The Copenhagen Wind project is the first wind project that RES has self-performed in the State of New York and consists of 40 Vestas V110 2.0 MW turbines. (Courtesy: RES)

CONSTRUCTION

RES completes 80 MW Copenhagen Wind Project in New York

RES (Renewable Energy Systems), a leader in the development, engineering, and construction of wind, solar, transmission, and energy storage projects in the Americas recently announced it has completed construction of the Copenhagen Wind project, developed and owned by EDF Renewables. The 80-MW wind project in Jefferson and Lewis counties in upstate New York was completed on December 21, 2018.

The Copenhagen Wind project is the first wind project that RES has self-performed in the State of New York and consists of 40 Vestas V110 2.0 MW turbines. The construction, which began in 2017, employed more than 300 workers at its peak with 300,000 man-hours of labor completed safely with no lost time injuries in an area that receives one of the highest levels of snowfall in the United States.

Capitalizing on New York's ambitions for clean-energy development, the project provides an economic investment opportunity as well as an increase in the green jobs quota and is financed through a 15-year Power Purchase Agreement with Narragansett Electric Company, a wholly-owned subsidiary of National Grid.

"RES has met the challenge to deliver clean energy to New York head on," said Rick Ortiz, RES senior vice president of Wind Construction. "We are proud of working alongside EDF Renewables to make clean energy a reality in New York and are particularly grateful to our team that engaged with the local community."

By partnering with the local groups in Lewis and Jefferson counties, the project secured a significant level of community involvement. RES employees engaged in various community support initiatives throughout the construction period, including raising more than $2,000 for a shelf stable food drive for senior citizens during the winter months, a donation to build a new playground at a local school, and donating 42 units of blood for the local American Red Cross.

MORE INFO www.res-group.com

CONSTRUCTION

Enercon using world's longest semitrailers from Goldhofer

Enercon, Germany's leading manufacturer of wind-power plants, has added six Goldhofer "VENTUM" flatbed semitrailers with pendular axles to its heavy-duty vehicle fleet. This innovative solution for transporting extremely long rotor blades has a unique five-fold telescopic deck for a total extension length of 72 meters (including gooseneck).

That means the North German wind-power specialists can make use of road transport for the fast and safe delivery of rotor blades in excess of 70 meters. In addition to the lift-and-lowerable, loadable gooseneck, Enercon's decision was also influenced by Goldhofer's mature pendular axle technology and the option to add a rail-mounted "BLADEX" blade tip lift.

Transporting such long and large rotor blades reliably and delivering them just in time is an enormously challenging undertaking that Enercon can now handle on an intelligent and flexible basis, according to Hans-Dieter Kettwig and Simon-Hermann Wobben, managing directors of Enercon GmbH. The new Goldhofer "VENTUM" flatbed semitrailers enable Enercon to master all the challenges of long-distance journeys with these exceptional loads.

The »VENTUM« at work. (Courtesy: Enercon)

As the first five-fold extendible semi-trailer on the market, the "VENTUM" permits wind-turbine manufacturers and heavy haulage companies to transport extra-long rotor blades well over 70 meters in length on roads, tracks and construction sites. In combination with Goldhofer's mature pendular axle technology, the "VENTUM" is the key to fast and safe passage over bridges and round tight bends and roundabouts as well as easy maneuvering on confined construction sites. The hydraulically lift-and-lowerable gooseneck ensures rotor blades with very large hub diameters can safely negotiate tunnels and underpasses. Pendular axles with a stroke of ±300 mm give the vehicle full maneuverability and compensate uneven ground in the longitudinal and transverse directions. Loading height is 1,250 mm. Where required for the route to be taken, ground clearance can be increased over and above the suspension stoke. Two support legs facilitate extension and retraction of the telescopic tubes, which permit the deck behind the gooseneck to be extended from a basic length of 13.5 meters for empty running to more than 68 meters. The steering is adjustable, so the vehicle can be driven in its basic length without a second man in the cab, while optimum cornering performance is available with the deck extended.

"With a steering angle of up to 60 degrees and the user-friendly »SmartControl« remote control system, Goldhofer provides outstanding support for drivers in their task of safely transporting loads of this enormous size to their final destination," said member of the Goldhofer Board and Head of Transport Technology Rainer Auerbacher.

The gigantic rotor blades are used above all for sites with low wind speeds and also, where there is sufficient hub height, for refurbishing and upgrading existing wind power plants.

MORE INFO www.goldhofer.de

INNOVATION

Field measurement campaign begins on wind turbine

Three innovative 20-meter-long rotor blades developed within the context of the SmartBlades2 project will be assessed under natural weather and wind conditions in Boulder, Colorado, over four months. For this purpose, the rotor blades, which were designed by the Fraunhofer Institute for Wind Energy Systems (IWES) and built by the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR), have been successfully installed in the United States at the Department of Energy's National Wind Technology Center (NWTC) of the National Renewable Energy Laboratory (NREL).

Among others, the field campaign aims to clarify how well the rotor blades — designed with bend-twist coupling — are able to effectively dampen peak loads during strongly variable wind speeds. The results will serve as a basis for the further development of smart rotor blades. The SmartBlades2 project is funded by the German Federal Ministry for Economic Affairs and Energy (BMWi) and is being carried out by the Research Alliance Wind Energy, with its partners DLR, Fraunhofer IWES, and ForWind, in collaboration with industry partners from GE, Henkel, Nordex Acciona, SSB Wind Systems, Suzlon, Senvion, and WRD Wobben Research and Development.

LONGER SERVICE LIFE, GREATER YIELD

Rotor blades equipped with bend-twist coupling are able to adapt to variating wind conditions by themselves — at higher wind speeds the rotor blades can bend or twist, thus offering the wind a smaller impact surface. This reduces the overall load on the system, increasing the service life of the wind turbine as well as its power yield. In order to be able to fully capture the structural and aerodynamic behavior of the newly developed blades during the field experiment, the project partners integrated specially developed measurement systems into the blades' structure already during production at the DLR Center for Lightweight-Production-Technology (ZLP) in Stade, Germany.

FIRST ANALYSIS UNDER REAL WEATHER CONDITIONS

"We are very excited to observe and find out how our rotor blades behave during these field assessments. This measurement campaign represents the first practical trial for our blade technology," said SmartBlades2 Project Manager Zhuzhell Montano Rejas of the DLR Institute of Composite Structures and Adaptive Systems.