

Press release

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Powered by change: Siemens Gamesa launches 14 MW offshore Direct Drive turbine with 222-meter rotor

- SG 14-222 DD offshore wind turbine released with nameplate capacity of 14 MW; can reach 15 MW with Power Boost
- 222-meter rotor diameter uses massive 108-meter long B108 blades
- Lifetime avoidance of approx. 1.4 million tons of CO₂ emissions per machine compared to coal-fired power generation
- +25% Annual Energy Production increase vs. predecessor machine
- Light 500-ton nacelle weight enables optimized substructure at lower cost
- Prototype ready in 2021; commercially available in 2024

The winds of change have never been stronger, especially when it comes to meeting the world's needs for clean, renewable energy. Siemens Gamesa's new SG 14-222 DD offshore Direct Drive wind turbine now sees the light of day as a part of the solution.

With an unprecedented 14-megawatt (MW) capacity - reaching up to 15 MW using the company's Power Boost function, a 222-meter diameter rotor, 108-meter long blades, and an astounding 39,000 m² swept area, the newest Siemens Gamesa wind turbine stands tall in a world currently undergoing enormous upheaval.

"We've gone bigger for the better," states Markus Tacke, CEO of Siemens Gamesa Renewable Energy, who continues: "Safely and sustainably providing clean energy for our customers and society-at-large is at the core of all we do. The new SG 14-222 DD is a global product which allows all of us take giant steps towards protecting and preserving our planet. We ourselves became carbon neutral in late 2019 and are on track towards meeting our long-term ambition of net-zero CO₂ emissions by 2050. Our installed fleet of over 100 GW both offshore and onshore abates more than 260 million tons of CO₂ emissions annually."

"Offshore is in our DNA," states Andreas Nauen, CEO of the Siemens Gamesa Offshore Business Unit. "Since we helped create the offshore wind industry in 1991, we've been determined to safely increase operational performance, minimize technology risks, and create a consistently lower Levelized Cost of Energy. The SG 14-222 DD demonstrates our drive to lead the way in a world powered by clean energy. In fact, just one unit will avoid approx. 1.4 million tons of CO₂ emissions compared to coal-fired power generation over the course of its projected 25-year lifetime," he adds.

The 14 MW capacity allows one SG 14-222 DD machine able to provide enough energy to power approximately 18,000 average European households every year. Approximately 30 SG 14-222

DD offshore wind turbines could furthermore cover the annual electricity consumption of Bilbao, Spain.

The 222-meter diameter rotor uses the new Siemens Gamesa B108 blades. As long as almost three Space Shuttles placed end-to-end, each 108-meter long IntegralBlade® is cast in one piece using patented Siemens Gamesa blade technologies. Additionally, the turbine's massive 39,000 m² swept area is equivalent to approximately 5.5 standard football pitches. It allows the SG 14-222 DD to provide an increase of more than 25% in Annual Energy Production compared to the SG 11.0-200 DD offshore wind turbine.

Furthermore, the new offshore giant features a low nacelle weight at 500 metric tons. This light weight enables Siemens Gamesa to safely utilize an optimized tower and foundation substructure compared to a heavier nacelle. Benefits thus arise in the form of lower costs per turbine by minimizing sourced materials and reducing transportation needs.

Extending on the proven offshore direct drive track record, the SG 14-222 DD is based on Siemens Gamesa's deep understanding and expertise gained over five product generations since the platform was launched in 2011. Key components such as safety systems, hub and tower concepts, operations and maintenance solutions, along with a strong, qualified supply chain form the basis of the new offshore wind turbine.

Over 1,000 Siemens Gamesa Direct Drive offshore wind turbines have been installed in all major offshore wind markets globally. They include the UK, Germany, Denmark, The Netherlands, Belgium, and Taiwan, among others. Furthermore, confirmed orders for an additional 1,000 Offshore Direct Drive turbines have been received, with installations planned for the markets mentioned above and new offshore markets including the USA and France.

About Siemens Gamesa Renewable Energy

Siemens Gamesa is a global leader in the wind power industry, with a strong presence in all facets of the business: offshore, onshore and services. The company's advanced digital capabilities enable it to offer one of the broadest product portfolios in the sector as well as industry-leading service solutions, helping to make clean energy more affordable and reliable. With more than 103 GW installed worldwide, Siemens Gamesa manufactures, installs and maintains wind turbines, both onshore and offshore. The company's orders backlog stands at €28.6 billion. The company is headquartered in Spain and listed on the Spanish stock exchange (trading on the Ibex-35 index).

As of May 2020, Siemens Gamesa has installed more than 3,500 offshore wind turbines globally, with a combined capacity of more than 15 GW. The company's experiences reach back as far as 1991, when it established the world's first offshore wind power plant. Through a strong focus on safety and innovation, Siemens Gamesa constantly strives to reduce the Levelized Cost of Energy from offshore wind power.

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