



15 mw wind turbine

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The world's largest onshore wind turbine from Chinese equipment manufacturer Sany has achieved operation at its rated power of 15 MW, the company said in a social media post. The turbine was installed at Tongyu, Jilin Province in China, last month and achieved its operational feat on November 16.

As countries double down on reducing carbon emissions and bringing about a clean energy transition, the wind turbine industry is stepping up to meet the challenge. Wind turbines with ever larger capacities are being rolled out to maximize energy yields from offshore wind farms.

While this offers an advantage for countries with large coastlines, those with large tracts of uninhabited land were limited to using turbines with smaller power ratings of about 8 MW. Sany's 15 MW turbine, the SI-270150, can nearly double the power output from onshore installations and help countries harvest more energy output from wind farms on the mainland as well.

According to its social media post, the SI-270150 is now Sany's flagship product in the 12-16 MW onshore/ offshore platforms. It boasts a rotor diameter of 885 feet (270 m) and blades stretching out to 430 feet (131 m).

In a single turn, the turbine sweeps an area of 616,159 square feet (57,256 sq m), roughly the football field area. Engineered to work at medium to high speeds, each unit of the SI-270150 can generate 56 million kWh of energy annually, enough to power 160,000 households.

It also features a lightweight design that minimizes overall load while facilitating long-distance land transportation, given the humungous size of its blades. The drivetrain has a dual tapered roller bearing (TRB) main support shaft system that aims to provide high load-bearing capacity and higher stability, allowing it to work under varying operational conditions.

It was only last month that Interesting Engineering reported Sany's installation of the 15 MW turbine at the Tongyu site. In little over a month, the company has demonstrated that the turbine performs at its intended power rating.

Over the next one year, the turbine will undergo rigorous operational testing at the site. This includes nearly 2,000 performance tests to verify the reliability of the components and overall design in real-world conditions, the social media post added.

Another prototype of the 15 MW turbine will also simultaneously undergo testing on SANY's 35 MW Six Degrees of Freedom and Drivetrain Back-to-Back Test Bench. This, the company claims, is the largest facility of its kind and, over a period of 18 months, will help undertake accelerated aging tests.

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The turbine and its various components will be validated for 30 years of operation, where boundaries of physical limits and technology will be pushed, the social media post added.

These achievements showcase how China is no longer just an equipment manufacturing hub but is also leading the way in how technology shapes the world we aspire to be in.

A Chinese company has installed what it calls the world's largest onshore wind turbine. Sany Group, a multinational firm known for its manufacturing of heavy equipment, on October 9 announced a 15-MW wind turbine has been placed in service at a site in Tongyu, Jilin Province, in China.

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