

**RECHARGE** | rechargenews.com

27 September 2018

### **European wind bosses** warn on rise of China

#### KARL-ERIK STROMSTA

ind executives raised concerns yesterday about the European industry's ability to compete in future global markets against increasingly sophisticated Chinese wind competitors.

"[Chinese turbines] are not the same quality but they're definitely

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significantly below the cost of a German wind turbine. But they're learning fast. My concern is sooner or later they will have turbines that are not just very cheap but also of a certain quality."

Zangerl made his remarks at a press conference organised by VDMA Power Systems, which represents the interests of German manufacturers in wind and other energy sectors.

Chinese wind manufacturers have so far made little headway in penetrating the European market itself. However, the growth trajectory of Europe's wind market looks "flattish" even as price competition intensifies, said Siemens Gamesa

GNORDEX

A MERCHANNER W A



chief executive Markus Tacke.

Amid these challenges in their domestic markets, many European wind manufacturers are looking to grow their exports while also preserving as many jobs as possible at home.

"The growth opportunities are coming out of [Asia Pacific], so we

### the APAC region," Tacke said. "We also see Latin America coming, the US is always a strong market CONTINUED on Page 3

certainly export from Europe into

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### Upcoming Dutch offshore wind tender 'to be zero-subsidy again'

#### BERND RADOWITZ

he upcoming tender for the 700MW Hollandse Kust 3 & 4 offshore zone is likely to be zero subsidy again, while an expected offshore auction in Poland will probably be for contracts for difference (CfDs), according to Vattenfall's wind power boss, Gunnar Groebler.

The Swedish utility is preparing to bid in the next Dutch tender, which is expected by the end of this year, as well as in an upcoming French offshore wind auction for the up to 750MW Dunkirk zone. "As far as I know, [the Dutch auction] will be a zero-subsidy approach, so similar to Hollandse Kust 1 & 2," Groebler told *Recharge* yesterday at the Global Wind Summit.

"There were discussions earlier whether one should adjust the tender rules, but to my knowledge today, this is what the government will propose."

The Netherlands Wind Energy Association told *Recharge* that the Dutch government could give details of a zero-subsidy tender as early as this week.

Vattenfall won the Netherlands'

first zero-subsidy tender in March, for the 700-750MW Hollandse Kust South 1 & 2 zone, with a right to operate it for 30 years.

Groebler said both the upcoming Dutch and French offshore tenders are very attractive, but the company will take a final decision on whether to participate once final tendering documents are out.

For the Dunkirk bid, Vattenfall has formed a joined venture with French investment fund Caisse de Dépôts, in which the Swedish utility holds a majority stake. 🖬

### 'Hard for foreign OEMs to get into China'

FROM Front Page [although shifting away from subsidies]."

He added: "For regulatory reasons it's very complicated to get into China [as a turbine OEM]," noting that China has a very different environment for quality certification.

While part of the solution for the European industry lies in breaking down market barriers and ensuring a level playing field around the world, the sector also requires a vibrant market at home to maintain its innovative edge, executives said.

The goal, Zangerl said, is to "keep the jobs here and at the end of the day keep the wealth in Europe".

The German wind market, by far Europe's largest, has been shrinking dramatically in recent years, with thousands of jobs at risk. "When you have unstable conditions, it's very difficult to run a company profitably — and at the end of the day that leads to a loss of jobs," Zangerl said.

Continued investment in educating the next generation of engineers is critical, he added. "Nearly all companies are struggling to get the right talent in the right quantity today." 🖬



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### European wind set for rebound in 2020s: HSH Nordbank

### BERND RADOWITZ

European wind additions will rebound from a lull this year and next before expanding strongly during the next decade as most countries switch to auctionbased support systems that push down power prices, according to German bank HSH Nordbank.

After record gross additions of 16.9GW in 2017, onshore and offshore wind are predicted to show combined expansion of 12-13GW in 2018 and again in 2019, says the bank's latest sector report. That is mostly due to a lull in Germany, where auctions last year were dominated by community power projects that are granted two years longer than normal to complete development. Also, approvals for new French wind farms have been held up by a delay in finalising new permitting rules.

But HSH Nordbank sees Europe's wind growth speeding up again in 2020 and 2021 to 19GW each year, helped by significant build-outs in Sweden and Spain. It then expects around 16GW a year through to 2025.

Wind will also benefit, the bank says, from low interest rates and low-risk premiums, as well as the search among institutional investors for alternative assets with a guaranteed cash flow.

WindEurope recently unveiled its own forecast for an average 17GW of growth out to 2022.



### Permit drought fuelling German onshore downturn, says Vestas

### **BERND RADOWITZ**

looming dip in German onshore wind expansion is a "huge hit for the industry" fuelled by a lack of construction permits in the market, Vestas' sales chief for the country tells *Recharge*.

"We expect a significant drop in volume next year, which will hit all the manufacturers and all of our customers pretty hard," said Alex Robertson, vice-president for sales for Germany, Austria and Switzerland.

Robertson was reluctant to give an exact estimate for the

total German market, but the OEM's expectations are close to those of Germany's wind energy federation, BWE, which sees additions dropping below 2GW next year.

That represents a significant fall from an annual average of 4.6GW from 2014-17.

"What concerns me is that the driving force of this is a lack of building permits in the German market," partly because of increasing complexity in the process, he explained, during an interview at the Global Wind Summit.

"It is taking much longer to get

a building permit through, which means more time, more money."

A rapid reduction in prices at auctions last year also caused many developers to pause and rethink their strategies, or to seek fresh permits with new technology.

Most volume at German onshore auctions in 2017 was won by community groups, which have an extra two years to finish their projects and are exempt from requiring noise-emission permits when bidding — both factors regularly named as the main culprits for the expected installation collapse.

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### European ports 'couldn't handle floating wind', says LOC study

### ANDREW LEE

Only a handful of European ports could accommodate the infrastructure needed to support large-scale floating wind farms, according to a study by LOC Renewables.

The consultancy looked at 96 ports to assess their ability to host the manufacturing and operations facilities required for projects far bigger than Equinor's 30MW Hywind Scotland, the floating sector's largest development to date.

Floating wind's specific requirements — for example sufficient space for quayside assembly and storage of finished units pre-tow out — could currently be met by only a few in Scotland, Norway and Spain, said the report, prepared for UK body the Carbon Trust.

LOC Renewables also concluded that much of the current vessel and equipment stock serving the fixedbottom sector would be unsuited to floating wind deployment, meaning replacements will have to be developed.

RV Ahilan, joint CEO of LOC Group, said: "As the industry develops the necessary technologies to make floating offshore wind commercially viable, there is an urgent need for investment in port infrastructure to avoid delays in the deployment of large-scale floating offshore wind farms."



### India's first 1GW offshore wind tender to be announced shortly

### YUKI YU

ndia is due to announce its first offshore wind tender for a 1GW flagship project off Gujarat in October or November, a senior energy official in the state tells *Recharge*.

The Solar Energy Corporation of India, a state-owned company under the auspices of the national Ministry of New and Renewable Energy, has been tasked with releasing the auction plan, which follows an expressions of interest process in June.

Raj Gopal, the principal secretary in Gujarat's energy department, told *Recharge*  that the government has no finishing timeline set for the 1GW development. "In the end, it depends on the progress of the tender," he said.

Gujarat's 1GW offshore wind project serves as India's opening gambit in its bid to install 5GW of offshore wind by 2022 and 30GW by 2030, with total wind capacity targets set at 60GW and 140GW by those dates.

Since the ambitious plan was announced in December, it has triggered both excitement and scepticism globally.

"I would consider it an achievement if the 1GW (Gujarat project) could be built," said Steve

ALPHA

Sawyer, secretary-general of the Global Wind Energy Council, citing the country's lack of infrastructure as a clear challenge.

India's wind power price, Gopal said, is another key stumbling block for the country's offshore wind ambition.

Wind power prices in India have been subject to competitive bidding since 2017. The most recent wind power bid in Gujarat state came in at a price of 2,650 rupees (\$36.50) per MWh.

"A too low wind tariff would hurt the economics, but a high offshore wind price is difficult for the market to accept," said Gopal. 🗈

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### ANDREW LEE

he Lake Turkana wind farm — Africa's largest at 310MW — has exported its first power to Kenya's grid after failure to complete its transmission line delayed it by more than a year.

"We are now supplying the national grid with clean, reliable and low-cost energy," said project company Lake Turkana Wind Power (LTWP), which originally hoped to begin flowing electricity as long ago as June 2017.

Danish wind group Vestas which built the wind farm and supplied its 365, 850kW V52 turbines — completed its part ahead of schedule in March 2017. But the project was left marooned when state-owned TSO Ketraco's efforts to complete its transmission link were stalled by financial difficulties at its original contractor and disputes with landowners along its 428km route.

The 400kV transmission line was finally completed in early September. After keeping the turbines serviced during the hiatus Vestas technicians have started a phased process of energising the machines, with an initial 15 operating by Monday.

Vestas' president for northern and central Europe Nils de Baar, who oversees the project for the OEM, said: "We have started



# Africa's largest wind farm finally flows power to Kenyan grid

commissioning the turbines at Lake Turkana where our construction and service team has done a tremendous job at not only installing 365 turbines in record time, but also ensuring they were ready for commissioning when the T-line was finalised.

"That Lake Turkana is coming online is a strong signal on renewable energy in the region and we want to thank everyone involved in the project."

LTWP has not set a date for full operation at Lake Turkana, which will supply one million homes and electrify many off-grid rural areas for the first time, boosting Kenya's total installed capacity by about 15%. The wind farm will sell its electricity to Kenya Power & Lighting under a 20-year PPA.

LTWP is owned by a consortium that includes KP&P Africa, Aldwych International and Vestas, among others. Vestas announced in 2015 that web giant Google will buy its 12.5% stake in Lake Turkana once it is fully operational.

### Hard Brexit will not be good for our UK blade plant, says SGRE

#### KARL-ERIK STROMSTA

The spectre of a "hard" Brexit has not yet led Siemens Gamesa Renewable Energy (SGRE) to shift its supply-chain strategy at its blade factory in Hull, northeast England, but a nasty rupture between the UK and the EU could dent the plant's competitiveness as an exporter, chief executive Markus Tacke said at the Global Wind Summit yesterday.

Unlike some UK manufacturers, who have already begun adjusting their supply chains with a messy Brexit in mind, "we have not changed our day-to-day operations in Hull", Tacke said at a press conference. Tacke still believes "there's enough smart people [working on Brexit] to avoid this breaking up of business relationships that have worked quite well".

Under any scenario, Siemens Gamesa has a "natural hedge", given that Hull will continue serving the "very attractive" UK offshore wind market.

"But we also use the facility to export," Tacke acknowledged. That ability gets "scrutinised" under a hard Brexit scenario, "which is not a good outcome for the people who work in Hull, but it's not a decision I can make it's just the logical consequence a business needs to face".

In addition to exporting, the

facility in Hull also relies on imports of some components. If trade barriers were put up between the UK and the rest of Europe, "everything will get more expensive and it makes



things more complicated".

Beyond the fear of trade barriers, Brexit-imposed limitations on the movement of people would also impact the European wind industry.

"Will there be limitations on shifting knowledge, on employing people from the UK in Denmark or people from Denmark in the UK? We have benefited from that," Tacke said.

"We've been able to build up Hull because we've been able to easily move people from Denmark or Germany or wherever to the UK," he said. "If we would have done that under very strict regulations, it probably would not have been possible." Photography | Vestas | SGRE



#### CHRISTOPHER HOPSON

urope's wind industry requires more and better targeted investment in research and innovation with a stronger focus on digitalisation if it is to avoid following the same fate as the continent's oncedominant PV manufacturing sector, a top European Commission official has warned.

Patrick Child, deputy director-

general at the European Commission's Research and Innovation department, told yesterday's WindEurope conference session on the digital revolution that Europe's dominant wind manufacturing sector faces strong competition from China.

"For the moment I think we can be happy that wind energy remains a EU success story," he said. "However, we all know that global competition is extremely strong and that Chinese patent activity is at least as strong as we have seen in Europe."

Child said International Energy Agency figures show that if fully employed, digitalisation could save the wind industry at least 5% of the cost of producing energy through savings made in operations and maintenance (O&M).

WindEurope recently said that digitalisation will create new economic opportunities for wind farm operators, increasing the value of every MWh produced, improving turbine yields and productivity, while driving down costs in design and O&M.

"It is clear that further deployment of existing energy technologies must be combined with improvements in those technologies which means more



### **European wind 'needs** to invest more in R&D to stay ahead of China'

research and innovation," said Child.

"These are things we will take very seriously as we finalise the work we are now doing on the future support programme, Horizon Europe, which will define how we spend our EU research funding for the period 2021-27.

Child said Horizon Europe has proposed an overall budget of €100bn — with the largest increase ever seen - coming at a time when European national budgets are under pressure.

"We have proposed that 35% of this overall research and innovation budget should be earmarked for actions linked to addressing climate change, with renewable energy being a big part of that." 🖪

### Innogy eyes French, Dutch, UK and Irish offshore tenders

FUPOPE

#### BERND RADOWITZ

Innogy, a unit of German utility RWE, plans to take part in upcoming offshore wind auctions in France, the Netherlands, Ireland and the UK, says chief operating officer Hans Bünting.

"We will take part in the next auction in France. It is supposed to take place before Christmas," Bünting said yesterday during a press briefing at the Global Wind Summit.

The next French offshore tender will be for the up-to-750MW Dunkirk zone in the English Channel.

The utility is also eying the 700MW Hollandse Kust South 3 & 4 auction that is expected to be launched this yearas a zero-subsidy tender. Innogy participated, but lost, in the first zero-subsidy tender for the adjacent Hollandse Kust 1 & 2 zone, which Vattenfall won.

Innogy further plans to bid in a spring auction for the 600MW Dublin Array off Ireland.

Innogy bought half of the wind farm from local developer Saorgus Energy, and has an option to acquire the other half as well, Bünting said.

And the utility also wants to take part in the next UK Contracts for Difference round, bidding for its 1.2GW Sofia project in the Dogger Bank area of the North Sea. 🖬

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### Today: WindEnergyMatch - International Brokerage Event

Trade fairs are a perfect opportunity to receive information about the newest innovations and trends and also to make new contacts and look for future business and research partners. But how to find out who might be a good match within the hundreds of unknown faces?

The Enterprise Europe Network invites all exhibitors and visitors of WindEnergy Hamburg 2018 to participate in the B2B-matchmaking event WindEnergyMatch 2018. Here you can meet with future business and research partners in pre-scheduled meetings right at the fair ground but with some distance to the trade fair's hustle and bustle. Our aim is to support European economy and research especially in establishing international contacts. Participation in

WindEnergyMatch is free of charge, the purchase of an entrance ticket for the fair WindEnergy Hamburg 2018 is compulsory.

27-28 Sept Hall B7, Room B7.1 (upper floor)

### **Tomorrow: Recruiting Area**

Wind energy as an employer: many of the exhibitors will present themselves as employers in the Recruiting Area. Skilled specialists will have an opportunity on Friday 28 September, alongside the normal expo and meeting activities, to meet up with human resource managers and find out about further education opportunities.

Between halls B1-B2, upper floor

### SPEAKERS' CORNER

### **UPPER FLOOR BETWEEN HALLS B1 AND B2**

#### 10.00 - 10.10

SRepowering als Chance - Potentiale für Investoren, Betreiber und die Energiewende

Henning Krix, Repowering Sales Manager, Vestas Deutschland GmbH

10.15 - 10.25 Success factors of wind service business Markus Kösters Head of Energy Services Europe, E.ON Climate & Renewables

#### 10.30 - 10.55 Bürgerwind, Prospecktflicht und die Bafin

Sonja Hannöver, Steuerberaterin, Manager AS, BDO AG Wirtschaftsprüfungsgesellschaft

11.00 - 11.10 Renewable Hybrid Plants: Potential cost savings and increased revenues? Claus Wattendrup, Vice President of Solar & Batteries, Vattenfall Wind

11.15 – 11.25 Elektrische Sicherheit für Windenergieanlagen Jens Bickel, Vertriebsingenieur, Bender GmbH & Co. KG

11.30 - 11.40 The Technologies Behind GE's 4.8-158 Onshore Wind Turbine Dr Chris Spruce, Chief Engineer, Onshore Wind, GE Renewable Energy

11.45 - 11.55 Blackout im Windpark: In Zukunft Dauerschlagzeile!? Klaus Mochalski, CEO, Rhebo GmbH

#### 12.00 - 12.10 Harshlab, a unique offshore laboratory in the Basque coast

Pablo Benguria, Project Manager at Tecnalia Research & Innovation (Energy and Environment Division), Harshlab -Wind Energy Basque Country

12.15 - 12.25

**The increasing importance of life time extension and Retrofit solutions** Johannes Krainer, Business Development, AMSC Austria GmbH

#### 12.30 - 12.40

**Cost-efficient Up-tower Recovery** Helle Birgitte Hansen, Sales and Marketing Manager, MAN PrimeServ On-site Recovery

#### 12.45 - 12.55 Digital transformation of the Wind Industry Slavko Vranjes, Consultant, Lufthansa Industry Solutions

13.00 – 13.25 Research on Health Prediction of Wind Turbine Based on Operation Big Data Yin Lei, Director of wind power data resource center, Ming Yang Smart Energy Group

13.30 – 13.40 Dynamic wind turbine and park optimization using rotor blade sensing Bernd Kuhnle, CCO, fos4X GmbH

#### 13.45 - 13.55 Beschleunigen Sie Ihre Asset Transaktionen mit dem digitalen Marktplatz von greenmatch Isik Moris, Co-CEO, greenmatch AG

14.00 – 14.10 Novel 3-row roller pitch bearings Werner Schröppel, Geschäftsführer, IMO

14.15 – 14.25 Single main bearings – cylindrical or tapered rollers? Dr Henrik Albertsen, Leiter Anwendungstechnik, IMO

14.30 - 14.40 Challenging the Status Quo of Rotor Blade Inspection Ulrich Moor, Business Development, Sulzer & Schmid Laboratories AG

14.45 – 14.55 Parasol - Dunkle Nächte emissionsfrei Claas Arlt, Geschäftsführer, Dirkshof

#### 15.00 – 15.10 Sanierung von Bolzenverbindungen an Offshore-Fundamenten Klaus Deininger, General Manager, KTW Umweltschutztechnik GmbH

15.15 - 15.40 Cable Accessories with Sensors for the Digitalization of Wind Farm Grids Dr Lederle Christoph, Senior Manager, Product Management, MV Cable Accessories, TE Connectivity

#### 15.45 - 16.10 Advanced Control For Smart Wind Turbine

Zou LiBing, Director of Loads and Stress, Ming Yang Smart Energy Group



16.15 – 16.25 Ist Ihre Anlage sicher vor Hackern? Mohamed Harrou, SCADA Engineer, BayWa r.e. Operation Services GmbH

16.30 – 16.40 Gebrauchte Windkraftanlagen - Zugang zu neuen Märkten Bernd Weidmann, Geschäftsführer, windturbine.com GmbH

#### 16.45 - 16.55 Multibrand Retrofit. Reduce service

**costs. Extent lifetime. Increase power production** Frank Svarre, Global Sales Manager,

**DEIF Wind Power Technology** 

#### 17.00 - 17.10

Dynamische Netzstützung - Ein Beitrag für eine stabile Energieversorgung Michael Brand, Gruppenleiter Netzintegration, windtest grevenbroich gmbh

17.15 – 17.25 Benefits of booking an offshore campaign vs. hiring "hands" Guillaume Bouchet, Commercial Project Manager Offshore, REETEC GmbH

17.30 - 17.40 Erfolgreiche Instandhaltungsorganisation in Off- und Onshore Windparks Lennard Holst, Project Manager Lean Services, FIR e.V. an der RWTH Aachen



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### **DAY 3:** The wind industry in a merchant environment

### 9:15 – 10:15, Room: Brussels The wind industry in a merchant environment: challenges and opportunities

This session will set the scene for a day of discussion about how the industry can reduce uncertainty arising from global competition, shifts in trade and policies, and secure the stable revenues that will allow it to keep growing.

### 13:00 – 14:15, Room: Kopenhagen 1 Coordinating wind and grid investments

This session will discuss how to better coordinate grid and wind investments.

### **SOCIAL & SIDE EVENTS**

09:15 – 15:15, Kopenhagen 2 Baltic Energy Market Interconnection

**10:00 – 14:00, Marseille 2** NSWPH Consultation Session.

14:45 – 16:15, Kopenhagen 4 Challenges of Different Safety Cultures.

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### 14:45 – 16:00, Room: Hamburg Under pressure? The impacts of LCOE reductions on the supply chain

This panel discussion will give a voice to the supply chain stakeholders on how they are facing the LCOE reduction pressures.

### **16:30 – 17:45, Room: Hamburg** Decommissioning, lifetime extension or repowering: taking the right decision

This session will discuss the risk and benefits of re-powering or extending the life of wind turbines.

**15:00 – 16:00, WindEurope Stage** Hack the Wind 2018 – Winners announcement and final demos.

**16:00 – 18:00, Kopenhagen 2** Workshop on Offshore Grid.



### WindEurope has two stands in Hall B1.

### WindEurope Stand B1.OG.311

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- Get a taste of our business intelligence tools.
- Book your stand or sponsorship package for our upcoming events.

### WindEurope Stage B1.OG.211

9:30 – 10:00 WindEurope – how do we support your growth in the wind industry?

10:00 – 10:30 A new dawn in South Africa – Windaba 2018.

10:30 – 11:00 Carrying your voice in the political arena.

11:30 – 12:00 WindEurope events: what's coming next? (2018-2019).

12:30 – 13:00 80% wind in Denmark by 2030 – Hitting the wall or bridging the gap?

14:00 – 14:30 Wind Energy in Europe: Outlook to 2022.

16:30 – 17:00 Press conference: The prospects for offshore wind in Poland.

Agenda subject to alteration. SEE FULL AGENDA: windeurope.org/stage





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### HSBC: Green strategies are lucrative for companies



### ANAMARIA DEDULEASA

esearch commissioned by UK-based banking giant HSBC has revealed that having a strategy focused on the environment, social issues and governance (ESG) is seen as financially lucrative for companies.

According to HSBC, which surveyed 868 institutional investors globally, 61% of investors and 48% of issuers — those developing or selling investment instruments — have an ESG strategy in place. Financial returns were cited

iotograph | AFP/

by tax incentives. "Among issuers, Europe (87%) and the UK (87%) set the pace,

strategy focused on ESG, followed

as the biggest reason to have a

particularly among corporates with over \$10bn turnover. Hong Kong registered 13%, followed by the US at 21%. For investors, the widest disparity exists between Europe (85%) and Asia (40%)," HSBC said.

In addition, research showed that invested companies are consistent in their use of proceeds raised, with 66% citing internal investments to make their business greener, such as new plant and machinery, or new renewable power sources.

"It's notable that the driver of increased disclosure has changed since 2017, where 83% of corporate issuers cited investor pressure first, followed by regulation, then risk of negative publicity," said Daniel Klier, HSBC's head of strategy and global head of sustainable finance.

"This shift towards prioritising financial returns illustrates investor engagement has improved and that market forces are encouraging behavioural change. Put simply, ESG, climate finance and risk management are moving mainstream."

Meanwhile, 67% of issuers and 57% of investors see no barriers to increasing their ESG commitments. Of those who do see barriers, 58% cite inconsistency of ESG definitions as the inhibitor, HSBC said.

"The market is now looking to regulation to provide clarity and definition, especially as inconsistency of definitions is an issue for all," said Klier. 🖬

### Wind Challenge competitors spur \$1bn lifeextension boost

### DARIUS SNIECKUS

Some 700 competitors from 40 countries boosted the financial performance of a virtual wind farm by a total of €850m (\$998m) after taking part in Sentient Science's online game The Wind Challenge.

Josep Fernandez Gausach won the game by extending his turbines' operations by five years and generating additional power worth almost €20m as the first leg of the online game finished at the Global Wind Summit.

The Wind Challenge, supported by WindEurope, Tower Climbing Grease Monkeys and *Recharge*, was designed to draw industry attention to the importance of digitalisation and the positive financial impact of life extension.

Sentient Science powered the game with its DigitalClone models of GE, Siemens Gamesa and Vestas wind turbines, operating on a fictional wind farm in Greenland.

A panel of wind sector experts also judged life extension innovations that were introduced to the game by competitors while it was underway. Holger Streetz won with a innovative measure to lubricate turbine bearings with ceramic grease.

The next leg of the game begins immediately, and winners will be identified at China Wind Power in October. ☑

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#### BERND RADOWITZ

n 1 January 2021, the 20year feed-in tariff (FIT) for 6,000 German wind turbines — totalling 4.5GW will expire, having been granted in 2000, when the pioneering Renewable Energy Sources Act (EEG) came into force.

Without the generous FIT, the machines will have no guaranteed income (other than what power can be sold on short-term wholesale markets), threatening their economic viability.

With more than 17GW of installed capacity due to see its FITs expiring in 2021-26 — one third of the country's wind power — many in the industry are wondering if there will soon be large-scale decommissioning or repowering.

However, 42MW at six community wind farms in Germany — featuring old turbines built by long-defunct OEMs such as Tacke and Enron Wind — will now see their power being sold directly to a non-utility third-party buyer when their EEG subsidies run out in 2021, thanks to powerpurchase agreements (PPAs) signed by Norwegian state-owned utility Statkraft. It is the first such deal in the post-EEG environment, and could be the first of many.

"In many cases, operation without subsidies is possible when market-oriented action, targeted marketing and efficient operations come together," says Carsten Poppinga, managing director of Statkraft in Germany.

One of the turbines at the Kunst und Wind (Art and Wind) project ir Germany, which will soon sell its wer to a third party industria

supply a large German industrial company without whose commitment the wind farms would have been shut down."

FUPOPF

WindEnergy Hambura

> Many of Statkraft's industrial customers have set themselves sustainability targets and are therefore interested in a supply of green electricity, Poppinga adds.

> When the EEG came in, it provided support for renewables via FITs financed through a supplement on consumers' power bills. In a reform of the act in 2014, the allocation of most support was shifted away from FITs to competitive tenders.

The EEG, with its initially high subsidies, is recognised as having kick-started global wind and solar sectors on an industrial scale.

"We are pleased that, in addition to the technical requirements, we have now been able to secure the economic further operation of the 31 wind turbines for the next few years," says Jan Pinkernelle, managing director of the community wind farms that signed the Statkraft PPAs.

"On the technical side, we have a strong partner with GE Renewable Energy [the successor company to Tacke and Enron Wind]. This enables us to guarantee Statkraft the agreed electricity supply and secure our revenues."

● German turbine OEM Enercon followed in Statkraft's footsteps last week when it signed a PPA with logistics trade association VDKL for 10.6MW-worth of power from wind farms whose support under the EEG scheme expires after 2020. □

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Benjamin Franklin

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#### HERMANN ALBERS

opulism is again on the rise in Europe and it could become a serious problem for Germany's Energiewende. The Alternative für Deutschland (AfD) party, which generally denies the existence of climate change, continues to gain supporters, mainly in underdeveloped and rural areas.

Many rural regions are losing basic infrastructure such as schools, hospitals, municipal administrations, police stations and local courts. This could lead to a "democracy problem", as disenchantment with politics and support for populist parties grow.

The proud parties of the rural areas, the Christian Democratic Union (CDU) and its Bavarian ally, the Christian Social Union (CSU), are reluctant to face this new challenge. In Bavaria and even more in eastern Germany, where elections will be held in Thuringia, Saxony and Brandenburg in autumn 2019, they fear losing votes to AfD.

The Social Democratic Party (SPD) and left-wing Die Linke are losing ground too. AfD is increasingly successful in setting the agenda and filling the vacuum left in rural areas - not only in terms of migration policies, but also with its denial of climate change and hostility towards renewable energy.

But there is a second reality. Decentralised renewable energies are powerful structural programmes in many places. They provide local authorities and landowners with a financial foundation, integrate village communities and create supply and service companies in areas where investment is scarce. The results are self-confident communities that no longer depend on the state's financial resources, and mayors who are able to maintain their local kindergarten and

rgiewende in danger of ing victim to politics

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primary school. In some of these municipalities, churches and city halls have new roofs.

upporters

the far-right.

at a rally in stock, Germany

on Saturday

AfD party hold a

banner that reads 'Stop Islamisation

Politics should promote precisely these processes of decentralised value creation. The national coalition government is led by the CDU and CSU. But these parties, which are traditionally rooted in rural areas, where they have a loyal voter base, are showing limited support for

decentralised renewables projects. Some CDU/CSU members have still not come to terms with smallscale renewables, which, according to the coalition agreement, have the potential to take over German energy production. Instead they maintain a

cramped adherence to corporate structures and open-cast mining projects, while ignoring small renewables that are the technologies of the future. Why do SPD politicians fiercely defend coal, although its employment effect is limited?

Für eine sichere Heimat

The CDU/CSU should recognise the contribution of green energy in stabilising rural areas, where renewables increase the value and quality of life and contribute to the preservation of our climate.

Instead of torpedoing the development of renewables by fighting the populists on their own terms, they should be showing a determined commitment to the Energiewende.



AfD

Hermann Albers is president of the German wind association, BWE



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### WIND ENERGY 2018

#### ber, room B6.1

- DNV GL's Energy Transition Outlook report 2018 (9.30-11.00)
  Joint Industry Project: Standardized test method for concrete fatigue (11.30-12.30)
- Joint Industry Project: BLARE Blade Repair (12.45-13.45)
  LCoE based turbine and wind farm design (14.00-15.00)
- MyCertificate the interactive certification configurator for wind turbines (15.15-16.15)
- Latest trends in offshore wind markets and technology (16.30-17.30)

#### 27 September, stand 330, hall B4

- Certification goes digital (10.30-10.45)
- Certification of Energy Storage Systems (10.45-11.00) German Renewable Energy Assets for Asian-Pacific Investors (14.00-14.15)
- Power Price Forecasting
- The benefits of wind farm control in pre- and post construction phases (14.30-14.45)
- Prototype Testing of Floating Offshore Wind Turbines (16.00-16.15)
- Artificial Intelligence in Renewables what is it and how can we use it? (16.15-16.30)
- Issues for energy storage co-located with wind (16.30-16.45)

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### RICHARD A KESSLER

fter stockpiling gigawatts of wind turbines in 2016 to qualify projects for 100% production tax credit (PTC) value, US developers may have begun to lose a race against the clock if they want to have all of them in commercial operation as federal law requires by the end of 2020.

Without full-value PTC — an inflation-adjusted \$24/MWh for electric power sent to the grid for the initial 10 years many projects would not make economic sense and by extension, not obtain financing. To qualify for the full PTC, which expired at the end of 2016, at least 5% of a project's total cost had to be spent by then, usually through buying and taking possessions of turbines.

The turbine-buying binge was essentially a bet by developers secure in the belief they would find places to put them — the "safe harboured" turbines could be used at any project completed before 2021. Now, 20 months later, that confidence may have been misplaced in some cases and owners of those units are getting anxious with the end-2020 fullvalue PTC deadline in sight.

In 2016, the MAKE consultancy estimated that 45GW of future wind capacity was qualified by "safe harbouring" turbines to qualify for the 100% PTC. MAKE also predicted that the less common qualification method of starting physical construction before the end of 2016 would lead to 16GW eventually being built. But it now looks as if nowhere near this combined 61GW will be built.

While many full-PTC projects have since been completed or are on schedule to meet the 2020 deadline, others are taking longer to advance due to multiple factors, such as increased competition to find offtake deals and permitting and regulatory delays.

These problems have been exacerbated by the collapse or delay of several long-haul transmission-line projects that would have supported 11GW or more of new wind power capacity.

US turbine installations totalled 7GW in 2017 and 1GW in the

US developers in race against clock to meet PTC deadline

first six months of this year. Analysts predict 9-10GW of installed capacity in 2018 and perhaps more in 2019 and 2020. On 30 June, there were about 37.8GW of projects under construction or at an advanced

Kcel Energy's Nobles wind farm

1innesota

construction

development nationwide, according to the American Wind Energy Association, but not all of them are eligible for the 100% PTC. The incentive dropped to 80% value in 2017 and 60% this year, and will fall to 40% in 2019



before disappearing at the end of the year.

### **Roads lead to Texas**

Developers that have safeharboured turbines are still keen to complete projects by 2020, and the best opportunities of doing so — even with the current limited time frame — are in the ERCOT grid in Texas, the nation's leading wind market, and to a lesser extent, the adjacent Southwest Power Pool (SPP) transmission area.

This is because projects can be built faster and more off-take opportunities exist.

"ERCOT is one of the few places that you can develop on a short enough timeline that you get turbines in the ground and projects built," Eric Barnhart, director of corporate development at renewables developer Longroad



EUROPE



Energy, recently told the Texas Renewable Energy conference.

Leasing land and permitting is easier and the regulatory burden lighter, particularly in ERCOT, saving developers millions of dollars and large amounts of time

### It now looks as if nowhere near this 61GW [of pre-qualified capacity] will be built

to get projects in position for construction, compared with, for example, California and the US Northeast. Gaining ties to the grid there is also faster.

Matt Jacobs, vice-president of portfolio siting, at Tradewind Energy, said his company returned to ERCOT two years ago "mainly after learning how hard it is to navigate masses and masses of risk and lots of capital" to get grid connections with other regional transmission organizations (RTOs).

Texas and several

states such as Kansas and Oklahoma within SPP adopted policies to strongly promote wind investment and the results this decade — perhaps \$50bn combined

exceeded policymakers' expectations.

ERCOT alone had 20.7GW of wind power installed at the end of 2017 and forecasts more than 23.5GW by the end of this year. Developers have signed up for grid connections that could raise the total beyond 33GW by the end of 2020 — a clear sign they are pushing projects to meet the 100% PTC completion deadline.

In SPP, wind was 20.2% of 87GW of generating capacity there at the end of 2017 and there was 6.2GW of grid-connection projects queued in the Texas Panhandle region it serves (outside the ERCOT zone).

ERCOT and parts of SPP are also among the few regions in the country with robust electric power demand growth, fuelled by strong recovery of the oil & gas sector, and healthy exportoriented agroindustry and manufacturing sectors.

In ERCOT, changing



consumer preference for cleaner energy alternatives, coal plant retirements, low wind energy prices and strong population growth complete the bullish wind panorama over the next several years.

However, fewer traditional utility power-purchase agreements seem to be available in ERCOT and SPP, leaving developers to use often complex and riskier alternatives, such as fixed-volume price swaps, proxy revenue swaps and corporate PPAs.

### Added expense

Rising interest rates are also increasing borrowing costs and the length of time it takes to complete projects, which will therefore affect future margins. The cost of storing turbines also adds to the expense.

At the same time, delayed projects are also missing opportunities to be sold to institutional investors, including pension funds and sovereign wealth funds looking to increase or gain exposure in US renewables — a hot market now awash in liquidity.

### China's CRRC developing 10MW turbine generator

### YUKI YU

A leading Chinese wind turbine generator maker, CRRC Yongji, has revealed that is developing a 10MW semi-direct-drive model for the offshore sector, which will be launched by the end of next year.

CRRC Yongji, the electric equipment manufacturer of CRRC group, completed its first 7.6MW generator prototype only three months ago — a product that made its official debut at WindEnergy Hamburg yesterday.

At the product launch event, CRRC said that the 7.6MW model — a medium-speed permanentmagnet synchronous generator — is the largest offshore wind generator produced in Asia to date.

The generator will serve Mingyang's 7MW offshore wind turbine, *Recharge* understands.

"We saw a clear trend in both the international and domestic market that offshore wind turbines are moving to 10MW," CRRC Yongji's chief technology officer, Duang Zhiqiang, told *Recharge* yesterday. "We have committed to the development of 10MW and 12MW generators."

Besides the 7.6MW generator, CRRC Yongji also launched a 3.6MW onshore double-fed asynchronous generator at WindEnergy Hamburg, which it hopes will unlock the global market.

Another CRRC subsidiary, CRRC Zhuzhou Electric, has signed a framework agreeement to deliver at least 100 generators for Senvion's 3.XM wind turbine series over the next three years.

Besides offshore generators, CRRC Yongji is active in providing 2-3MW onshore generators that cater to the lowspeed wind conditions in China, which are expected to become the next market segment in the country with major growth potential. ⊡

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