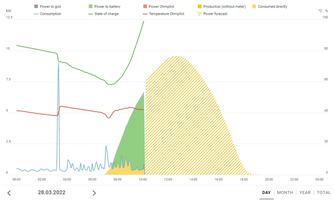
Power forecasts with UBIMET on the Fronius Solar.web portal

What is meant by a “power forecast”?

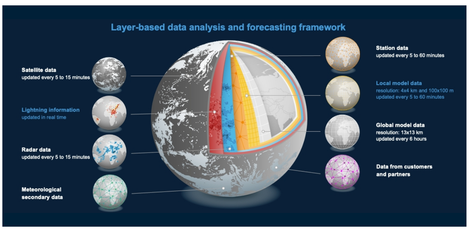
UBIMET makes highly accurate weather data and power forecasts available on the Fronius Solar.web portal. The forecast data are obtained directly from the UBIMET weather model (originally developed for Formula 1), which calculates future forecast figures with unbeatable accuracy.

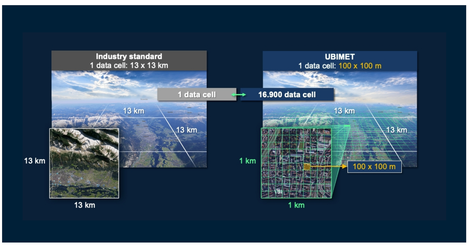


Take a look at the daily energy balance view on the Fronius Solar Web portal to discover the latest power forecasts, which are always valid for the next 48 hours.

Data content and forecast quality

UBIMET collaborates with international partners around the world to collect and archive global weather data. These point and spatial data are combined on a 3D grid and further refined with high-precision algorithms to provide inputs to the UBIMET weather model.





UBIMET’s weather model calculates forecast data with a resolution of up to 100 x 100 meters, so that the weather and power forecasts always refer to a precise location or geographic coordinate.

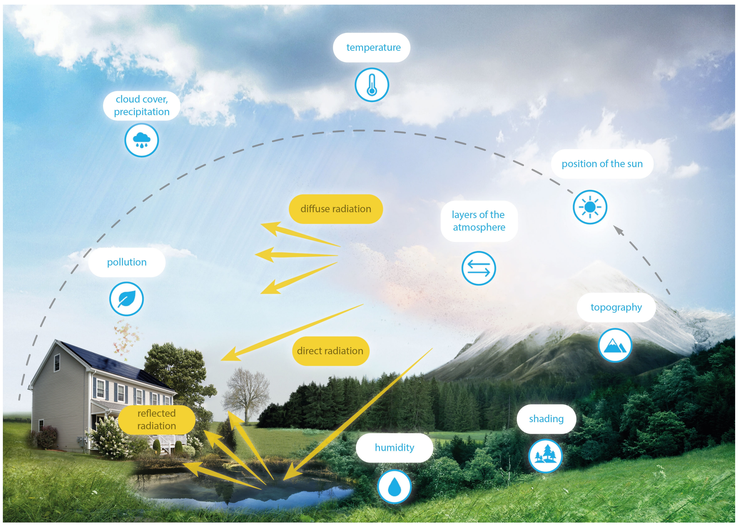
Who is UBIMET?

UBIMET is the leading international weather service with offices in Vienna, Munich, Karlsruhe, Zürich, New York, and Melbourne

UBIMET is an innovation driver and market leader in the field of energy forecasts

UBIMET has had a specific focus on highly accurate meteorology since its foundation

UBIMET has worked closely with international partners over several decades in order to better reflect local conditions through the inclusion of data from diverse weather stations.



Influencing factors applied

Weather and power forecasts are formulated based on the following meteorological and astronomical influencing factors:

When calculating power, incoming radiation is the single most important parameter; the strength of the radiation depends on the influencing factors listed below.

The daily position of the sun (depending on the season) results in varying power levels.

Cloud cover and precipitation significantly reduce the power yield.

Topographic features, such as hills or mountains, cause natural shading.

The temperature plays a particularly important role in the efficiency of photovoltaic systems. When temperatures are commensurately high, a reduction in the PV yield can occur.

Humidity on the ground and in the atmosphere can also reduce yields, despite the radiation levels.

Challenges / inaccuracies

Weather and power forecasts also depend on other factors, which can occasionally result in possible inaccuracies:

Power forecasts are primarily dependent on weather forecasts, the quality of which may vary depending on the time of year:

The most accurate forecasts can usually be expected in wintertime and partly also during the summer, thanks to stable weather conditions - although this also depends on the location.

Inaccuracies mainly arise in spring and fall, when the weather conditions are much more changeable.

As it makes its way through the atmosphere, radiation passes through layers with different properties. Air pollution in particular can diminish the strength of radiation at this time.

Natural shading arising due to local features, such as trees or buildings.

Fouling of the panels, for example by leaves.

Loss of performance can also occur due to incorrect orientation and inclination of panels, extreme temperature dependence, and as the panels age.

***Tip:** Cut back natural vegetation regularly and keep the system clear of any fouling, especially after the fall.*

UBIMET WEATHER MATTERS

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