



Snowtown wind farm
courtesy of Trust Power
& Suzlon

Wind measurement and energy yield services

Why is it so important?

The wind measurement and analysis process is one of the most important aspects of wind farm site development, as it assists in:

- Determination of wind resource and energy yield
- Turbine selection
- Optimized design
- Avoiding unnecessary delays
- Securing finance

Effective wind measurement and data analysis is the cornerstone of identifying and mitigating risks and for maximizing the potential rewards from a project.

How we can help?

Wind Prospect Group has been developing, constructing and operating wind farms since building the UK's second wind farm in 1992, and currently have more than 100 masts belonging to ourselves and clients under data management.

We have effective procedures and practices to deliver valuable services in:

- Wind monitoring
- Wind data management
- Wind resource and energy yield assessments
- Advising and consulting on the development of wind projects

Benefits

Our specialist staff continuously retrieve and analyze data providing:

Key Benefit	Due to
Maximum data recovery	Proactive monitoring; early detection of potential failure and immediate response
Minimum client input	Comprehensive management of the measurement program, mast and equipment installation, data retrieval, analysis, and energy yield assessment
Security of data	Dedication to data security at all stages
Wind resource analysis	Collected wind data is correlated with historical records near to the site, state-of-the-art software and modeling tools are used to carry out site analysis



Photo courtesy of Angus Reid; www.angus.reid.ukgateway.net



Our services include

Met masts – installation and maintenance

- Site selection and permitting
- Installation and equipment configuration
- Maintenance and inspections during wind measurement
- Maintenance of strict health and safety measures

Data retrieval and data verification *remote access via cell-phone or satellite phone*

- Wind speed time traces for all anemometers
- Wind speed correlations between various anemometers
- Wind direction time traces for all wind vanes
- Wind direction correlations between wind vanes
- Battery time traces

A monthly report is produced containing monitoring equipment specifications, monthly performance and overall summaries for all data during the reporting period, including wind roses, wind speeds, directions, temperatures, pressures, diurnal patterns and battery status.

Wind resource analysis

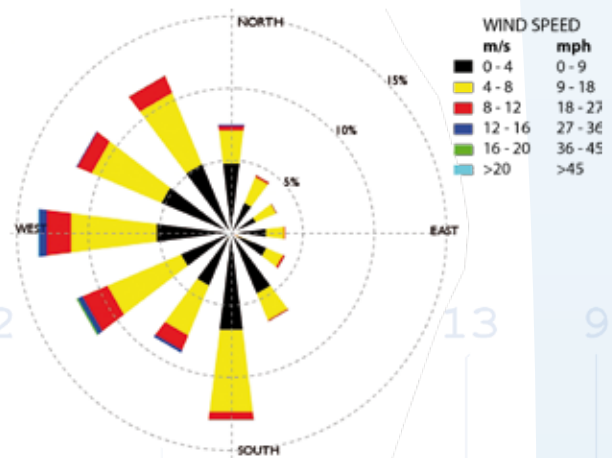
Wind Prospect prepare digital terrain models using purchased elevation datasets and digitised roughness data (from aerial photographs and data collected from site). Once the basic data analysis and statistics have been carried out, we prepare:

- Correlations based on measured mast data and long term data sets
- Long-term wind regimes for the site
- Wind shear, turbulence and extreme wind-speed analysis (if data available) at the mast location

Energy yield assessment

Our team provides:

- Wind flow models using WAsP and CFD
- Micrositing and energy predictions for turbines using wake models
- Assessment of losses and uncertainties and calculation of overall energy yield values



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