind is key in the fight to conserve precious water resources and hedge against future power shortages caused by water-dependent electricity production.

A European Wind Energy Association (EWEA) report, *Saving Water with Wind Energy*, shows that thermal and nuclear generation uses around 44% of Europe's total water resources, primarily as a cooling agent.

This water is calculated to be equivalent to the average annual household water use of 82 million European citizens — roughly the population of Germany.

"Every summer thousands of Europeans face hosepipe bans, while water equivalent to over three Olympic-size swimming pools is consumed every minute to cool Europe's nuclear, coal and gas plants," says EWEA environment and planning analyst Angeliki Koulouri.

"Wind turbines use no water, and this report shows the enormous difference to Europe's precious water supply that wind energy can make."

The report recommends that the EU drastically reduce water consumption from the electricity sector in three ways:

- 1 Encouraging greater water efficiency and taking this into account when designing energy policies.
- 2 Setting binding renewables targets for 2030 while moving away from water-intensive technologies such as thermal power plants to technologies such as wind, which use virtually no water.
- 3 Promoting the adequate pricing of water usage and consumption.

The report finds that wind energy avoided the use of 1.2 billion cubic metres of water in 2012 — equivalent to the



FEELING THE HEAT: A reactor hall in a Swedish nuclear plant, where water is used to cool fuel rods

# EWEA: harness wind to protect our liquid assets

Thirsty thermal and nuclear power generation is depleting Europe's most precious resource, writes **Christopher Hopson**



WAR ON WASTE: Angeliki Koulouri at the report's launch yesterday

average annual household usage of almost 22 million citizens.

EWEA calculates that in 2030 the avoided costs of water use through increased wind energy deployment could amount to between €11.8bn and €17.4bn (\$16.2bn-23.9bn) that year.

According to an OECD report, 40% of the world's population will face severe "water stress" conditions by 2050. Increasing demand and pollution will worsen water security in many regions.

The European Commission says at least 11% of Europe's population was affected by water scarcity in 2007, with the cost of droughts on the continent put at about €100bn over the past 30 years. □

**GROWTH STRATEGY:**  
Jacopo Moccia, EWEA's head of political affairs, presents the TPWind report in Barcelona yesterday



## Schneider tapped for Areva projects

**DARIUS SNIECKUS**

Turbine maker Areva has named Schneider Electric as its preferred supplier of power equipment for the French offshore wind farms it is involved in, including the 500MW Saint Briec, Le Tréport and Yeu-Noirmoutier projects.

Under the terms of the deal signed by the two French companies — which last month linked up to work on hydrogen fuel-cell energy-storage systems — Schneider will provide transformers and circuit breakers.

The agreement “underscores our commitment to developing a complete industrial sector in France, providing job-creation opportunities and harnessing our local expertise”, says Areva Renewables chief executive Louis-François Durret.

Schneider's energy business unit vice-president, Frédéric Abbal, adds that the combination of the two companies' expertise is “highly promising for the rapid establishment of a leading French sector of excellence in offshore wind”.

A consortium of GDF Suez, EDP Renewables, Neoen Marine, and Areva handed a bid to the government in November to build 1GW of offshore wind off western France as early as 2021, using the 8MW turbines that are on Areva's drawing board.

# €6bn needed for EU wind R&D by 2020, says report

**ANAMARIA DEDULEASA**

The EU has been told it needs to commit vastly more funds to wind R&D.

The European Technology Platform for Wind Energy (TPWind) — a forum of stakeholders from industry, government, R&D institutions and finance organisations — launched a revised strategy report at EWEA 2014 yesterday, outlining how the continent can install 300GW of wind by 2030.

Photograph | Jason Bickley/EWEA

The European Commission, which launched its R&D framework programme, *Horizon 2020*, in December, has allocated €158m for renewables R&D this year and €169m in 2015, to help onshore wind become competitive with conventional power generation by 2020 and offshore wind achieve the same status by 2030.

But TPWind says €6bn will be needed to fund R&D between 2010 and 2020. Of this amount, €3.1bn should come from

private investors, €1.89bn from the EU budget and €1bn from national programmes of member states, it recommends.

If this investment is met, it says the levelised cost of energy over the next 20 years can be reduced by 50% for offshore wind and 20% for onshore, compared with 2008.

According to the TPWind report, wind meets 8% of the EU's energy needs today, having grown from 4% in 2008. The figure is expected to rise to 14% by 2020 and 25% by 2030. □

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# EREC 'forced into liquidation'

**KARL-ERIK STROMSTA**

The European Renewable Energy Council (EREC) has been "forced into liquidation" because it is struggling to pay the lease on its Brussels headquarters.

The decision comes two months after EWEA left the council, which has acted as an umbrella lobbying group for various European renewables associations.

Founded in 2000, EREC originally housed six trade groups, including EWEA, the European Photovoltaic Industry Association and the European Biomass Industry Association. Over the years it added five more members, including the European Solar Thermal Electricity Association.

Eight years ago, EREC and its member organisations moved into what is now known as the



**END OF THE ROAD:** Rainer Hinrichs-Rahlwes, right, and the Brussels headquarters that has caused EREC's demise



Renewable Energy House in Brussels, transforming the 19th-century building into a green-energy and energy-efficiency showcase, with all heating, lighting and ventilation provided by renewables.

At an extraordinary general assembly last week, EREC decided to enter liquidation due to its "high liabilities arising from its lease obligations", says president Rainer Hinrichs-Rahlwes.

It is "particularly regrettable and somewhat ironic" that, given the success of the building in demonstrating the reliability of renewables technologies, "the lease agreement... has now turned out to be the cause of the demise of the organisation", he adds.

Among the achievements it claims credit for, the EU's 20% renewables target for 2020 "would probably not" have come to pass without EREC, he says. □

## WHAT IS RECHARGE INSIGHT?

Recharge is launching a new premium subscription service called *Recharge Insight*, led by an award-winning industry analyst.

The new service will draw on and complement *Recharge's* ground breaking, industry-leading journalism and is aimed at providing the thought leaders and decision-makers with best-in-class analysis on key issues facing the industry, essential for developing successful business strategies. Over 50 concise and easily digestible notes will be produced each year, covering a range of global topics at a highly competitive price compared to other business intelligence services.

The *Insight* service will be accessible via the *Recharge* website and is priced at €1,200, Nkr10,000 or \$1,650 per annum per subscriber.



For all subscription queries, including multi-user and multi-content deals, please contact [ksenia.burkova@rechargenews.com](mailto:ksenia.burkova@rechargenews.com)

**RECHARGE** insight

**FINISHED AT LAST:** The 400MW project was completed in 2013 — years behind schedule and massively over budget

# The tale of the Bard Offshore 1 ‘nightmare’

Project manager Bernd Deharde reveals all as he aims to make new spin-off company a success. **Karl-Erik Stromsta** reports

When Bernd Deharde was put in charge of the ill-starred 400MW Bard Offshore 1 (BO1) project in 2011, the year after he joined the now-defunct Bard group, “there were about 20 people who thought they were the project manager”, he says.

“Sometimes you have nightmares in your life, and this was the starting point of mine.”

Deharde — who is now the managing director of Off-Shore Wind Solutions (OWS), an O&M company that was spun off from the sinking Bard group — does not mince his words as he gives a blow-by-blow account of what went wrong at BO1, which was finally commissioned in 2013, years behind schedule and massively over budget.

There were many unusual aspects to Bard, but perhaps the most salient was the decision of founder Arngolt Bekker to build from scratch companies covering nearly every aspect of the offshore wind supply chain — from Cuxhaven Steel Construction (making tripod foundations) to Bard Energy (manufacturing 5MW turbines) to Bard Building (owner of the group’s in-house jack-up vessel, *Wind Lift 1*).

One of the company’s gravest mistakes was installing just three prototypes of its turbines — two of them onshore — before moving into offshore construction, Deharde says.

“You have three prototypes [of your technology] and now you’re going offshore? That’s something

you shouldn’t do.”

Only once the company had started installing the turbines in the middle of the German North Sea did it realise it had to “redesign” the main shaft.

Ultimately, Bard was forced

**“You have three prototypes and now you’re going offshore? That’s something you shouldn’t do**

to swap out 30 nacelles in the field — “some of which already had rotor stars on them”. Other setbacks with the BO1 build-out included the late delivery of the *Wind Lift 1* vessel and a damaged transformer platform.

For all its challenges, however, there is no denying that BO1 is a

pioneering project in every sense of the word.

In addition to representing roughly 80% of Germany’s existing offshore wind capacity at present, it is also farther from shore than any other offshore wind farm in the world (90km from the coast) and set in deeper waters (45 metres).

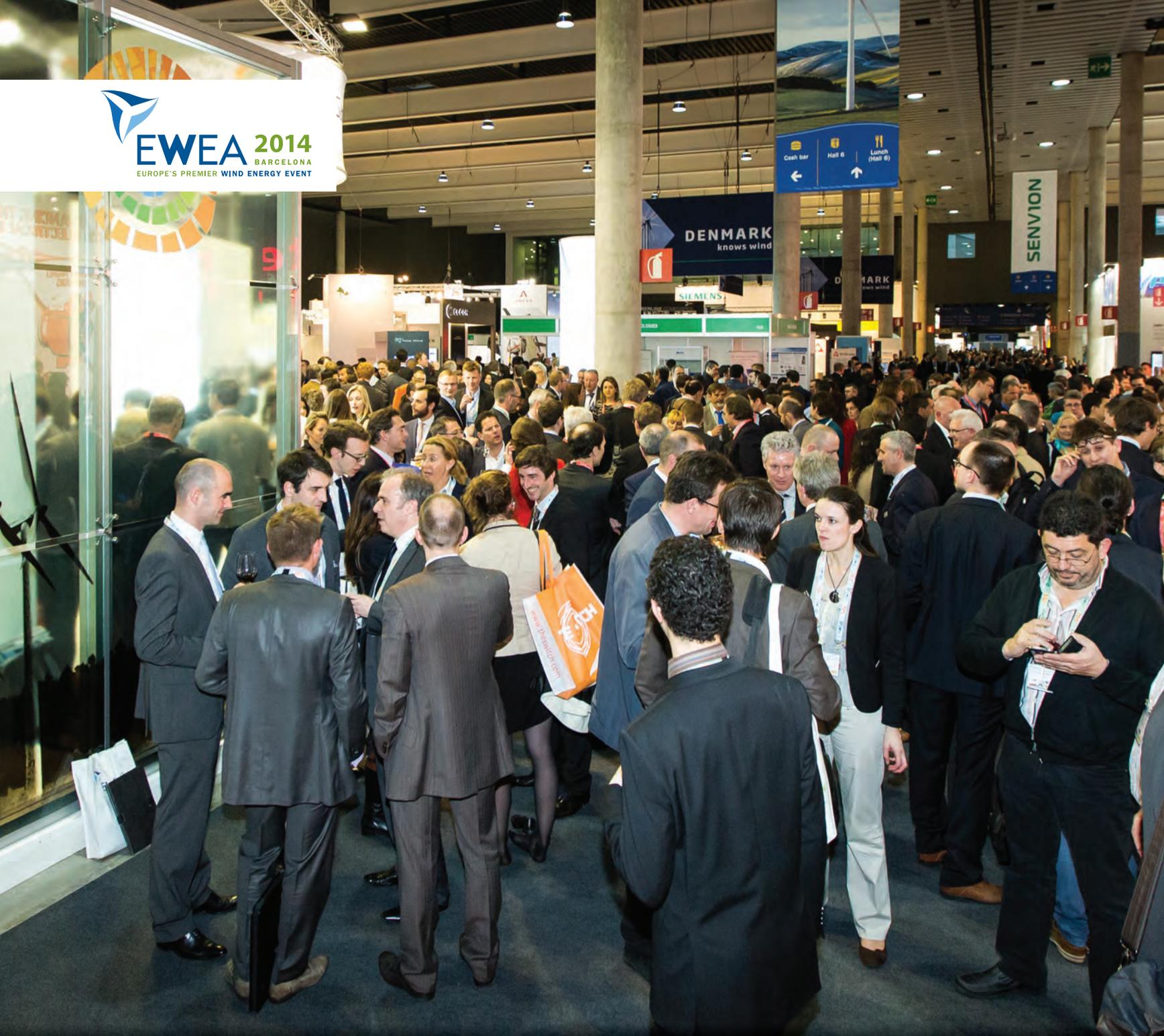
By comparison, the world’s largest offshore wind farm, the London Array, is just 20km from the English coast and set in water depths averaging 25 metres.

OWS took over control of BO1 at the beginning of the year, and it will maintain the project for its owners, which include Italy’s UniCredit. But with 300 employees — even after 250 Bard

workers were let go — one of Deharde’s most pressing challenges is finding additional

work for the new company.

In addition to its O&M capabilities, Emden-based OWS “still has the opportunity to manufacture turbines or rotor blades”, Deharde notes hopefully. It also owns the crew-transfer vessel *Ocean Zephyr* and the charter of *Wind Lift 1*. □



Thursday 11 March

## HAPPENING TODAY

### Take a wander through the exhibition

If you haven't had the chance to browse the stands at the EWEA 2014 exhibition, then today is your last chance. Be prepared to make many connections with other businesses, check out the latest technology ideas on display and see the scope of your industry under one roof – the EWEA Annual Event really is the place for the wind industry and more to come together and grow.

### How healthy is your wind farm?

11:15-12.45 (Room Llevant)

Keeping a wind farm performing as it should is a top priority for the wind business. What are the best strategies for maintaining turbines offshore? How can I make the turbines in my wind farm operate more efficiently? What are the latest technological trends

in detecting faults? If these are some of the questions you tackle in your line of work then the "advanced operation and maintenance" session is for you.

Interested in attending this session alone? Top-up your exhibition pass at the New Visitor Registration desks.



**FUTURE EVENTS**  
**EWEA Offshore 2015**  
**10-12 March 2015**

Denmark — home to the world's first ever commercial offshore wind farm and the second largest offshore wind market — will be the location of the next EWEA OFFSHORE event in 2015.

The EWEA OFFSHORE event is the focal point for the offshore wind industry. It combines an extensive conference where political and industry leaders meet and an international exhibition. With an array of insightful seminars, impressive networking events and the whole of the supply chain present, it provides the ideal platform to meet valuable contacts and achieve great business performance.

To book a stand at EWEA OFFSHORE 2015, visit [www.ewea.org/offshore2015/](http://www.ewea.org/offshore2015/)

**EWEA 2015 Annual Event**  
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The wind industry will meet in Paris in 2015 two weeks before UN climate negotiations take place in the French capital. EWEA 2015 will gather the whole of the European wind industry in one place, presenting an international platform for the industry to showcase and demonstrate the strength of clean energy. Generate bottom-line results for your marketing investment and get exposure to international and domestic markets at Europe's premier wind-energy event and annual gathering. A must for business and networking!

To enquire about booking a stand, contact the EWEA sales team ([sales@ewea.org](mailto:sales@ewea.org)) [www.ewea.org/annual2015](http://www.ewea.org/annual2015)

# The wind industry will meet in Paris in 2015

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**PROBLEMS ON THE HORIZON:** Berlin aims to cut support for onshore wind and cap its expansion

# Alstom bemoans German reform

Berlin has dealt a blow to Alstom's twin hopes of gaining German market share with its ECO 122 wind turbine and receiving further orders for high-voltage direct-current (HVDC) grid connections for offshore projects.

The French conglomerate acknowledges that a downsizing of German wind ambitions could render both goals more difficult.

The 2.7MW ECO 122, developed especially for moderate wind locations, has a 122-metre rotor diameter.

Alstom reckons the machine will be certified in Germany this year, and a first reference model installed. It has already received German orders for the machine, but the bulk of sales are coming from other countries, especially Brazil, which has placed orders for more than 1GW.

The government in Berlin, in a reform of its renewables legislation, plans to lower feed-in tariffs for onshore wind and cap its expansion at about 2.5GW a year. It also wants to give preference to strong wind locations — which could derail hopes for sales of turbines designed for moderate wind locations, such as those in

Changes could hit hopes for turbine and HVDC orders, writes **Bernd Radowitz**



**GLOBAL PLANS:** Alstom's medium-wind ECO 122; *below:* Markus Rieck



southern Germany. However, Rieck stresses that the ECO 122 wasn't developed just for that market, but for countries across the globe.

The company is also eyeing further large HVDC orders after winning the €1bn (\$1.37bn) DolWin3 grid connection project in the German North Sea last year — the first time that transmission system operator TenneT had looked beyond Siemens and ABB for such links. Alstom expects to deliver the DolWin3 link on time in 2017.

"DolWin3 should not remain a one-shot order," says Cederick Allwardt, deputy technical director for the project, but he acknowledges that the prospects of further HVDC contracts are "challenging".

Allwardt expects Germany will need to build one or two 900MW offshore grid links by 2020, and one after that.

While Alstom welcomes Germany's decision last year to extend the permitted construction period for the complex offshore links from 30 months to 50 months, it is less enthusiastic about Germany's downsizing of its offshore ambitions to 6.5GW in 2020 (down from 10GW) and 15GW in 2030 (down from 25GW).

Markus Rieck, the company's sales director for Germany, tells *Recharge*: "If you reduce the expansion here by 40%, then that also means a potentially lower order volume for participating companies.

"Of course we also need to consider that the 2030 target will still be discussed several times, but it is something about which we would say today it in no way improves business prospects." ■



**GOING TO GREAT LENGTHS:** The 81.6-metre Euros blade; *below*: a unit en route to the SeaAngel at Scotland's Hunterston test site

German blade maker Euros is sketching out a design for a 90-metre-plus model with an eye on the emerging market for supersize offshore wind turbines.

The concept, based on the 81.6-metre blade it fashioned for the Mitsubishi Heavy Industries (MHI) 7MW SeaAngel prototype that is about to begin trials in the UK and Japan, would fit 8MW-class machines such as the recently announced giant from Areva.

"It is at the preliminary design phase," Euros head of materials Alexander Krimmer tells *Recharge*. "As a company we feel there is a robust need for such a blade and there is a gap currently, and so you have to have the technology ready [on paper]."

"The blades [for the SeaAngel] are proof that our design was not too bad, so we will not change too much, I would guess. We look forward to further proving our 81.6-metre concept once these turbines are operational."

Three of the Euros M-EU167 blades are waiting to be bolted onto the SeaAngel prototype being tested at Scotland's coastal Hunterston testing centre, and another set is destined for MHI's

## After SeaAngel, get ready for the 90-metre-plus blade

German manufacturer Euros is gearing up to supply supersize turbines of the future. **Darius Snieckus** reports

81.6-metre model, which Krimmer notes have been "very successful to this point", are under way on a Fraunhofer Institute for Wind Energy Systems rig in Bremerhaven, Germany.

The geometry and aerofoil of the 90-metre blade would mirror the 81.6-metre model "scaled up proportionately and fine-tuned".

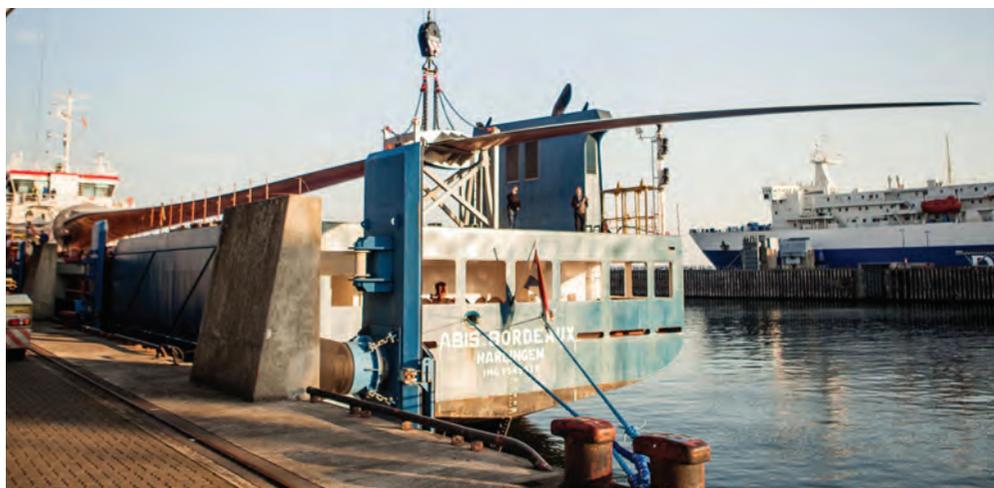
Krimmer says the cost constraints remain the central challenge to developing ultra-long blades for the 8-10MW offshore turbines coming to market.

"We are under a great deal of pressure in terms of cost, which is interfering with the speed of our plans. This is the main issue, not the engineering of such a huge blade that performs at high reliability," he stresses.

"Still, it is hard to guarantee it will have a 25-year lifetime, given how many uncertainties, particularly in the area of materials fatigue and so on, that there are. No-one yet knows how [in financial terms] to value reliability."

Euros plans to build a new fabrication hall in Sassnitz, northern Germany, to construct and test

the new, longer blade once a first order is inked. A prototype would take "around a year" to manufacture. ☐



Fukushima Forward floating units off eastern Japan.

The blade's low-weight 32.5-tonne design is built around

ultra-stiff carbon-fibre reinforced-plastic spar caps for high load-bearing and durability. Final fatigue tests on the



**HOME AWAY FROM HOME:** The forthcoming living quarters will house up to 50 workers at DanTysk, below

# DanTysk floatel is a German first

**DARIUS SNIECKUS**

The first stand-alone accommodation platform for a German offshore wind farm is being prepared for float-out.

The five-deck, 2,500-tonne platform, which can accommodate 50 people, will sit on a 40-metre-high jacket at Vattenfall's 288MW DanTysk project, in 21-31 metres of water.

"Our idea of housing service teams in a separate accommodation platform directly [at] offshore wind farms is a first in Germany," says Gunnar Groebler, head of Vattenfall's Europe/UK renewables division. "This



accommodation platform saves the service and maintenance team from having to travel to the wind farm every day. In this way, we can carry out any pending work very efficiently."

The platform is due to be transported out for installation later this year from the Nobiskrug shipyard in the northern German port of Kiel.

DanTysk, being developed by Vattenfall with German contractor Stadtwerke München, consist of 80 Siemens 3.6MW machines.

Foundations are in, awaiting installation of the turbines, which begins at the end of this month. Commissioning is planned for the autumn. ☐

## Gamesa signs 98MW Bahia deals

**ANDREW LEE**

Gamesa has tied up 98MW of orders in northeast Brazil.

The Spanish manufacturer will supply 68MW of its Brazilian-made G97-2.0MW turbines to CER for the Assuruá 2, 5 and 7 wind farms, part of the Xique-

Xique complex. It will also deliver 15 of the machines to Ventos dos Guarás Energias Renováveis' Ventos dos Guarás 1 in the Morrinhos complex.

All the projects, in Bahia state, are due for completion next year. Gamesa will supply O&M services for 15 years.

## EGP finishes second Brazil project

**ANAMARIA DEDULEASA**

Enel Green Power (EGP) has finished building its second wind farm in Brazil.

The 30MW São Judas, in Morro do Chapéu, Bahia state, is the second of three phases to be completed at the 90MW, €165m

Cristal complex. The first phase was finalised in February.

São Judas, which consists of 13 2.3MW Siemens turbines, brings EGP's installed renewables capacity in Brazil to 207MW.

The Italian group is also building the Curva and Serra Azul projects in Bahia.

# Mountains of energy, waiting to be harvested

**DARIUS SNIECKUS**

Many of Europe's forested and mountainous areas could be transformed into high-output wind sites, according to a German study.

A two-year project run by consultancy TÜV SÜD with Natural Energy Solutions suggests that 2D and 3D modelling of these topographically complex landscapes "holds the key to future growth" in the continent's onshore wind market.

"A number of early-stage projects have appeared within forest areas in some European countries, and their success has encouraged others to follow suit," says Peter-Herbert Meier, head of the Wind Cert Services Unit



of TÜV SÜD Industrie Service. "However, since modelling data associated with these notoriously difficult-to-reach sites is often limited, there is a growing demand for investors and operators for more robust qualitative and quantitative research."

Measurements collected via a 140-metre research mast erected in a "mountainous German forest" showed wind speeds averaging about seven metres per second in conditions approximating 94% of the wind resource at a North Sea coastal site. "That means that with regard to wind prospectivity, this special forest location can be compared to a coast location," Meier says.

Data was crunched to create a range of standardised measurements and deeper topographical knowledge, allowing researchers to "better shape and define 2D and 3D models". "Wind speed proved to be stronger than had been predicted from preliminary simulations and data," Meier adds.

TÜV SÜD PMSS chairman Alan Chivers says the forestry project demonstrates that "a topographically complex geography is no longer a significant barrier to future commercial growth".

**TOP JOB:** TÜV SÜD takes wind measurements via the 140-metre mast during the two-year project; below left: Peter-Herbert Meier



## \$670m tenders for UK high-voltage offshore links

**ANDREW LEE**

UK energy regulator Ofgem has launched a tender for the high-voltage transmission links to the Westernmost Rough and Humber Gateway offshore wind farms.

The tender will be worth almost £400m (nearly \$670m), with the successful operator of

each link receiving a 20-year guaranteed income from the transmission projects off northeast England.

The 219MW Humber Gateway is being built by E.ON, while Dong is building the 210MW Westernmost Rough.

The process will be the third Offshore Transmission Owner

(OFTO) tender round to be run by Ofgem, which says "lessons learned" from previous rounds will be applied to make the process quicker and simpler.

The previous "pre-qualification" and "qualification to tender" stages have been merged into one stage. "We have also enhanced the incentives on

OFTOs, which will help keep the cost of this transmission investment as low as possible for consumers," Ofgem says.

Ofgem E-Serve managing director Robert Hull adds: "The offshore transmission regime has already delivered £1.4bn of new investment into the UK transmission sector."

## First order under Turkey framework agreement

**ANAMARIA DEDULEASA  
KARL-ERIK STROMSTA**

Vestas has booked the first firm order under a framework agreement to deliver 207MW of turbines to five Turkish projects.

Nine V112-3.3MW machines will be delivered in the fourth quarter of 2014 for the extension of the Bandırma wind farm in Balıkesir province, south of the Marmara Sea, which is being developed by a joint venture between German utility EnBW and Turkish holding company Borusan.

The contract includes supply, installation and commissioning, as well as a five-year service agreement, extendable to ten years. Commissioning is expected in the first quarter of next year.

Fifteen V90-3.0MW turbines were installed at Bandırma in 2008. When completed, the project will generate more than 292GWh a year.

Next on the agenda for the joint venture is to develop 50MW projects at Çanakkale, Mersin and Bursa, as well as a 30MW project at İzmir.

Vestas has delivered 640MW of turbines to Turkey since installing its first machine there in 1984.

The manufacturer has also announced a 99MW supply-and-install order in Finland, its largest so far this year. The order, for 30 V126-3.3MW turbines, comes from local developer TuuliWatti, and includes a five-year service agreement.

Siikainen, the first project that Vestas will install for TuuliWatti, is due for commissioning in the first quarter of next year. The second wind farm, Kalajoki, is due on line in autumn 2015.

The deal lifts Vestas' order intake this year past 220MW, following the 72.6MW contract it unveiled in Germany and a 21MW deal in Costa Rica.

**'CHALLENGE':**  
Anders Vedel;  
below: the  
V117.3.3MW,  
which will be  
available with  
a 141.5-metre  
version of the  
new tower

# Vestas tower can boost output at low-wind sites

**DARIUS SNIECKUS**

Vestas has launched a large-diameter tower designed to lift 3MW turbines up into the richer wind stream above 140 metres.

The Large Diameter Steel Tower (LDST) — which will have a base 6.3 metres wide, compared with the 4.2 metres of Vestas' existing tower — will be available in heights of 137 metres for the V126-3.3MW turbine and 141.5 metres for the V117-3.3MW.

Chief technology officer Anders Vedel says: "The LDST is



the most cost-efficient solution in the industry to meet the demanded increased tower height for the 3MW turbines."

The tower is designed to boost production at low-wind sites. At a project with a mean wind speed of 6.5 metres per second, the structure is estimated to

increase annual output by up to 8% at a hub height of 137 metres, compared with a hub height of 117 metres.

Vestas says it has firm orders for more than 50 turbines using the LDST, but the wider diameter presents a transport challenge, Vedel admits.

"We have solved this by delivering the bottom tower section in three lengthways segments. These can easily and cost-effectively be transported on a flatbed truck and reassembled on site using vertical flanges to ensure strength," he says. □

## On the move: 200 relocating to Copenhagen

**ANDREW LEE**

Vestas intends to sell one of its office buildings in Aarhus and relocate some of its teams to Copenhagen.

The company will move its global sales and marketing, communications and corporate

relations, and finance functions (except IT) to the Danish capital in the second half of the year. All affected employees — expected to number about 200 — will be offered the chance to relocate.

The group's headquarters and chief executive's office will stay in Aarhus, Denmark's second-

largest city. Vestas says the move will give staff in the relevant departments easier access to contacts such as financiers, customers and the media.

The move, part of the turbine maker's "Profitable Growth" initiative, is expected to save about €10m a year.



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# Photos of the day

1. *Recharge* editor-in-chief Ben Backwell speaking at the 'Outside the box' session yesterday morning; 2. Visitors in 3D glasses watch a film at the Alstom stand; 3. Winners of the EWEA poster competition, *from left*, Graham More, Tilman Koblitiz, Jakob Mann, Philip Totaro, Michael Muskulus, Nicholas Balaresque and Stephan Barth; 4. Workers in traditional dress at the Turkish Pavilion; 5. An EWEA 2014 hostess welcomes delegates on day three; 6. A lively conversation at the EWEA stand