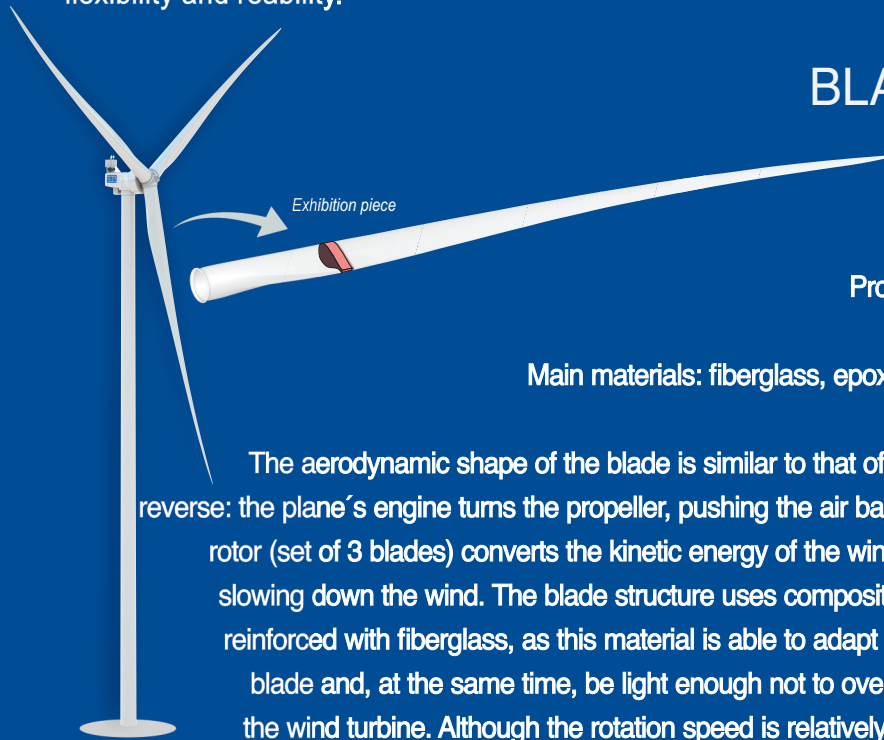


WIND TURBINE AGW 147/4.2 MW



Wind Energy concerns the transformation of wind energy into useful electrical energy, which is renewable, clean, and zero emission, since it does not produce pollutants. The more than 60 years of WEG experience in the supply of electrical solutions drove the company to develop products for application in the wind energy sector. Each product is designed by dedicated teams with extensive experience in electrical equipment, electronics and rotating machines, aerodynamics, structures, and control, ensuring a high degree of performance, flexibility and reliability.



BLADE FEATURES

Length: 72 m

Weight: 22,200 kg

Project: WINDnovation (Germany)

Manufacture: Aeris (Brazil)

Main materials: fiberglass, epoxy resin, balsa wood, PET foam

The aerodynamic shape of the blade is similar to that of aircraft propellers, working in a reverse: the plane's engine turns the propeller, pushing the air backwards, while the wind turbine rotor (set of 3 blades) converts the kinetic energy of the wind into mechanical shaft energy, slowing down the wind. The blade structure uses composite materials, mainly epoxy resin reinforced with fiberglass, as this material is able to adapt to the complex geometry of the blade and, at the same time, be light enough not to overload the structure of the rest of the wind turbine. Although the rotation speed is relatively low, 10 rpm, due to the length, the blade tip reaches 300 km/h.

WIND TURBINE CURIOSITIES

Generates more than 22,000 MWh of energy per year



10,000 houses

Weight about 1,400 tons



280 elephants

16,972 m² of swept area by blades



2 soccer fields

190 m/h is the speed of blade end



speed of Formula 1 car

Avoid the issuance of 5,352 t of CO₂ per year

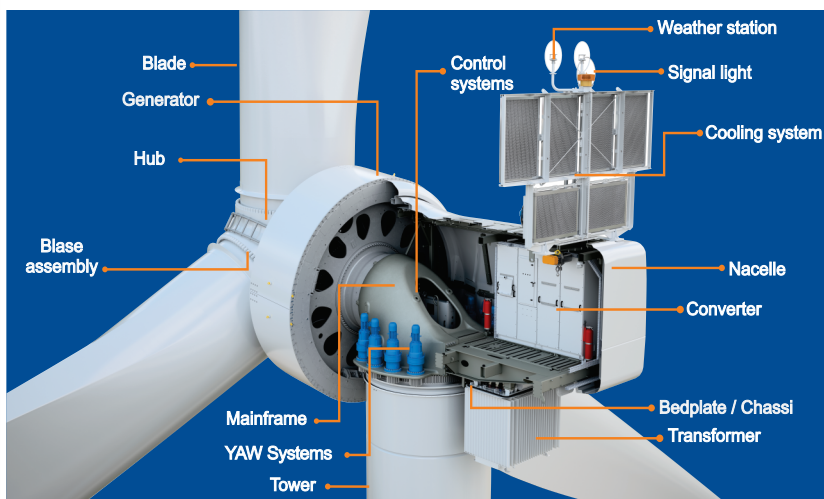


38,000 trees

Height of wind turbine 125m



5,2 Christ the Redeemer



Power: 4.2 MW
 Tower height: 125 m
 Voltage: 34.5 kV
 Blade turning diameter: 147 m
 Generator diameter: 5.95 m
 Weight of each blade: 22.2 ton
 Rotor weight: 42 ton
 Generator weight: 105 ton
 Nacelle weight: 57 ton
 Tower weight: 1.095 ton