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Wind EUROPE • CONFERENCE & EXHIBITION 2017 28-30 NOVEMBER AMSTERDAM

DAY TWO

German auction design 'is killing wind sector'

BERND RADOWITZ

Germany must lift its annual 2.9GW cap on onshore installations and repair flaws in its tendering system to avert major damage to the wind industry, leading executives told the WindEurope 2017 conference yesterday.

Europe's largest wind market will lose more than 2.5GW in installations in the coming two to three years as a result of a change in 2017 to tenders from a previous feed-in tariff, said Enercon managing director Hans-Dieter Kettwig.

Germany must boost its annual onshore auction volume beyond 2.9GW from next year, "otherwise the industry has a tough situation", he told delegates.

"Politicians must react very soon in Germany — but very soon at this moment is not so easy," Kettwig added, referring to the difficult path to form a new government after three-way coalition talks between Chancellor Angela Merkel's CDU, the liberal FDP and the Greens failed.

The annual cap on new installations managed by the tendering system is particularly damaging due to exceptions for community wind groups, which don't need to provide a sound emission permit when bidding, and get two years longer than commercial developers to build their wind projects.

"The design of the German auctioning system really kills the wind industry," Holger Koschorz, vice-president for public affairs at wind turbine maker Senvion, told *Recharge* yesterday, pointing out that almost all of the winning bids in Germany's most recent onshore tender were from community groups. These organizations do not have to start construction on their projects for two or three years and suffer little consequence if they never get built — unlike commercial developers.

"There is no penalty that really hurts if a project is not built,"

CONTINUED on Page 2

Hans-Dieter Kettwig and fellow event ambassadors speaking with WindEurope boss Giles Dickson on stage yesterday

Photograph | Benjamin Brolet/WindEurope

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A prototype of a Siemens Gamesa 8MW turbine

Vattenfall picks Siemens Gamesa for largest ever offshore order

ANDREW LEE

Siemens Gamesa will supply up to 955MW of its 8MW turbines to three Danish offshore wind farms after developer Vattenfall placed the largest ever order in the sector.

The manufacturer will equip the Swedish utility's Kriegers Flak wind farm in the Baltic Sea, and the Vesterhav Syd and Nord North Sea projects.

Vattenfall will spend almost €1.7bn building the projects, among the largest investments it has made in renewable energy to date.

The Swedish utility in 2016 won the 605MW Kriegers Flak with a record-low €49.90/MWh bid, with Vesterhav Syd and Nord — with up to 350MW between them — coming in at €61/MWh.

Vattenfall said the combined turbine supply deal — which also covers installation and servicing — is a key element of the cost equation.

"A combined purchase gives us a lower price, which means that construction costs for offshore wind power can be further reduced. Vattenfall will naturally take these cost levels into other markets," said the company's head of wind power, Gunnar Groebler.

Kriegers Flak — due to be fully operational in 2021 — will use 72 turbines, with 41 earmarked for the twin North Sea projects, which will enter service a year earlier. Between them, they will power one million Danish homes.

The deal is a welcome boost for Spain-based Siemens Gamesa, which has been under commercial pressure since the merger of the former Siemens Wind business — the offshore sector's frontrunner — and Gamesa.

The company says it will supply its new 8MW machine, which it unveiled yesterday (*see page 8*), to the Vattenfall projects, as well as to Ørsted's 752MW Borssele 1&2 project off the Netherlands.

German tenders do not offer 'fair competition'

FROM Front Page

Koschorz said. "There is no fair competition."

According to Koschorz, community developers are planning a kind of follow-up auction among turbine makers to achieve the lowest possible price.

Without a clear political commitment, Europe's leadership in wind power is at risk, WindEurope chairman Ivor Catto told the opening session yesterday.

"We are starting to see the growth of jobs stagnating," he said, pointing to the more than 260,000 jobs the wind sector is providing in Europe now.

"In this context, the negotiations on the [European Commission's] clean energy package is importantly entering that final stage."

EU Parliament backs ambitious 35%-by-2030 renewables goal

CHRISTOPHER HOPSON

The European Parliament yesterday voted to back a binding EU target of at least 35% renewables in its energy mix by 2030, in a move applauded by the wind industry and others.

The vote by the parliament's industry and energy committee sees the EU's elected members take a far more ambitious stance than the European Commission, the bloc's executive arm, which has proposed a 27% goal.

The parliament also backed measures that would require policymakers to set out in detail their support plans for renewables over a five-year period.

"Visibility on deployment volumes to 2030 also remains crucial to sustain wind energy's contribution to the EU economy," said WindEurope chief executive Giles Dickson.

"In this light it's very good the committee adopted a five-year upfront schedule for public support to renewables.

"Knowing what the volume, timing and budget of renewable auctions is going to be will help the industry plan its investments in the supply chain. It secures economies of scale and brings down costs."

The lack of specific, binding targets for EU member states is seen by many as one of the key weaknesses of the proposals currently on the table from the Commission.

The parliament's vote is non-binding on the Commission and all eyes now turn to an 18 December meeting of the Energy Council, made up of the energy ministers of EU states.

There are already signs that the Commission may be softening its stance on a higher 2030 target, with its vice-president for energy union, Maroš Šefčovič, admitting that steep power price reductions have already made a 30% goal viable.

Photography | Siemens Gamesa

Copenhagen Infrastructure Partners' Torsten Lodberg Smed

Zero-subsidy auctions risk putting off new offshore wind investors

KARL-ERIK STROMSTA

Zero-subsidy European offshore wind projects may prove to be solid investments, but their risks are too steep for many big potential investors, said Torsten Lodberg Smed, senior partner at Copenhagen Infrastructure Partners (CIP), speaking at the *Recharge* Thought Leaders roundtable in Amsterdam on Monday.

The global offshore wind sector was stunned earlier this year when Orsted (then known as Dong) and utility EnBW won 1.38GW of future German offshore capacity with zero-subsidy bids, prompting the Netherlands to launch its own subsidy-free tender, with bids due next month.

Some in the industry are concerned that such subsidy-free projects require an overly optimistic view of future cost reductions, while underestimating the risks of projects that may not be on line for nearly a decade.

"Generally for Europe, I'm a bit concerned about the viability of everything that's going on," Smed said.

"We've seen zero [subsidy] bids. All I can say is, if these projects end up being purely merchant, I think there will not be a big investor appetite – at least not from many of the investors I know."

CIP has invested in several European offshore wind projects, including Germany's recently completed 402MW Veja Mate, and is also active in the early-stage US and Taiwanese offshore markets. The Danish fund manager has raised €6bn to date, much of it coming from institutional investors.

Jonathan Cole

Photography | Copenhagen Infrastructure Partners | Iberdrola

With the most aggressively priced offshore wind projects not expected on line until the mid-2020s, developers are counting on substantial advancements in turbine size and efficiency to make the economics pencil out. "But it remains to be seen whether that new technology will actually be available" in time, says Smed, who was an offshore wind executive at Dong before co-founding CIP.

Meanwhile, the economic climate could be much less favourable in a few years' time.

"You can't rule out that before these big projects reach [their final investment decision] we have a new economic crisis," he says. "It's actually not unlikely we'll have a big issue at some of the projects."

Zero-subsidy bids have been a thrilling development for the offshore wind industry, but they must be assessed in the proper context, says Jonathan Cole, managing director for global offshore wind at Iberdrola Renewables.

As an industry, "some of our biggest achievements are not actually achievements – they're promises", Cole notes. "Some of the things we talk about with cost reductions are for projects that haven't yet been built."

Market not yet ready for mega-turbines

European offshore developers are counting on a new generation of huge turbines for their zero-subsidy projects, but the market may not be big enough to justify the R&D investment for a 15MW machine, says Henrik Bæk Jørgenson, chief product manager at MHI Vestas.

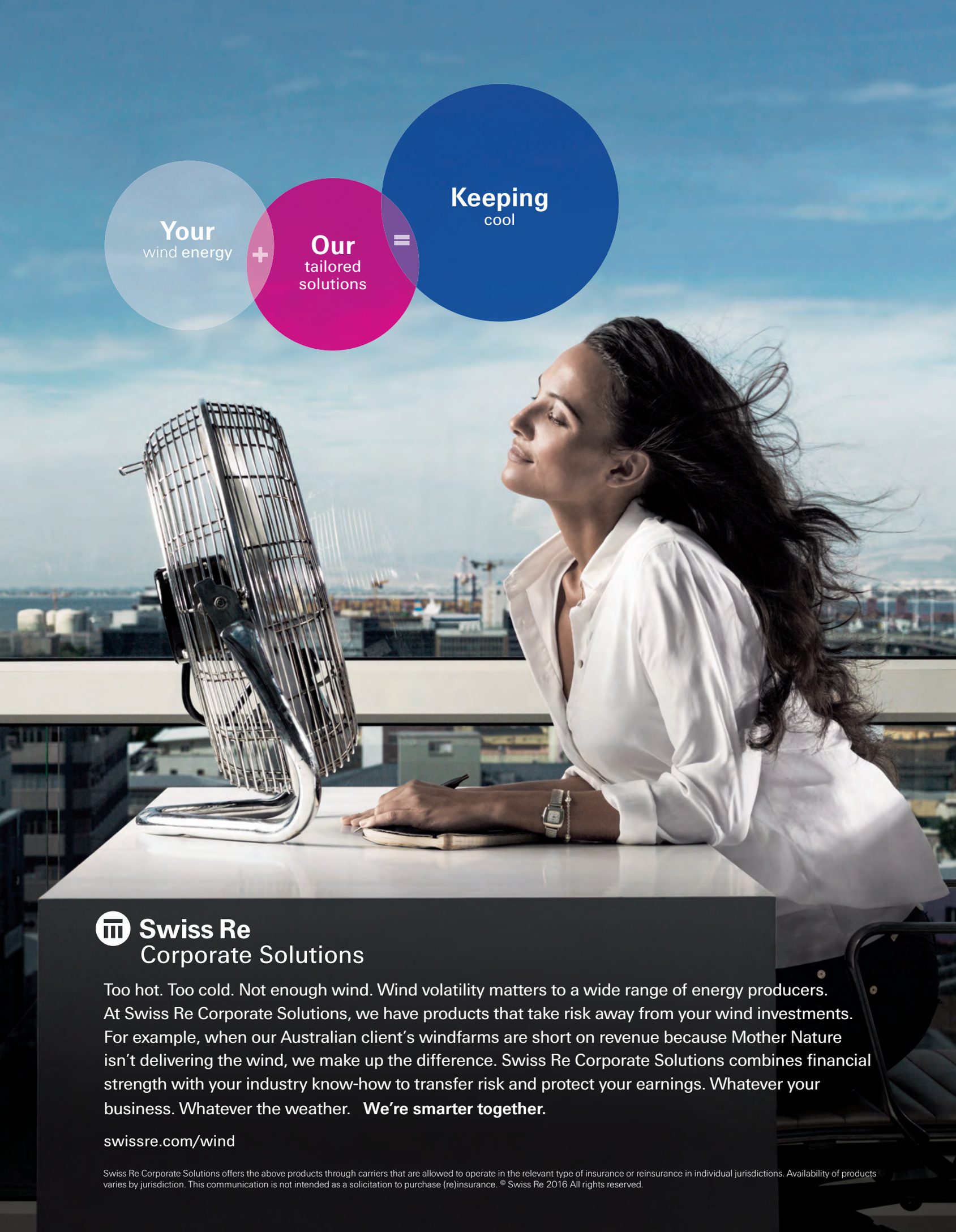
"To deliver turbines of 15MW, we'd have to invest a lot of money," says Jørgenson, whose company currently offers a 9.5MW model – and has kept its cards close to its vest regarding future upgrades.

Jørgenson notes that an "optimistic" forecast for the near-term European offshore market is 4GW a year, equivalent to less than 300 turbines at 15MW each.

"With two, three, maybe four players in the market, is that sufficient for us to make a return on our investments, build the factories, and so on? I think the answer speaks for itself."

The potential take-off of US and Asian offshore wind will help, but the conditions in these markets will require substantial product modifications – "it's not a one to one", he says.

So would the European market need to be bigger than its current trajectory to warrant the investment needed to develop of a 15MW turbine? "I would say so, yes," Jørgenson says.



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KARL-ERIK STROMSTA

EDPR boss João Manso Neto speaking at WindEurope 2017 yesterday, watched by Luca Bettonte, chief executive of Italian developer ERG

EDPR boss: 'Corporate PPAs still face challenges in Europe'

Corporate renewables power-purchase agreements (PPAs) are finally gaining traction in Europe, but the trend is unlikely to match the US any time soon, the CEO of a major global wind developer told the WindEurope 2017 conference yesterday.

While corporate renewables deals have become a central pillar of the US wind market, accounting for nearly 40% of wind PPAs signed last year, the model has been much slower to take off in Europe.

EDPR is "beginning to see some interest" from corporations in Europe, said João Manso Neto, chief executive of EDP Renewables (EDPR). "It's important, and it's a trend."

"Nevertheless, I would not be overly excited about the short-term impact," he says. "We cannot just extrapolate what's happening on the other side of the planet."

Neto pointed to several recent deals have suggested that may be changing, including the announcement this month of a 650MW GE-backed onshore wind project in Sweden that will sell its power to aluminium producer Norsk Hydro – said to be the largest-ever corporate PPA in the global wind industry. Meanwhile, Swedish utility Vattenfall recently announced an off-take deal with Microsoft in the Netherlands.

Portugal-based EDPR is among the largest wind owners on both sides of the Atlantic, and sells wind power in the US to corporations like Home Depot.

Several factors — specific both to the US and European markets — mean the model will not soon take off in Europe with the same force, Neto says.

To start, existing regulations make corporate PPAs virtually impossible in many European countries — a reality that the European wind industry is pushing to change.

Another overlooked factor, Neto explains, is the US production tax credit, which has made it possible for wind farm owners to sell power to corporate customers at below-market rates.

The length of deals is also important. The Norsk Hydro PPA — for an unprecedented 19 years — is the exception in Europe, where corporate off-takers "mainly prefer 5-10 years", Neto says. That's shorter than most US deals, and "not enough to justify a new investment" in a greenfield project.

GE wins 105MW deal in Serbia

KARL-ERIK STROMSTA

GE Renewable Energy has landed a turbine-supply deal for the 105MW Blacksmith wind project in Serbia, the second substantial order it has won it the country in the past month.

The US-based industrial giant will supply 38 of its 2.75-120 turbines to the project, which will be operated by Enlight Renewable Energy in northeastern Serbia's Vojvodina region.

Blacksmith will be the country's third-largest wind farm when it comes on line in 2019.

GE will make the turbines at its facility in Salzbergen, Germany, while subsidiary LM Wind Power will manufacture the blades in Spain and Poland.

Separately, GE announced that it has surpassed 60GW of onshore turbines installed globally, and more than 10GW in Europe.

Since GE's acquisition of France's Alstom, the OEM has placed a heavy emphasis on expanding its market share in Europe, where it has found considerable recent success — including a 1.5GW deal in Spain earlier this year.

Lithuania plans wind auctions

BERND RADOWITZ

As part of its new 2050 energy strategy, Lithuania plans to hold onshore and offshore wind auctions in coming years to boost the share of renewables in its electricity mix, the Baltic nation's energy minister Žygimantas Vaičiūnas told the opening session of the WindEurope 2017 conference yesterday.

The country aims to source 30% of its electricity from renewables by 2020, 45% by 2030, and 80% by 2050.

"To achieve those targets in the short term, auctions for 250MW in wind capacity will be organized in 2019," Vaičiūnas said.

The small country with a population of only 2.9 million currently has 500MW of wind power in operation.

"In the longer term perspective, Lithuania will develop offshore wind, which is a totally untapped resource in the [Lithuanian part of the] Baltic Sea."

The Baltic country wants to boost its wind energy output as a means to wean itself off the dependency on energy imports from Russia.

Photography | Benjamin Brolet/WindEurope

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WindConnector could save industry billions

TenneT's WindConnector concept — an artificial island in the North Sea that would act as both a giant offshore wind converter platform and multinational interconnection hub — could potentially save customers and the offshore wind sector billions of euros, a study says.

The research by Pöyry also identifies "potential capital savings of up to €1.8bn and increased asset utilisation from 45-50% up to 80%".

Tennet's Wind Connector concept

400MW Rampion starts sending power to grid

E.ON's 400MW Rampion offshore wind farm in the English Channel has started generating electricity from its first fully commissioned turbine.

The remaining 115 already-installed machines are due to be grid-connected over the next few months at the project, off the coast of Brighton, southern England.

Shell to double spending on 'new energies'

Shell is looking to double its annual investment in renewables and other 'new energies' up to 2020, the Anglo-Dutch oil giant said yesterday.

Capital allocation for new energies will be $1bn-2bn a year until the end of the decade — still a small fraction of its total capital investment of up to $30bn.

Free grid links plan for Swedish offshore wind

Sweden's offshore wind industry could soon get a major boost after the government asked its energy agency to work out proposals to remove grid-connection fees from offshore projects.

The cost savings could allow some of the 2GW of stalled, but permitted projects to move forward. Sweden has erected 212MW of offshore wind to date.

Computer rendering of Siemens Gamesa's new SG 8.0-167 DD turbine

Siemens Gamesa unveils new turbines

BERND RADOWITZ

Siemens Gamesa Renewable Energy (SGRE) yesterday launched a new 4MW onshore geared turbine platform, and also an upgraded 8MW gearless offshore offering with an enlarged rotor diameter.

The company says it is now planning to focus on geared solutions for its onshore machines, and direct-drive for offshore models as part of its new "One Segment/One Technology" philosophy.

The first turbine from its geared onshore platform is the SG 4.2-145, a 4.2MW model with a 145-metre rotor that offers an increased swept area of 21% and an enhanced annual yield of more than 21% when compared to its predecessor, Gamesa's G132-3.465MW.

"The single platform strategy helps the company to transition to a more focused offer in the medium term by using economies of scale throughout the supply chain," says chief executive Markus Tacke.

SGRE plans serial production of the new onshore platform in 2019, after design certification, with a prototype installation planned for 2018.

The OEM also has launched an upgrade to its direct-drive offshore platform, the SG 8.0-167 DD with a rotor diameter of 167 metres that will allow for a 18% greater swept area and up to 20% higher annual yield than Siemens' SWT-7.0-154. The company didn't say, however, how the larger-rotor machine compares to the SWT-8.0-154 — an 8MW model with a smaller rotor launched in 2016. The SG 8.0-167 DD is expected to be market-ready in 2020.

Envision launches 4.5MW model

DARIUS SNIECKUS

China's Envision Energy has unveiled its largest turbine to-date, a 4.5MW model designed for medium- to high-wind environments.

The EN148-4.5MW flies a 148-metre rotor and uses a "flexible" drivetrain architecture that "optimises site parameters to deliver the maximum energy output possible" at sites with average wind speeds of up to nine metres per second.

"Our EN148-4.5 turbine is another important step forward in our ability to deliver solutions that optimise energy output [and] make affordable and sustainable energy a reality," said Envision founder and chief executive Lei Zhang.

Photography | Siemens Gamesa

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HIGHLIGHTS OF THE DAY

Wednesday 29 November 2017 #WindEurope2017

Ask at the registration area how to buy a session ticket!

CONFERENCE PROGRAMME

09:30 - 10:45

EU policy: what do we want from the end-game on the Clean Energy Package? *ROOM: G103*	Digitalisation in wind turbine technology *ROOM: EMERALD*	To extend lifetime or to repower: the options, risks and benefits *ROOM: G105*	Coexistence of wildlife and wind turbines *ROOM: G107*

11:30 - 12:45

Storage: the good, the bad and the ugly *ROOM: G103*	Onshore wind turbines: where do we go next? *ROOM: EMERALD*	Big data and data security in wind O&M *ROOM: G105*	Engaging local communities *ROOM: G107*

14:15 - 15:30

Navigating in a merchant world *ROOM: G103*	Reducing uncertainty in operational assessment and wind power forecasting *ROOM: EMERALD*	Mitigating ice throw risks *ROOM: G105*	Digitalisation in wind power system integration *ROOM: G107*

16:15 - 17:30

Corporate Renewable PPAs on the rise – market potential and challenges *ROOM: G103*	Flow modelling for complex conditions *ROOM: EMERALD*	Ensuring safety in offshore installation and operations *ROOM: G105*	The grid infrastructure we need for higher wind penetration *ROOM: G107*

See the full programme online at: windeurope.org/confex2017/conference/programme

SIDE EVENTS

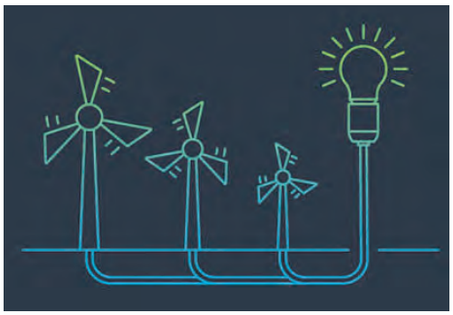
For information on how to register for side events visit:
windeurope.org/confex2017/networking/#side-events

INDIA OFFSHORE WIND
When: 29 November 2017, 09:30 – 17:00
Where: D204, Elicium 2nd floor

WIND ENERGY MATCHMAKING
When: 29 November 2017, 10:00 – 17:30
Where: RAI Amsterdam. In the Amtrium next to Hall 1

BALTIC SEA OFFSHORE WIND ENERGY GRID DEVELOPMENT 2035
When: 29 November 2017, 13:00 – 16:00
Where: D203, Elicium 2nd floor

DRIVING COST REDUCTIONS IN OFFSHORE WIND
When: 29 November 2017, 15:30 – 16:00
Where: WindEurope Stand (2C32), EU funded projects corner



HACK THE WIND
Final Pitch Session; Awards Ceremony & closing drinks.
When: 29 November 2017, 17:00 onwards
Where: Onyx Lounge – Ground floor

INNWIND.EU: LCOE REDUCTION FOR NEXT GENERATION OFFSHORE WIND TURBINES
When: 29 November 2017, 10:00 – 10:30
Where: WindEurope Stand (2C32), EU funded projects corner

GALA EVENT

When: 29 November 2017,
19:00 – 23:00
Where: Maritime Museum Amsterdam

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Transportation from the RAI will be offered, with shuttle buses departing at 18:30 sharp from Entrance K. The return journey after the evening must be organised individually.

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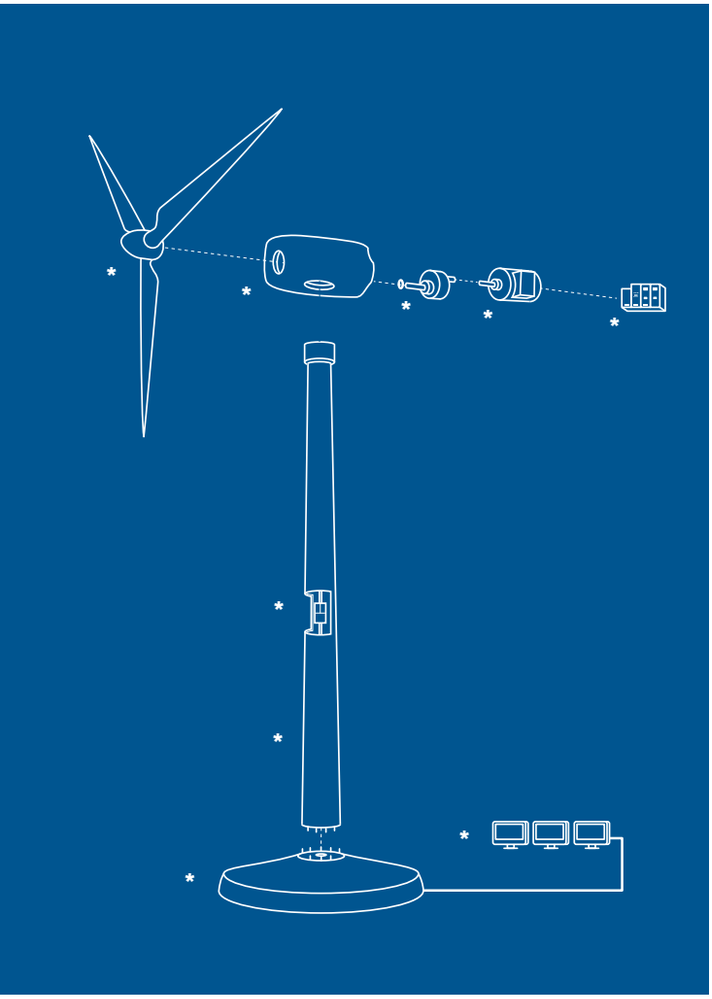

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Annual 2GW Dutch offshore tenders 'expected'

BERND RADOWITZ

The NWEA believes Prime Minister Mark Rutte will become more ambitious on offshore wind

Photograph | AFP/Getty

The Netherlands Wind Energy Association (NWEA) is optimistic over prospects for a doubling in annual offshore wind tenders to 2GW after talks with the Dutch government, the body's president Hans Timmers tells *Recharge*.

In a recent coaliltion agreement, the government of Prime Minister Mark Rutte laid plans to boost annual offshore tenders to 1GW a year from 2020 onwards, following on from the current series of yearly 700MW tenders until 2019. That already represents Europe's most ambitious roll-out of wind at sea if the Netherlands' population of only 17 million is taken into account.

"We talked to the government and said the wind sector is ready to develop more," Timmers says, adding that the currently planned volume won't suffice for the country to fulfil its commitments under the Paris climate agreement. "We are expecting the doubling [of planned offshore tenders] from 1GW to 2GW."

Under the current tendering plans, the Netherlands is slated to reach 4.5GW in cumulative offshore power by 2023 and 11.5GW by 2030.

That would come on top of an expected 7GW in onshore wind by 2023, up from 4.8GW today.

NWEA sees a maximum onshore installation capacity of around 15GW in the small, densely populated nation, which has led to it arguing for a goal of 35GW of offshore wind by 2030 and 50-70GW by 2050.

"There is real potential in offshore. We have a lot of sea available," Timmers explains.

A lack of investments in new oil & gas projects due to depressed prices could also give a boost to offshore wind, as companies already operating offshore are looking for other investments, he adds.

"They are interested as well in the electrification of [already operating oil & gas] platforms. Operators need to reduce their NO_2 emissions."

Anglo-Dutch oil major Shell is pushing into offshore wind, and last year won the right to develop the 680MW Borssele 3&4 offshore wind zone with a bid of €54.50/MWh.

AN INVESTMENT IN KNOWLEDGE ALWAYS PAYS THE BEST INTEREST

Benjamin Franklin

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‘Protect against rising market risk’

CHRISTOPHER HOPSON

By 2030 only 6% of European wind capacity will be fully protected against market risks through support schemes — down from 75% today — says a new report published by WindEurope and Swiss Re.

The report, *The Value of Hedging*, to be released today, says the transition away from feed-in tariffs to auctions comes with more exposure to price risk.

One new way to address uncertainty on project revenues is hedging against volume risk (ie, the risk that lower winds will result in less electricity than expected) — using investment instruments that transfer risk to third parties such as insurance companies. This can ensure that cash flow is predictable, regardless of the amount of wind in a given period.

WindEurope chief policy officer Pierre Tardieu

Photograph | Jason Bickley/WindEurope

Such services could extract a value worth €2.5bn for new wind assets installed between 2017 and 2020. This may go up to €7.6bn for new wind power installations between 2017 and 2030.

“Installed wind capacity in Europe could double to 323GW by 2030. With the growth of the wind sector and its increased exposure to price and volume risk there will be a need for a variety of revenue stabilisation mechanisms,” said Pierre Tardieu, WindEurope chief policy officer.

“Hedging instruments are emerging as a viable solution to mitigate some of these risks. They transfer the risk of the variability in generation from the project company to a counterparty willing to take on that risk.”

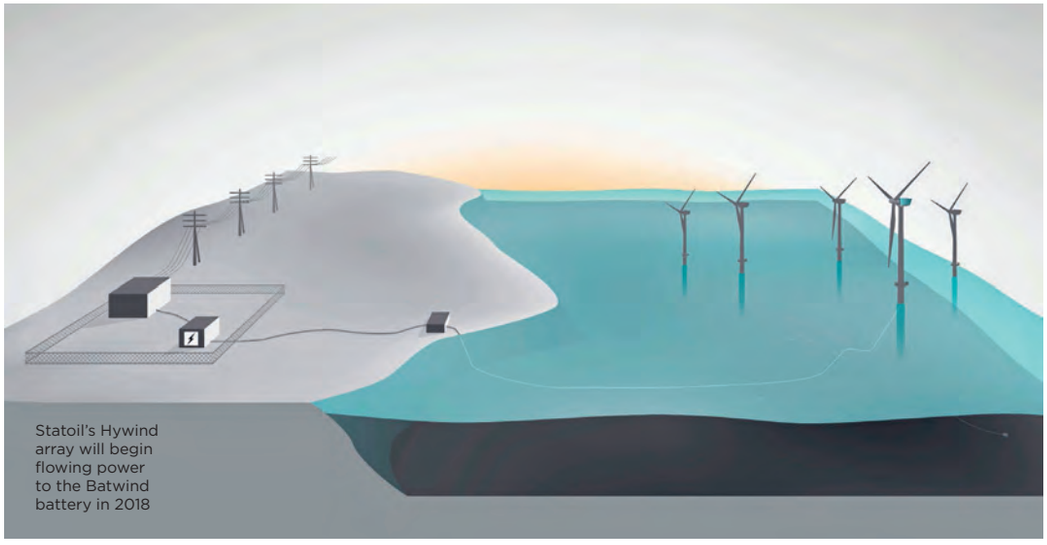
AEE: Spain can hit a 30% wind target by 2030

CHRISTOPHER HOPSON

Spain’s wind sector could supply 40GW by 2030 — more than 30% of the country’s electricity, the Spanish Wind Energy Association (AEE) has told a governmental energy transition committee.

The panel of experts, appointed by each of Spain’s main political parties, has been tasked with making recommendations for a new energy-transition law the government hopes to have in place by 2020 to meet its wider EU climate and energy obligations for 2030 and beyond.

“Spain’s current energy model is not compatible with European objectives,” AEE chief executive Juan Virgilio Marquez tells *Recharge*. “Energy planning for the new model must give long-term visibility.”



Statoil's Hywind array will begin flowing power to the Batwind battery in 2018

Statoil's Hywind floating array links up for Batwind battery

DARIUS SNIECKUS

Statoil's 30MW Hywind Scotland project, the world's first floating wind farm, will be wired into an onshore energy storage system (ESS) delivered by German outfit Younicos, under a deal inked yesterday.

The Batwind project, which will use a 1MW/1.3MWh ESS installed onshore near Peterhead, Scotland, aims to "teach" a battery when to store electricity and when to discharge it to the grid, to boost the value of the power generated offshore at the array, which was switched on last month.

"As part of Statoil's strategy of gradually supplementing our oil & gas portfolio with profitable renewable energy, getting to understand energy storage is important," said Sebastian Bringsværd, head of the Hywind Development at Statoil. "We believe battery storage will be key to future power systems, and with more renewables coming on it will be crucial to handle storage to ensure stability and reliability in the energy supply.

"Batwind adds value by mitigating wind variability — and by that make wind a more reliable energy producer year around. That will expand the use and market for wind and renewables in the future."

Younicos managing director Jayesh Goyal added: "By adding energy storage capabilities to another 'first' — the world's first floating wind [farm] — we demonstrate the essential role that storage plays in such groundbreaking energy achievements."

Unlike standard batteries, which charge and recharge, the two Y.Cube modular batteries being used for the project will be tailored to "understand how a battery can help increase the value of the produced electricity and how a battery best can work together with the wind farm and the grid" via the companies intelligent Y.Q software.

"This 'brain' on top of the battery [will] ensure that the battery behaves the way we want it to behave," said Bringsværd.

"We want the battery to automatically know when to hold back and store electricity, and when to send it out to the grid.

Based on the learnings and testing of the Younicos battery storage system connected to Hywind Scotland, Statoil and Masdar plans to assess "next steps" in further developing the solution.

The project is slated to be operational from Q2 2018.

Hamburg Messe and WindEurope lock arms for Global Wind Summit

DARIUS SNIECKUS

German trade fair organiser Hamburg Messe and European wind energy association WindEurope have joined forces to run the Global Wind Summit, in Hamburg next September.

The summit, dovetailing WindEnergy Hamburg's expo and WindEurope's annual conference, is expecting more than 35,000 visitors, 1,400 exhibitors from over 50 countries, and 500 presentations from global experts.

"The Global Wind Summit brings together European and non-European decision-makers from industry, politics and science to discuss the current market and explore future perspectives," said Windenergy Hamburg business unnit director Claus Ulrich Selbach. "Many business deals are expected to be closed in Hamburg, spurring job creation and substantial savings in carbon emission."

WindEurope deputy CEO Malgosia Bartosik added: "The wind industry is on the brink of globalisation. Europe has always been the global leader in wind energy but it is vital that non-European regions both learn from and develop on the major steps that European wind has taken. Participants will acquire first-hand knowledge from global leaders."

Emerging regions are foreseen being a growing focus for the industry at the both the Summit conference and expo, Selbach and Bartosik agree, from highly prospective Argentina to potential mega-markets such as Russia and Saudi Arabia.

"One of the most exciting trends today is the potential for emerging markets to transform the global concentration of wind," said Bartosik. "We anticipate a lot of interest in so-called 'sleeping giants' like Russia and Saudi Arabia.

Selbach noted: "Besides the big European wind players, there will be strong participation from US and China again. Korea will be back with a pavilion and we have met up with key players from Brazil, India and Argentina, who will have a strong presence."

New technology — from supersize turbines through digitalisation to floating wind — will be in spotlight at the summit, Selbach stated, with "all areas of this innovative industry covered".

"This offers ideal opportunities to exchange know-how along the supply chain and create new collaborations," he noted.

Bartosik added: "The speed and scale of technological innovation in recent years has been truly breath-taking. If you want to learn about the latest technology developments, there really is no better place to be than Hamburg for the 2018 summit."

The Global Wind Summit, where *Recharge* will produce the show dailies, runs from 25-28 September 2018

Image |Statoil

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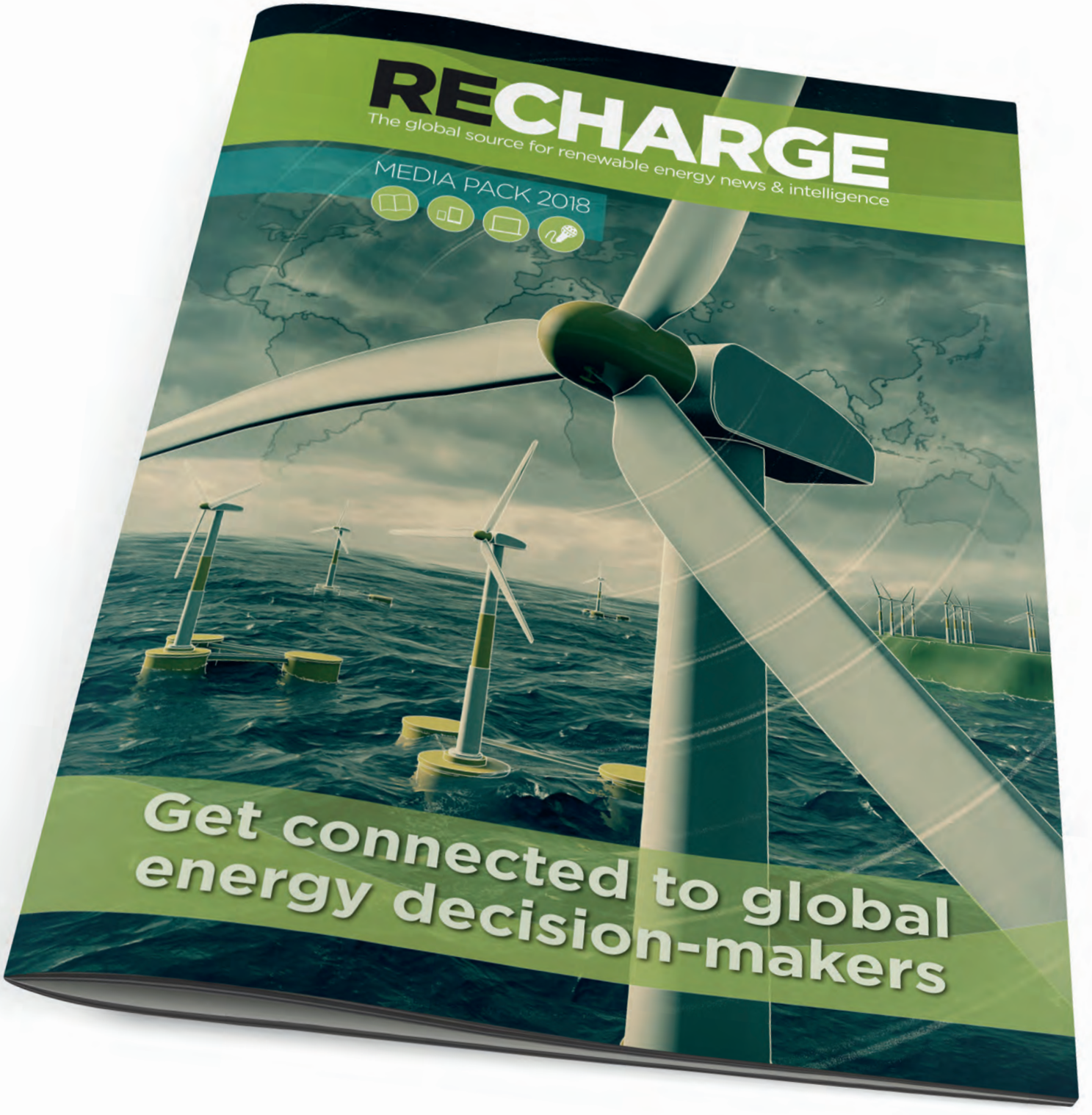

ANDREW LEE

Minister of new and renewable energy Raj Kumar Singh

Photograph | AFP/Getty

India details giant tender plans in race to 'conservative' 175GW

India has set out plans for annual wind and solar tendering of 10GW and 30GW respectively for the next two financial years as it races to the finishing line of its 175GW 2022 renewables targets — which it claimed it may well end up beating.

Power and renewables minister Raj Kumar Singh laid out the timetable as part of a detailed roadmap towards meeting the 175GW goal, which is dominated by plans for 60GW of wind and 100GW of solar capacity.

The minister claimed that when "innovative" sources such as offshore wind, floating solar and hybrid plants are included, the "rather conservative" target could be exceeded.

The announcement confirmed that India — which currently has 32GW of wind in place — plans to seek a total of 8GW by the end of the current 2017-18 financial year ending in March via state and central government auctions, with tenders of up to 2GW to be held in January and March 2018 adding to capacity already procured.

The country will then follow up with 10GW of auctions in the 2018-19 and 2019-20 financial years, leaving developers two years to complete the last of the projects needed to hit the 2022 goal.

In solar, India will embark on a 17GW tendering splurge before the end of the current fiscal year, followed by 30GW in each of the next two years.

The minister's speech last week came a day after Solar Energy Corporation of Indian (SECI) — which oversees India's national auction programme — said it will issue a request-for-selection document within the next week or so for the next 2GW inter-state wind tender. The 2GW process aims to procure power from wind projects for transmission to India's non-windy states, helping them to meet their non-solar renewable purchase obligation (RPO) targets.

Bidders will be able to compete for 25-year power-purchase agreements (PPAs) with a minimum of 50MW and maximum of 400MW under the tender, which will be settled via a reverse auction.

The auction is the third national level, inter-state auction organised by the Indian government. The first 1GW round in February this year saw power prices come in at 3.46 rupees (€0.045) per kWh, while the second in October cut that to 2.64 rupees/kWh.

Both national tenders marked a steep discount on the feed-in tariffs that previously drove the state-level purchase of wind power in India, causing states to suspend their schemes while they planned their own transitions to competitive procurement.

The resulting hiatus has seen wind installations plunge. India — which installed a record 5.4GW last year — added just 421MW in the first half of the 2017-18 financial year ending September.

India's wind-power supply chain — geared up to produce about 10GW annually — has been holding out for further impetus from the national government and is likely to welcome the increased size of the latest tender and the minister's reassurances.

> When 'innovative' sources such as offshore wind, floating solar and hybrid plants are included, the 'rather conservative' target could be exceeded

OEMs have insisted that the current installations slump is a temporary blip, and that the Indian market will soon flower into one of the world's most dynamic as the country seeks to double its installed base.

Domestic turbine supplier Inox Wind — which also competes as a developer and won 250MW in the October round — has said it expects Indian wind to swiftly recover to become a 6GW-plus annual market.

Siemens Gamesa, the global turbine OEM which has been market-leader in India for the past few years, also told investors it expects the sector there to "fully recover".

However, observers will closely monitor the prices achieved in the new auction, with some commentators claiming that the 2.64 rupees/kWh seen in October is already testing the boundaries of commercial viability for the sector.

The UK's finance minister, Chancellor of the Exchequer Philip Hammond, and colleagues with the ceremonial red box containing last week's national Budget

Photograph | Getty

Alarm bells ring over UK support lockdown

ANDREW LEE

Alarm bells are ringing in the UK renewable energy industry after the country's government signalled there will be no new money for projects until 2025, with most sectors in the deep freeze as far as taxpayer support is concerned.

While Britain will honour all its existing commitments — including the £557m ($741m) earmarked for a contract-for-difference (CfD) support auction in 2019 — finance minister Philip Hammond said no extra levies to support low-carbon development are foreseen until the "burden of costs" of arrangements already in place starts to ease, which isn't expected until the middle of the next decade.

Capacity estimates released alongside Chancellor of the Exchequer Hammond's annual Budget statement show almost no growth is expected for government-supported renewables in any sector beyond offshore wind, where the UK Treasury is forecasting 14GW of installed capacity by 2024-25, up from about 10GW at the end of the decade.

All other renewable sources are forecast to flatline, indicating the UK expects any expansion in areas such as onshore wind and large-scale solar to come via subsidy-free routes that are still far from clearly defined.

The prospects for support for wave and tidal power look particularly bleak, with forecast capacities of 30MW and 20MW respectively in 2024-25.

Critics say the announcement means the UK government is opening a black hole for renewables support — including the offshore wind sector that is at the heart of its Clean Growth Strategy — beyond the next auction round.

James Court, head of policy at the UK Renewable Energy Association says: "The UK government seem to be turning their back on renewables by announcing no new support for projects post 2020 and a freeze on carbon taxes. This could see a hiatus in much needed infrastructure development. Considering this is coming only a couple of months after the much vaunted Clean Growth Strategy, it's hugely disappointing.

> "[Hammond] talked about embracing the future, yet hid away the details that he was blocking all renewables

"[Hammond] talked about embracing the future in his speech, yet hid away the details that he was blocking all renewables to market."

Andrew Hedges, climate change and clean-energy partner at law firm Norton Rose Fulbright, says Hammond's Budget added up to "bad news" for the renewable energy sector in the UK.

"The new policy for budget controls for renewable energy makes it clear that, other than the 2019 CfD allocation round, the availability of significant new budget for offshore wind is unlikely before 2025," he explains.

"Any budget for new projects would need to come from changes to the assumptions regarding use of the existing allocated budget. That could arise, for example, from existing projects to relinquish their CfDs or a change to underlying assumptions such as a long-term increase in wholesale prices (making CfDs cheaper).

"A small window may be open for offshore wind, however, as the Treasury concedes that new levies may still be considered where they have a net reduction effect on bills and are consistent with the government's energy strategy.

"This may well be a key part of negotiations in any sector deal for offshore wind under the Clean Growth Strategy."

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