

Ventotec Signs Framework Agreement for 200 Siemens Wind Turbines



Ventotec's joint managing directors Helmer Stecker and Ralf Heinen (left to right), together with Jan Brockmüller and Hans Joern Rieks, heading Siemens onshore business in the EMEA region, sign an agreement at the WindEnergy 2016 trade show. (Courtesy: Siemens)

German wind-power plant project developer Ventotec GmbH is looking to work closely with Siemens.

The firm, headquartered at Leer in East Friesland, signed a framework agreement for at least 200 Siemens direct-drive wind turbines. The turbines will be deployed in onshore projects planned by Ventotec across Germany.

In addition, Siemens will service the turbines on behalf of Ventotec under a 20-year full-scope maintenance agreement.

Under the agreement, Siemens will supply at least 35 units to Ventotec per year, enabling about 40 new wind farms to be built over the next eight years, notably in the German states of Mecklenburg-West Pomerania, Saxony, Saxony-Anhalt, Brandenburg, and Thuringia.

Siemens' current direct-drive wind turbines offer rotor configurations and hub heights to cover a wide range

of site conditions and can also be configured for special requirements. This allows noise abatement regulations and, in particular, grid requirements (bat protection and de-icing, for example) to be met.

"Siemens, with its state-of-the-art systems and equipment, is an ideal partner for us," said Helmer Stecker, one of Ventotec's joint managing directors. "As we are always looking to develop new projects, we need mature technology that can be supplied to our wind farms on an ongoing basis. This framework agreement allows us to implement our projects within short planning lead times, and gives us continuous access to optimally adapted wind turbines."

"We are looking forward to the close, long-term collaboration that this agreement will bring," said Thomas Richterich, CEO Onshore of Siemens' Wind Power and Renewables Division. "As an experienced company with

expertise that spans the entire spectrum from project design through licensing to construction and opera-

tion of wind farms, Ventotec is a key player in the German market.” ↴

Source: Siemens

For more information,
go to www.siemens.com/wind

Bradley Construction Management Signs Wind-Energy Agreement

Bradley Construction Management has entered into an agreement to provide comprehensive on-site construction management services for the 253 MW Amazon Wind Farm Texas under construction in Scurry County near Snyder, Texas. Bradley will provide construction management, quality control, and coordination of the turbine supplier, balance of plant contractor, and other vendors for Dermott Wind, LLC, a subsidiary of Lincoln Clean Energy.

The facility will generate more than 1 million MW/h of green electricity annually — enough energy to power

almost 90,000 U.S. homes. Commercial operations are expected to begin in October 2017 with 90 percent of the output under long-term contract with Amazon, representing Amazon's largest renewable energy purchase to date.

Dallas-based Bradley Construction Management provides consulting services to the renewable and commercial construction markets. The company has managed the construction of more than 1,000 MW of utility-scale wind generation facilities across Texas and the Midwest.

Lincoln Clean Energy is a leading developer of U.S. wind and solar

projects with offices in Chicago and Austin, Texas. Since 2011, LCE has developed more than 1,000 MW of renewable power projects in California, New Jersey, and Texas. In December 2015, LCE was acquired and became a portfolio company of I Squared Capital, through its ISQ Global Infrastructure Fund, and announced plans to deploy \$250 million in equity investments through 2018. ↴

Source: Bradley Construction Management

For more information,
go to bradley-cm.com

ABB Launches Flexible ‘Plug And Play’ Microgrid Solution

ABB announced a modular and scalable “plug and play” microgrid solution to address the globally growing demand for flexible technology in the developing market for distributed power generation. The cost-efficient, containerized solution is relevant for mature and emerging countries and will help maximize the use of renewable energy sources while reducing dependence on fossil fuels used by generator sets.

ABB's innovative technology with the PowerStore Battery and the dedicated Microgrid Plus control system as well as cloud-based remote service provides power access to remote areas and secures a cost-efficient uninterrupted power supply to communities and industries during both planned and unplanned power outages from the main grid supply.

All the equipment required to run the microgrid — ABB's power converter and dedicated control system, Microgrid Plus, as well as battery

storage — has been integrated into a container for faster, easier, and safer deployment. The customer can choose to configure the microgrid to integrate energy from solar, wind, main grid, or diesel generator supply, based on the application and local conditions.

ABB's modular microgrid is compact and has four pre-designed variants in the range of 50 kW to 4,600 kW, to meet varying customer needs. The standard integrated function-

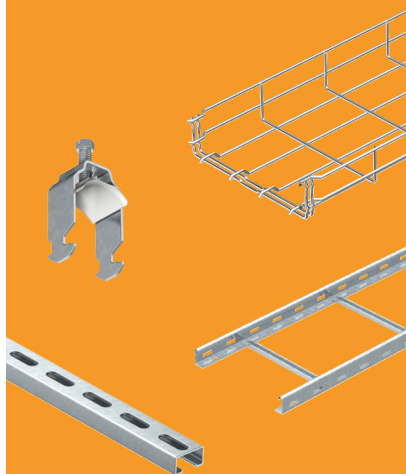
alities include grid-connected and off-grid operation with seamless transition. It is a containerized solution designed for easy transportation, fast installation, and commissioning onsite. Operations and maintenance is enabled via a cloud-based remote service system, another example of ABB's clear positioning as a pioneering technology leader driving the energy and fourth industrial revolutions.



ABB modular microgrid. (Courtesy: ABB)



Cable Management for Wind Turbines



www.obous.com

“Our modular, standardized, and scalable microgrid solution will provide cost efficient access to reliable power for rural and urban applications, as a plug-and-play solution,” said Claudio Facchin, president of ABB’s Power Grids division. “It exemplifies ABB’s continued commitment to innovation and reducing environmental impact by enhancing the integration of renewable energy sources and reducing dependence on fossil-fuels, all key elements of ABB’s Next Level strategy.”

ABB is a pioneer and world leader in microgrid technology with more than 30 completed installations across a diverse range of applications serving remote communities, islands, utilities, and industrial campuses. ABB’s comprehensive microgrid offering includes consulting, design and engineering, supply, installation commissioning, and lifecycle services. *Λ*

Source: ABB

For more information,
go to www.abb.com

GCube Underwrites 4 GW of Canadian Wind Energy – 33 percent of All Wind for the Country

GCube Insurance Services, a specialist renewable energy underwrite, now provides coverage for more than 4 GW of Canadian wind assets. This figure is expected to increase with the strong construction pipeline for new wind infrastructure in the country.

As of last year, and following the installation of 36 new wind-energy projects, Canada sits seventh in the world in terms of total installed capacity. At just less than 12 GW, wind energy accounts for 5 percent of Canada’s electricity demands. However, the country has a long-term aim to reach a capacity of 55 GW by 2025, accounting for 20 percent of its total energy needs.

“We’re delighted to have reached this considerable milestone in underwriting a third of Canada’s wind market,” said Jatin Sharma, head of Business Development for GCube. “Despite the challenges it’s faced, we’re confident that the Canadian market’s goals are achievable, and that we will continue to see further growth in the sector. Experienced risk and insurance managers understand the importance of supporting their colleagues to reduce unscheduled downtime and sustain profitability. This peer group, notably those that are expanding beyond wind into solar PV, has taken the

greatest interest in GCube’s technical reports.”

Extreme weather-related risks, such as the recent wildfires in Alberta, can pose a serious threat to renewable energy assets. GCube’s “Cell, Interrupted” report, recently released to the firm’s international community of insured clients and supporting brokers, reveals close to 50 percent of all solar PV claims in the North American market can be attributed to extreme weather-related events.

Over the past 25 years, GCube has provided developers, operators, and investors with the necessary insurance services to mitigate these risks, ranging from all-encompassing Construction All Risks (CAR) and Operation All Risks (OAR) coverage, to tailored liability, transit, and cargo policies.

GCube is further supporting Canadian project operators with its tailored Weather Risk product, designed to mitigate the impact of resource volatility, which has had a severe impact on wind operators in the United States. *Λ*

*Source: GCube
Insurance Services*

For more information,
go to www.gcube-insurance.com

Wind Buyers in the South Should Act Quickly

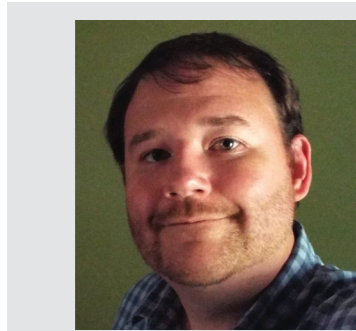
Wind-power prices have reached record lows. For utilities and corporate buyers interested in buying clean, renewable energy, now is the time to buy. But what about the southern U.S.? Will utilities to the east of Texas act quickly enough to participate in the wind-energy boom?

“Record lows” might not quite convey the stunning contract prices for wind power. A study recently completed by Lawrence Berkeley National Lab shows power purchase agreement prices in the \$20 MWh range for new wind-farm projects. In a separate analysis, Lazard Associates have shown wind power prices have plummeted by 61 percent in just five years.

These low prices have become so attractive that previously skeptical utilities in the South are contracting for a substantial quantity of wind power. Wind developers are also taking advantage of new technology and taking a second look at developing projects in the South.

OPENING THE SOUTHERN MARKET

Turbine technology improvements have driven down project costs and created a renewed interest in wind-energy development in the South. Taller turbines with



Simon Mahan

Director

Southern Wind Energy Association

longer blades are better suited to reach high wind speeds and more effectively convert that power into electricity. That's good news for the South, where economic development of wind farms seemed difficult just five years ago.

The South is benefiting because stronger winds tend to be located a bit farther up from the ground than in other regions. For an overly simplistic analogy, consider the wind's effects on a sailboat: A taller mast with larger sails is capable of collecting wind that might not be available at the water surface. It should be no surprise that a major wind-turbine manufacturer, Vestas, also dabbles in sailboat racing.

Independent analysis by the National Renewable Energy Lab suggests that with current, modern wind-turbine technology, the South may contain hundreds of gigawatts of wind-power potential with capacity factors more than 35

percent. Wind-farm development companies are actively prospecting new projects in every state in the South. Substantial quantities of wind power from other regions are already flowing into the South due to improved economics of new turbine technology.

WIND POWER ENLIGHTENMENT

It isn't just the new technology that is opening up the South to wind development. Utilities also are becoming savvy to wind-power markets.

An emerging challenge to southern utilities is the need for “winter-peaking” power. With increased efficiency of HVAC equipment and a recent trend towards “polar vortex” events driving exceptionally high winter-morning demand, utilities are increasingly planning for both summer and winter peaks.

Simon Mahan is the director of the Southern Wind Energy Association. SWEA promotes the development and use of wind energy throughout an 11-state region in the South. SWEA focuses its wind-energy advocacy through integrated resource planning and other regulatory processes at the local, state, and federal levels. Mahan has worked at various nonprofit organizations on renewable energy and energy-efficiency issues for more than a decade. His specialties are public policy advocacy, utility analysis, stakeholder engagement, and communications. He graduated from Missouri State University with a bachelors of science in political science, with minors in biology and communications.

Fortunately for wind developers, “polar vortex” events don’t just drive demand, they are also windy, and at a time when wind turbines generate at their highest performance levels. Low cost wind energy from the interior states and Upper Midwest, coupled with transmission wheeling charges, have become so cost competitive, that a number of utilities are voluntarily purchasing wind power. More than 3,800 MW worth of wind energy contracts already have been signed with utilities in the South.

The Southeastern region is dominated heavily by vertically integrated utilities and regulated markets. Unlike other parts of the country, where state policy helps drive wind-power development, southern states do not have aggressive renewable energy mandates. Nevertheless, southern utilities are also becoming more familiar with the wind market. In addition to purchasing wind-energy resources, some utilities’ sister companies also develop, own, or operate wind-power projects across the country. Three of the largest utilities in the South — Southern Company, Duke Energy, and FPL — are affiliated with major renewable energy development companies. In the case of Southern Company, its unregulated affiliate has prospered by owning wind projects, while its regulated affiliates have entered into wind contracts.

AN OPPORTUNITY AND A CHALLENGE

Even though most large southern utilities have gained familiarity with wind power, they are not finding it easy to engage the wind market. For example, because wind-turbine technology (and the corresponding economics)

continues to advance so rapidly, utilities are struggling to keep their planning and procurement practices up-to-date.

Even today, many southern utilities study wind opportunities as if there is a single prototypical project to purchase. But the wind market is more complex than, for example, the natural gas peaking power plant market. Multiple wind-energy opportunities exist that have varying costs, performance levels, and contractual options. In some cases, integrated resource planning software lacks the flexibility to truly account for the diversity in wind-energy options.

But in some worst-case examples, resource planning can rely on data from a decade ago, or it assumes wind-energy resources must be within a narrow service territory footprint. Even more common are planning studies that routinely assume the utility would “self build” wind-farm projects. Of course, in reality most wind capacity is contracted from wind developers under long-term, fixed-price energy contracts. Gradually, some utility planners are identifying nuance and incorporating a number of wind-energy options to better evaluate near-future plans.

Southern utilities are, in fact, the beneficiaries of a robust and diverse wind market. One option is to import wind energy from regions with regional grid operators such as the Southwest Power Pool (SPP), the Midcontinent Independent System Operator (MISO) or the Pennsylvania-New Jersey-Maryland Interconnection (PJM). Utilities are also actively negotiating with wind projects with delivery via two high voltage direct current (HVDC) transmission projects. And, as

mentioned previously, developers are expanding efforts to develop in-region wind-energy resources.

Importing wind energy from regions with regional grid operators has been the preferred purchase method for southern utilities. Utilities including Alabama Power, Appalachian Power, Arkansas Electric Cooperative Corporation, Georgia Power, Gulf Power, Southwestern Electric Power Company, and the Tennessee Valley Authority collectively hold more than 3,800 MW worth of wind-power contracts. Most contracts are served from wind-energy-heavy states such as Kansas and Oklahoma in the SPP grid system. Wind-energy purchases from northern MISO states and Texas are also taking place. Despite the variable transmission charges (and even sometimes wheeling charges across both the SPP and MISO interfaces), the high capacity factors and low price of wind power is extremely attractive for southern utilities.

Wind power can be delivered via HVDC transmission with lower costs, higher capacity factors and capacity value, coupled with a fixed long-term transmission rate. In order to access some of the best wind-energy resources in the country, while addressing transmission costs and constraints, two proposed HVDC transmission projects are planning to connect directly to customers in the South. The Plains and Eastern Clean Line and Pattern Energy’s Southern Cross would collectively provide 6,500 MW of capacity from Oklahoma and Texas to new converter stations in Arkansas, Mississippi, and Tennessee. Both of these projects could be online delivering power in the 2020–2022 timeframe. Transmitting

wind energy via HVDC power lines are unique resources that need to be evaluated in addition to other wind-energy opportunities, but considering their distinct characteristics.

Although utilities have tended to demonstrate little interest in local wind resources, new turbine technology effectively opens up the South as a new market for wind-farm development. Now, each state in the South contains thousands and thousands of megawatts of wind-power potential. In-state or in-region wind resources are likely to have lower capacity factors, and higher installed costs, compared to other wind-energy opportunities. Yet, the associated economic benefits, as well as reduced transmission considerations, may prove extremely attractive to southern utilities and corporate purchasers. In fact, the first utility-scale wind project in North Carolina is under construction and has secured a long-term contract with Amazon Web Services.

TIME IS OF THE ESSENCE

For utilities and corporate purchasers interested in purchasing wind energy, now is the right time to buy. In late 2015, the United States Congress passed a long-term extension and phase-out of the federal Production Tax Credit (PTC). Wind-farm development companies can qualify their projects by expending a small amount on the total project costs. Qualified wind-farm projects have four calendar years to come online and generate power. However, each year that a wind farm's commencement of construction is delayed, the PTC value declines by 20 percent. In order to qualify for a full-valued PTC, developers need enough assurance from utility and

corporate purchasers to justify expending project costs and safe harboring a project's PTC status. Waiting to start construction on a wind project could result in millions of dollars in lost savings because of the PTC phase-out.

A number of utilities in the South have issued requests for proposals or information (RFPs) regarding renewable energy, including wind energy. Notably, utilities have announced requests for at least 2,100 MW of renewable energy over the next few years. To secure the lowest cost wind-energy prices, utilities and corporate buyers need to move swiftly. Customers that are capable of moving quicker are more likely to attract the best wind-energy projects. For utilities that have overly restrictive RFP requirements or excessively long

approval timelines, the pool of qualified wind-power projects may naturally winnow themselves in favor of quicker, more promising buyers. Slow, restrictive RFPs could end up with higher cost proposals, or risk losing value due to the PTC phase-out.

Utilities and corporate buyers can attract the best wind-energy proposals by incorporating flexibility and allowing diversity. Diversification of wind-energy project location including in-region, nearby grid operator markets and HVDC transmission options is also important to evaluate the real and multiple market opportunities. By engaging in diverse and thoughtful wind-power procurement expeditiously, utilities and corporate buyers can minimize risk while maximizing wind-power opportunities. ↘



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