

Elements of wind power meteorology

Siting is defined as estimation of the mean power produced by a specific wind turbine at one or more specific locations. This includes methods for calculating the wind resource, the turbulence conditions, the extreme wind conditions, and the effects of rotor wakes.

Regional assessment of wind energy resources means estimating the potential output from a large number of wind turbines distributed over the region.

Forecasting is done by combining numerical weather prediction models with micro-siting models to predict the power output from specific wind farms up to 48 hours ahead.