



CMB Energy
北极光能源

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8MW – 20+ MW Offshore Wind Turbines



CMB Energy leads in developing and producing MW-scale wind turbines, leveraging a strong supply network for versatile onshore, offshore, and floating solutions tailored to various wind conditions. Leader of Hybrid Drive technology Customized designs for higher efficiency, higher reliability and lower LCOEs Tests and verifications at all levels – materials, components, subsystems, turbines, wind farms Full lifecycle management powered by IoT, big data & AI.

Product Performance:

Higher efficiency

Higher efficiency permanent magnets generator to guarantee electric energy conversion and continuous provide high-quality power output

Higher reliability

Fewer components eliminate failures and maximize turbine availability to more than 99%

Cost-saving

Optimize maintenance to lower overall costs

Grid-friendly

Power flexibility with zero power-grid impact and outstanding high and low voltage ride-through capabilities

Our Specialty:

Site Customization

In line with the needs of site conditions, the design capacity can be increased by: 0.5 % ~ 3 %

Capacity enhancement

The power generation performance of the wind turbines in service can increased by: 2 % ~ 5 %

Safety control

Quality loss of large components can be reduced by 70 %

Flexible grid connection

The global grid characteristics are extensively adapted, and the grid connection pass rate can be as high as the global grid characteristics are extensively adapted, and the grid connection pass rate can be as high as 100 %

Environmental-friendly

Fully green operation in field-level noise control losses is reduced by 2 %

User-friendly

The O&M efficiency of software troubleshooting and technical transformation is increased by 3 ~ 5 time

Offshore Wind Turbines

Leveraging nearly 20 years of R&D in offshore wind technology and expertise in typhoon-prone zones, CMB regularly debuts robust, typhoon-proof offshore wind solutions fit for worldwide deployment. Our distinguished, award-winning components underscore our commitment to innovation, affirming our standing as a dependable ally in the offshore wind sector.

Dedication to offshore wind upscaling to reduce cost

Industry-leading typhoon resistance for medium-to-high wind regions

Reliable Hybrid Drive technology

Classic models for offshore wind grid parity

Large carbon-fiber blades with high-performance airfoils

Integrated turbine design for cost-effective projects

Smart synergy: 2000+ sensors, big data and AI for adaptive, self-learning functionality

Behind each smart wind turbine is the endless pursuit of technological innovation and excellent quality. Where elegance meets intelligence and performance.

For over two decades, CMB Energy has been leveraging cutting-edge technologies to manufacture top-tier wind turbines, delivering best-in-class energy production, intelligent controls, and industry-leading availability. Our diverse product portfolio showcases adaptable leading technologies designed to suit various scenarios.

Experimental verification from bolts to blades

Component-level

Electronic Control Laboratory

Insulation Laboratory

Environment Laboratory

Material Laboratory

Reliability Laboratory

Gas-liquid Separation Laboratory

Subsystem level

Blade test bench

Pitch yaw test bench

The whole machine transmission stage

6-10MW transmission test bench for complete machines

16MW transmission test bench for complete machines

Wind farm level

Onshore experiment wind farm

Offshore experiment wind farm

Full-scenario environmental applicability

Providing stable and reliable clean energy to all corners of the world

High altitude area 3800-4000 m

The alpine region with temperature as low as -30 °C

Extreme climate area with frozen rain

Ultra-low wind speed area 5.04 m/s

Earthquake zones 8.0 magnitude

Extreme hot with temperatures as high as 45 °C

Our products are distributed in 38 countries around the world, and more than 280 GWh of green electricity is produced per hour

8MW 10MW 11MW 12MW 14MW 16MW 18MW 20MW 22MW Offshore Wind

Turbines

8-10MW

Rated power (MW)	8.5-11
Rotor diameter (m)	230-25X
Rated wind speed (m/s)	7.5
Turbulence intensity	0.12
Survival wind speed(m/s)	70

11-12MW

Rated power (MW)	11-12
Rotor diameter (m)	230-242
Rated wind speed (m/s)	8.5
Turbulence intensity	0.13
Survival wind speed (m/s)	78.82

14-16MW

Rated power (MW)	14-16
Rated wind speed (m/s)	9
Turbulence intensity	0.12
Survival wind speed (m/s)	79.8

18-20+MW

Rated power (MW)	18-20+
Survival wind speed (m/s)	9
Turbulence intensity	0.12
Rated wind speed (m/s)	79.8