

- Wind Farm Planning
- World-Wide
- Independent Assessments
- 25 years Experience
- Energy Yield
- Uncertainty Analysis
- Turbulence Assessment
- Overhead Powerlines
- Offshore Wind Farms
- Noise Emissions and Shadow Casting



Wind Farm Planning

The success of a wind farm depends on precise planning and continuous, dependable checks and inspections during turbine operations. Risks and uncertainties should be determined as early as possible to guarantee efficiency.

Accordingly, at the beginning of a wind farm project or project review a number of external assessments are required – an important basis for successful project planning.

Assessments

For over 25 years, Overspeed has issued expert assessments in the following areas:

- Wind speed assessments
- Energy yield predictions
- Profit predictions
- Comparative Analysis of Energy assessments
- Determination of plausibility of energy yield assessments
- Turbulence assessment for turbine stability proof
- Wake impact on overhead powerlines



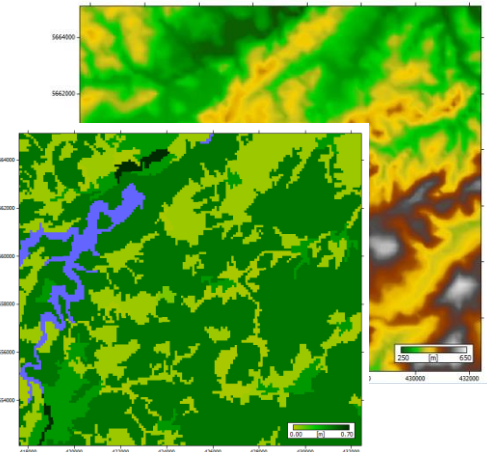
- Shadow casting
- Noise emissions
- Loss calculations due to
 - sectorial restrictions in operations (turbulence, stability)
 - operation restrictions due to noise emissions
 - wind turbine shut-down due to rotor shadow casting
 - wind turbine shut-down for animal protection
- Planning and operation of wind measurement campaigns

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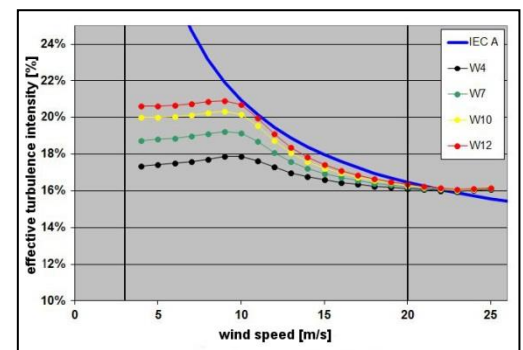
Roughness and orography map as a basis for wind speed assessments

Quality Assurance

We work independently of all manufacturers according to the current level of science and technology and in accordance with national and international guidelines and wind energy standards, e.g. IEC 61400-1, IEC 61400-12, FGW-Richtlinie TR6.

Turbulence effects

Both environmental and wind farm turbulence can lead to increased wind turbine loads and may exceed design limits (stability proof). Overspeed determines site-specific turbulence intensity as part of its turbulence assessment, checks whether parameter limits of the relevant guidelines have been exceeded, and optimizes wind turbine sites, making use of sector management as well, where necessary.



Effective turbulence intensity for various Wöhler-exponents from a selected wind turbine and IEC-limits