

Weather and Energy Forecasting



Your ideal forecast solution

Weather and Energy Forecasting is the forecast service for wind farms, solar plants, and hybrid plants. It is used in more than 3,600 wind farms, in 60 countries all over the world.

The Weather and Energy Forecasting system is the result of more than ten years of development by Siemens Gamesa's meteorology department.

It is a forecasting modeling system that provides short-, medium-, and long-range forecasts on meteorological, marine, and energy price forecasting to ensure the safety of people and assets and optimize production management, maintenance scheduling, and turbine lifetime in wind farms located all around the world.

The system provides detailed information on lightning strikes on wind farms, solar plants, and hybrid plants (type, intensity, position, etc.), as well as on the assets that may potentially be affected by this lightning.

With the thunderstorm alert system*, relevant stakeholders can be warned if a thunderstorm is

approaching a power plant, so they can take the appropriate actions, stop the wind turbine, and restart it when the storm has passed. Historical data is available and searchable.

How does the system work? High-resolution forecasts are first obtained by a nesting finer-resolution model – Weather Research and Forecasting (WRF) – run several times from a coarse-resolution numerical model. Then, statistical downscaling is performed to adjust the forecasts to the specific characteristics of each location.

In addition, it integrates the real-time data that enables correction using a sophisticated short-term model that improves the immediate forecast compared to those generated with the basic configuration. This system is especially effective for energy management in the electricity markets.

Basic	Premium
The Weather and Energy Forecasting system uses statistical downscaling based on high-resolution forecasts and historical data. With the basic configuration, forecasts are updated twice a day	In this configuration, the model designed by Siemens Gamesa is based on the forecast by the basic configuration plus the continuous supply of real-time data. This enables the forecasts to be updated as often as required by the markets (with a minimum interval of five minutes)

The Weather and Energy Forecasting service is offered in two configurations.

* Service only available within a Siemens Gamesa Service program.



Weather and Energy Forecasting offers

- Ten-day¹ or seven-day weather and marine forecasts
- Ten-day¹ or seven-day electricity market price forecasts (selected countries)²
- Ten-day¹ or seven-day revenue estimates (selected countries)²
- Application programming interface (API) for apps to download forecasts / historical data¹
- Automatic download and delivery of files in different formats (csv, txt, xml and xls)³
- Climatology data¹
- Lightning strike warning data
- Thunderstorm alert and notification system¹
- Upcoming weather and marine risk alert system¹ (customizable by end users)
- Comparison between the forecast and the real production or wind data recorded at the farm for the last 24 hours³

Benefits

- Increased revenues
- Compliant with the regulations of any grid code
- Increased safety and improved risk control
- Minimized deviations
- Web access from any location



1) Service only available within a Siemens Gamesa Service program.

2) Service subject to country availability, please contact Siemens Gamesa.

3) Service only available when no Service program is signed with Siemens Gamesa.



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