Laboratory for Wind Turbine Testing
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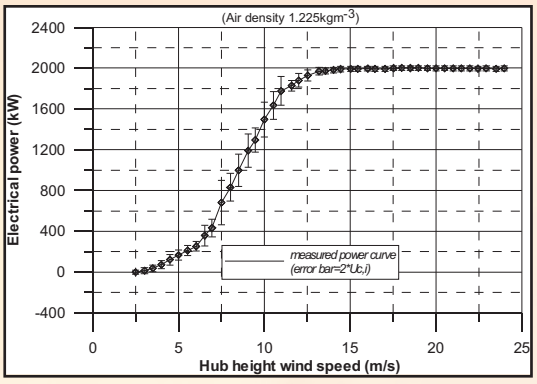
WIND TURBINE POWER CURVE MEASUREMENTS

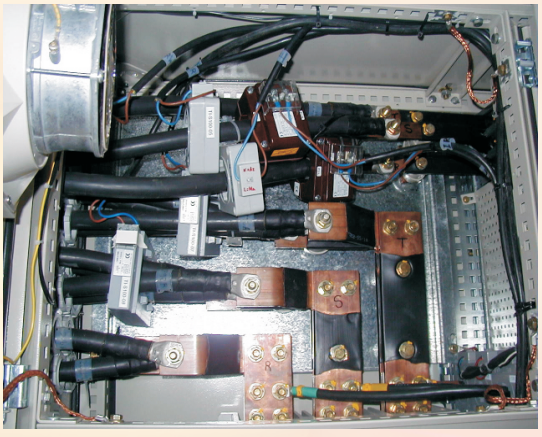
The accurate knowledge of the wind turbines power curve is crucial for the economics of any wind power project. For the definition of the power curve of a wind turbine the active electrical power produced by the wind turbine and the reference wind speed and direction at a height from the ground equal to the wind turbine hub height are measured. Additionally, atmospheric pressure and air temperature are monitored in order to calculate actual air density and then calculate the power output at normalised air density conditions.

The Laboratory for Wind Turbine Testing (LWTT) of CRES performs complete power curve evaluation for any size of wind turbines. Special features:

- PC or data logger based systems
- The measurement set-up offered as a turn-key solution, including mast installation (up to 60m)
- Flexibility in instrumentation
- Experienced and efficient staff
- Measurements and reports according to IEC, MEASNET and FGW recommendations.
- Wireless (GSM) data transmission for fast evaluation. SMS & email messages for continuous control
- Intermediate fast results provided to the customer
- Sensitivity analysis, site calibration and verification



LWTT has considerable experience in power performance analysis of wind turbines operating under non-standard conditions (highly turbulent, non-uniform flow field characterising complex terrain sites). Power performance measurements have been performed in Italy, Spain and Greece for both verification and type certification measurements.



LWTT participates in the formulation of the IEC standard and MEASNET procedures, as well as in the regular round robin tests for power performance testing within the MEASNET members.

LWTT **is accredited by the DAP** (Deutsches Akkreditierungssystem Pruefwesen) according to **DIN-EN ISO/IEC 17025:2000**. The accreditation scope includes Wind Turbine power curve measurements .

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