

Wind energy products



Characteristics of day ahead wind energy forecasting

- hourly or sub-hourly time steps
- from 24-48-72 hours ahead up to 2 weeks
- 4 daily updates with mobile or fixed temporal horizons
- meteorological fields: wind speed, wind direction, temperature, humidity, precipitation, pressure
- wind energy forecast (single wind turbine / entire wind farm)
- meteo-warnings when potentially harmful meteorological conditions are forecasted
- 1-month free trial
- different output formats (csv, xml, xls) and different delivery methods (ftp server, web server, e-mail, API)

Methodologies and algorithms

- IDEAM Srl runs a proprietary meteorological model, optimised for wind related meteorological fields. Resolution, physical schemes and parameterisations have been selected to reduce errors and biases of wind speed forecast.
- The use of the exact power curve of the particular wind turbine allows to estimate the energy production based on wind speed and direction
- When historical measurements of wind speed and energy production from the wind farm are available, statistical learning algorithms and neural networks are used to improve both wind speed and energy production forecast.
- When real-time energy measurements are available, it is possible to have a wind energy forecast constantly updated and corrected through a nowcasting approach

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