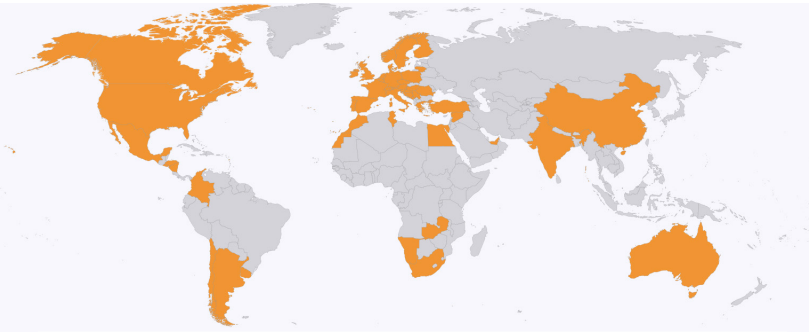


Flexible. Reliable. Fast.
energy & meteo systems is among the world-wide leading providers of energy-meteorological predictions and virtual power plants. With our services, we decisively contribute to the efficient integration of renewable energies into electricity grids and markets.

We predict approximately 50 % of the installed wind and 40 % of the installed solar power worldwide and offer further essential forecasts for grid operators and traders.

By optimally combining our power predictions with our individually customizable Virtual Power Plant, fluctuating decentralized power sources can be reliably integrated into energy grids and profitably marketed on the electricity exchange.

Our services include competent meteorological support, technical 24/7 support and secure server operations.

energy & meteo systems GmbH
Marie-Curie-Str. 1
26129 Oldenburg
Germany
mail@energymeteo.de
Tel. +49 441 249 21 - 0

energymeteo.com

Predictions and Nowcasting

Complete package for grid operators

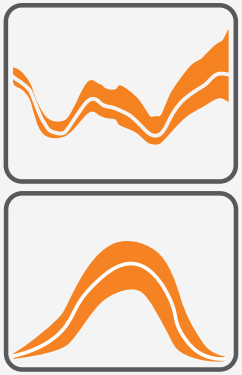
energymeteo.com

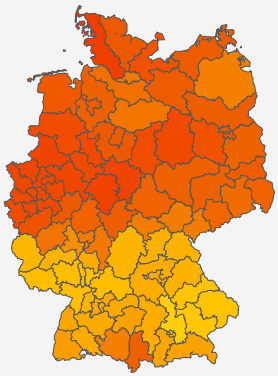
Our all-round, carefree Package for your Grid Operations: Predictions and Nowcasting

energy & meteo systems offers predictions and nowcasting of wind and solar power especially made for grid operations, providing optimal support for the integration of renewable energies on all grid levels.

Wind and solar power predictions

With Previento and Suncast, we deliver precise predictions of the wind and solar power output for all aspects of grid operations. This includes any on- and offshore sites worldwide as well as for control zones and grid node levels. By optimally combining weather models, we predict power output from 5 minutes to 15 days in advance at a high time resolution and with a very short-term adaptation to online measurements ensuring a high accuracy.





Real-time nowcasting

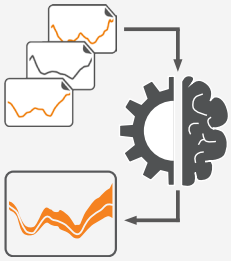
We offer the current solar power output in real-time for many regions around the world. This is accomplished by accessing the measurement data of several hundred thousand reference installations. In particular, rooftop installations are factored in which would otherwise be difficult to take into account. Satellite data serve to further optimize our solar power nowcasting. The time resolution is available from 5 to 15 minutes.

Vertical grid load predictions

Our precise predictions of the vertical grid load are generated for individual grid interconnection points and substations inside of a grid region. Here, the input particularly from wind, solar, hydroelectric and biogas power installations, including consumption, is taken into account. Predictions of the real and theoretical vertical grid load from 0 to 10 days in advance at a high time resolution are delivered several times a day.

EinsMan predictions

With our EinsMan predictions, the curtailment in the input of renewable energies on the part of the grid operator due to grid bottlenecks in the control area is taken into account. You receive two variations of the prediction: that of the theoretically possible input without curtailment as well as the prediction of actual input containing EinsMan curtailments.

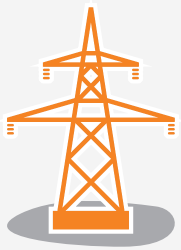


Meta-predictions

Optimal combination of several providers: our meta-prediction calculates the best statistical weights based on the past quality of the various models, leading to an above average prediction quality. Our additional short-term correction significantly increases the prediction quality in the short-term time range.

Meteorological prediction and situational awareness

Our situational awareness reports prepare you in advance for extreme weather situations. In particular when it comes to the uncertain input from renewable energies such as with storms, icing, fog, lightning or Sahara dust, warning reports deliver fast and effective information in real-time.



Ampacity prediction for overhead power lines

Our predictions give the maximum current carrying capacity for individual stretches of power line according to weather conditions. This is calculated on the basis of numerical weather forecasts as well as on further transmission line master data with the help of the verified dynamic line rating models IEEE 738 and Cigré TB 207.