

EnergyUp Full Power Curve Basic

Senvion technology



AEP



Revenue



Operating
reliability



Maintenance
ease



Safety

Challenge

Increase energy production and power output while maintaining safety and turbine longevity.

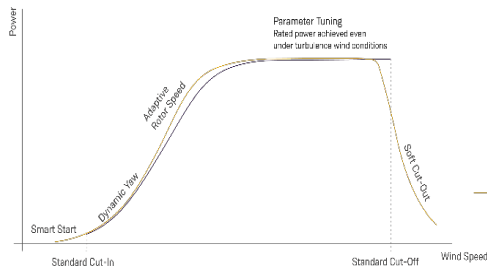
Solution

A comprehensive suite of performance-enhancing software features, developed through our advanced data analysis. It includes:

- **Smart Start:** Optimizes the standard cut-in wind speed based on individual site conditions.
- **Dynamic Yaw:** Fine-tunes the yaw angle, increasing wind turbine output.
- **Adaptive Rotor Speed:** Increases rotor speed in the upper partial load range, enabling longer operation at the optimal tip speed ratio and improving rotor efficiency.
- **Parameter Tuning:** Ensures the turbine reaches its rated power output, even under high-turbulence wind conditions.
- **Soft Cut-Out:** Instead of a sudden shutdown at the standard cut-out wind speed, the turbine gradually reduces rotational speed and power output, reaching a new, higher maximum cut-out wind speed.

Benefits

- Increased power output due to the five high-performance features.
- Customized solution thanks to site-specific adjustments.
- Particularly effective for turbines located on complex terrain and with low air density.



Applicability

Senvion 3.4M104 and MM82, MM92, MM100.

Customer testimonial

"We recognized a valuable opportunity to participate in the test program for the new EnergyUp Full Power Curve Basic product and engage in a prototype project. After a seven-month testing period, Siemens Gamesa engineers successfully demonstrated that significant additional yields can be achieved for our customers. Following this successful test, we are confident in recommending EnergyUp Full Power Curve, Basic as an excellent asset for any operator seeking to maximize annual energy production from their wind turbines."

— Jens Godau, Managing Director, Ingenieurbüro Holst GmbH & Co. KG.

Fleet experience

Independently validated by TUV Nord and Wind-Consult.

Installation time

Fast remote software installation and parameter settings. On-site hardware (CPU) change 1.5 hours per turbine, only if required.

Payback

Depending on factors such as turbine type and site-specific wind regime, the AEP can increase up to 1.5% on average.