



POMA-LEITWIND's Typhoon turbines' install a big success

A technically challenging wind project on the Caribbean island of Guadeloupe will help protect the grid in adverse weather conditions and hurricane-strength winds

The French-Italian partnership of POMA-LEITWIND has successfully completed the repowering of the Total wind farm using six typhoon-class LTW80 turbines.

The project is the first to feature this enhanced version of hh48 Typhoon GL A Class LTW80 turbines, each with a hub height of 48m and installed capacity of 1.65MW, complete with newly developed and certified blades, as well as an advanced condition monitoring system.

The ambitious project presented key challenges. First, the POMA-LEITWIND team had to engineer a solution that offered long-term performance over the operational lifetime of the wind farm, in compliance with relevant standards, and often exposed to challenging conditions, such as during very strong winds and tropical storms.

The answer? The new LS39-H blade, designed for use on the 'typhoon' version of the LTW80 wind turbine, regarded as one of the most reliable on the market.

For customers in regions prone to hurricanes, typhoons and tropical storms the new blade technology helps reduce levelised cost of energy through use of

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modern multi-megawatt turbines.

Guadeloupe is regularly hit by tropical storms and typhoons between June and November. The blades are designed and manufactured to withstand exposure to extremely strong winds, with gusts of up to 250km/h (155mph) and 20 years of operations. The loading capacity and safety of the new blades has been tried and tested by the US Wind Technology Testing Centre in Boston, Massachusetts.

Innovative design

The new wind turbines have also been engineered to respond to rapid changes in wind direction, which can occur during typhoons. During such strong winds, heavy rains and flooding, the turbines are switched off, without having any impact on the grid, reducing the recurring risk of electrical grid failure.

The first of the new turbines has been in operation since January 2021, with the installation of the remaining five turbines taking place in March 2021. An advantage of using POMA-LEITWIND turbines for wind farm repowering projects is that fewer turbines can be deployed, reducing installation, operating and maintenance costs than the former turbines at the site. The turbines range from 42 to 100m in diameter, 28 to 100m in tower height and come in rated capacities of up to 3MW.

Adaptable solutions

Installing and maintaining wind turbines in special regions is certainly more complex, but POMA-LEITWIND's turbines are designed to be customisable, hence enabling adaptation to the specific characteristics of a customer's wind park. Turbines may be made featuring different power capacities, blade diameters, blade lengths, tower heights, and many more options.

For more information, visit: leitwind.com / poma.net