



means fewer turbines to maintain, which lowers lifetime O&M labor costs. Finally, a higher nameplate means developers can focus on the best-producing turbine positions. These differences can add up to lower the COE by 10 percent or more compared with a 1.5MW or 2MW nameplate.

WHAT'S INSIDE? TELL US ABOUT THE TECHNOLOGY OF THE AW3000.

The AW3000 has double bearing support for the main shaft. Additionally, it uses a six-pole, doubly-fed induction generator that allows the generator to rotate at lower RPM than many of our competitors. These two features, when combined with other elements of the design, significantly isolate and reduce the load on the gearbox. This reduces maintenance costs and ensures a long life for the WTG. We are the only OEM that generates electricity at 12kV (i.e. at the generator terminals). This enables the turbine to be connected directly to a 12kV collection system without using a step-up transformer. Eliminating costly pad-mount transformers and reducing energy losses results in significant savings on the order of \$50,000-\$150,000 per MW, depending on the layout.

TELL US ABOUT ACCIONA'S UNIQUE PERSPECTIVE IN DESIGNING ITS WIND TURBINES.

ACCIONA Windpower has a unique ability to understand what our customers need because we have been and will always be in their shoes. ACCIONA is one of the world's leading renewable energy operators. We own over 8,400 MW of renewable energy facilities around the globe, including over 7,000 MW of wind power. Our 20 years of experience as an owner and operator has helped us design wind turbines that deliver benefits over the lifetime of a project. As an owner and operator, two important criteria are reliability and performance. Accordingly, we developed a robust design that has resulted in extremely low failure rates for critical components and over 98 percent availability across our global fleet.

WHAT ARE THE KEY BENEFITS OF CHOOSING THE AW3000?

The choice of four different rotor sizes (100m, 109m, 116m, and 125m) and four different tower heights (hub heights of 92m 95.5m, 100m, and 120m) allows the AW3000 to be configured to meet the requirements of various wind classes and site conditions. The availability of concrete towers for 100m and 120m hub height further enhances its versatility. The variety of options from a single platform enables a developer whose site has multiple wind class locations to use the same platform and configure each wind turbine for its specific location.

Furthermore, the large diameter rotor and high performance blades will lead to a significant increase in net capacity factor. Using wind and site data, we have seen that the AW3000 can deliver an NCF of over 50 percent at some projects currently in development. The other design features I mentioned earlier enable the turbine to have a high availability. For developers, this means a very competitive LCOE resulting in a high IRR and/or high probability of success in the procurement stage.

HOW DO THESE CONFIGURATIONS PAIR UP WITH VARIANCE IN GEOGRAPHY AND WIND RESOURCES?

We offer four rotor diameters and a suite of tower heights in both steel and concrete that can meet the needs of almost any project globally. The 100 meter rotor is ideally suited for high-wind sites, while the 109 and 116 meter rotors give the AW3000 exceptional performance at medium-wind speed sites. Recently, we introduced a 125 meter rotor that competes in low-wind environments.

ACCIONA also has a robust suite of options, including: a cold weather package, condition monitoring, automatic lubrication, medium voltage inside the tower, and shadow flicker mitigation, to name a few. A service lift inside the tower is standard with every wind turbine. ↘

ACCIONA'S NEWEST TURBINE IS THE AW3000. HOW WAS IT DEVELOPED?

ACCIONA Windpower was one of the first OEMs to design a 3MW machine. We began design work on the AW3000 in 2006 because we understood a larger nameplate created economies of scale that could drive down a project's cost of energy. If you can build a project with fewer turbines, there is less land to be developed, fewer foundations, and fewer roads to build. Also, higher nameplate capacity

For the complete Q&A with Ajay Swamy,
visit windsystemsmag.com.



For more information about Acciona Windpower turbines, visit AW3000.com or email sales@acciona-na.com. Also, the company's commercial team is regularly present at major industry events like CanWEA to meet with developers and answer questions.