WIND ENERGY RESOURCE ASSESSMENT

QUALITY THROUGH INNOVATION AND DESIGN

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Energy, Water, Environment.
Global Sustainable Solutions.

06 Wind Energy Resource Assessment – WindPower System

Wind resource assessment is the process by which wind power developers estimate the future energy production of a wind farm. Accurate wind resource assessments are crucial to the successful development of wind farms.

ENEA Grupo® offers wind measurement systems (WindPower System) specifically engineered for wind resource assessment, power curve measurement, and monitoring operational wind farms.

Our wind measurement systems have a wide range of options for measuring wind speed, wind direction, air density, and electric power. Real-time data are stored locally on our METEODATA-3000C data logger, and can be transmitted via all standard communication methods such as via GPRS/3G, Radio-Link or through satellite networks.

ENEA Grupo® offers a variety of products that can be used to configure custom Wind Energy systems. Wind speed and direction sensors as the classical three cup anemometers and potentiometric vanes, or the new ultrasonic wind sensors with no moving parts, can be connected to our data logger METEODATA-2000/3000 Series for data storage and data transmission in real-time or delayed mode.

Our Wind Power Monitoring System (WindPower System) has been designed by our experts for wind energy resource assessment and also for monitoring the performance of operational wind farms. It is designed around our rugged METEODATA-3000C data logger to which can be connected a variety of different technologies of wind sensors all under the management of our advanced software Package.

ENEA Grupo® offers complete solutions for the installation of Wind Energy Resource Measuring Networks with data transmission to a Central Receiving Station. Having wind historical data Government agencies can publish a national WIND MAP of measured wind resources, which will facilitate and support private and public investors in their decisions oriented to wind power energy development.

Besides the classical solutions for wind energy measurement based on anemometers, ultrasonic or mechanical wind sensors, ENEA Grupo® also offers a very advance solution

for wind energy measurement, based on LIDAR technology such as The ZephIR 300. This is a continuous-wave (CW) LIDAR system that provides remote wind measurements across ten user-defined heights from 10 m to 300 m. It is ideal for applications that require wind measurements at multiple heights, and for locations where the installation of a tall tower is difficult.

It is used worldwide for: site assessment, prospecting, and turbine micrositing, extreme flow conditions, powercurve assessment, permanent wind-farm anemometry and complex site analysis.

INSTALLATION, MAINTENANCE AND PRODUCTION