

The background of the top half of the page is a grayscale photograph of a large solar farm with rows of photovoltaic panels stretching into the distance. In the background, several wind turbines are visible against a cloudy sky. Overlaid on this image are several abstract, flowing lines in orange and light gray, some forming circular or spiral patterns, suggesting energy or data flow.

FORECASTS AND NOWCASTS

Our complete package for grid operators, power traders and plant operators

As an expert at the interface between meteorology and the energy industry, energy & meteo systems provides pioneering solutions to precisely forecast, trade and integrate fluctuating solar and wind power. We deliver our power forecasts worldwide for solar and wind power plants with a total capacity of more than 600 GW – ranging from individual parks to large portfolios.

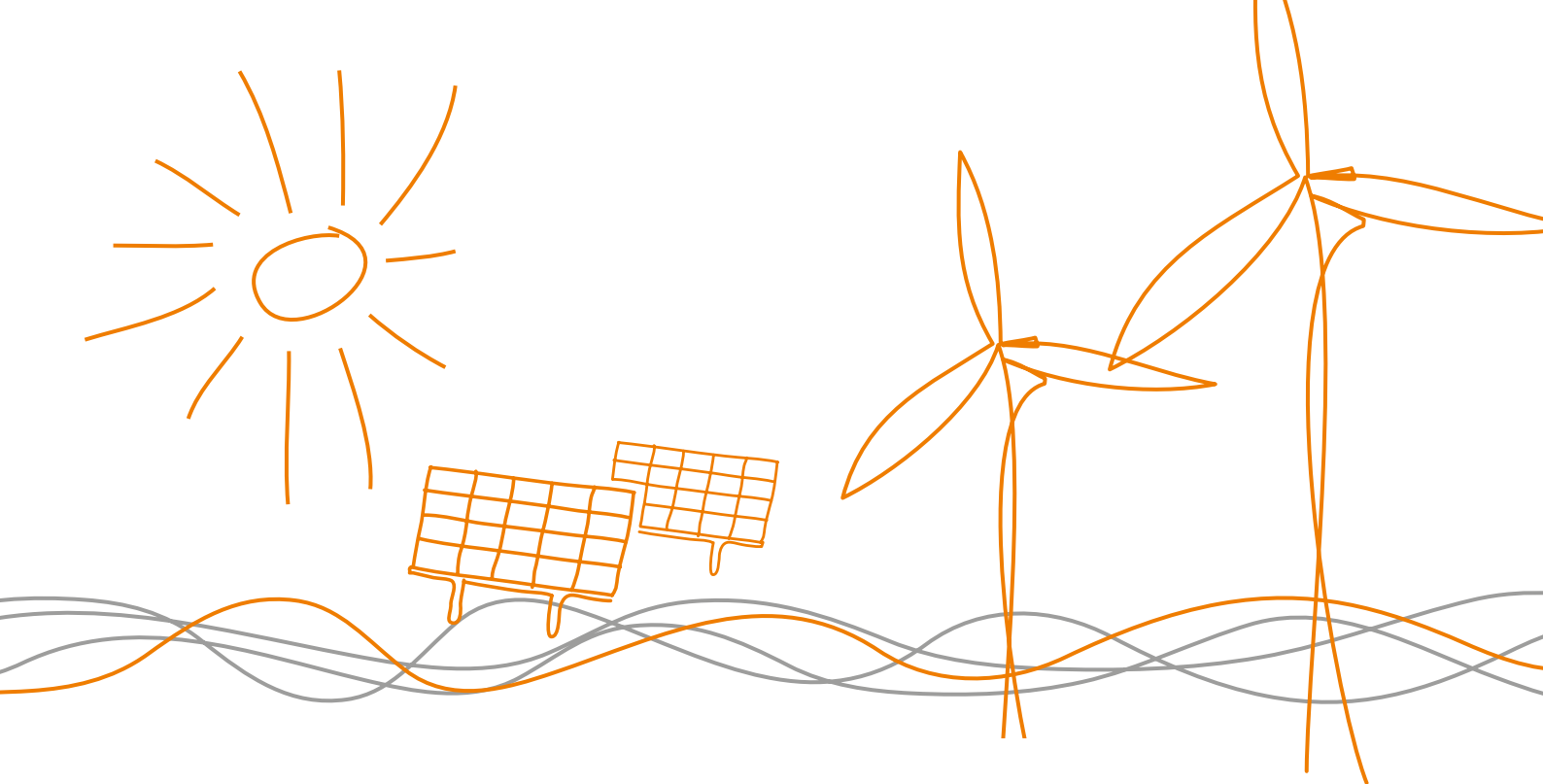
We offer a range of customized forecasting services to plant operators, aggregators, power traders and grid operators. Aggregators and power traders receive portfolio forecasts and market forecasts for trading renewables, taking into account the new grid management processes. For grid operators, we supply regional forecasts, grid node-specific forecasts and separate forecasts for the possible and actual power output.

Wind and solar power forecasts

Precise forecasts of wind and solar power generation for power traders, plant and grid operators are our core competencies. With our prediction systems Previento and Suncast, we deliver precise forecasts of the wind and solar power output for on- and offshore sites worldwide as well as for control zones and grid node levels. We predict the power output from 5 minutes to 15 days in advance at a high time resolution and continuously optimize our forecasts by combining weather models and processing historic and short-term measurements.

Real-time nowcasting

As a unique service, we offer the current solar power output in real-time for many regions worldwide. With our nowcasts we also cover the numerous rooftop photovoltaic systems that are otherwise difficult to monitor. To provide this service we access and upscale real-time measurement data of several hundred thousand reference plants. High-resolution satellite data serve to further optimize the accuracy. Our solar power estimates are available with a temporal resolution of 5 to 15 minutes and can be adapted to your requirements.



Meta prediction combines forecasts

Optimal combination of several providers: our meta-prediction calculates the best statistical weights based on the past quality of various models, leading to an above average forecast quality. Our additional short-term correction significantly increases the prediction quality in the short-term time range. Even for long-term forecasts with a horizon up to four days our meta forecast achieves an above-average prediction accuracy.

Meteorological forecast and situational awareness

Our situational awareness reports prepare you in advance for extreme weather situations. Real-time warning reports make information available fast and effectively, particularly in critical situations such as storms, icing, fog, lightning or Sahara dust, when the production from renewable energies can be very uncertain.

Ampacity prediction for overhead power lines

Our predictions determine the variable maximum current carrying capacity for individual sections of power lines due to prevailing weather conditions. This is calculated on the basis of numerical weather predictions 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.

Customer portal and 24/7 service

For efficient monitoring and data management, we provide you with our web-based customer portal, allowing you to capture your measurement and prediction data at a glance. This includes wind and solar power forecasts including the latest intraday and day-ahead forecasts, meta forecast, total feed-in and uncertainty of the forecasts. We offer power predictions according to your specifications and our 24/7 on-call service is always at your disposal.

Comprehensive know-how for the energy transition

The partner companies energy & meteo systems, emsys VPP and emsys grid services offer pioneering services and IT products worldwide for efficiently integrating renewable energies and other distributed energy resources. Their joint portfolio ranges from precise power forecasts and comprehensive consulting services to the provision of Virtual Power Plants as control centers for decentralized energy plants and customized software platform for grid management.

energy & meteo systems GmbH

Tel. +49 441 249 210

mail@energymeteo.de

www.emsys-renewables.com



Three companies, one goal: 100 % renewable energies!