

FEASIBILITY OF WIND ENERGY CONVERSION SYSTEM

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ABSTRACT : The wind energy is used for many centuries by propelling ships and driving wind turbines to grind grains and pumping water. Wind turbine provides energy, as wind blows with reasonable speed greater than 3.5 m/s. The standard deviation of annual wind speed data was observed to be 0.61 at which turbulence intensity was 0.42 for 10 m height. It was observed that turbulence in the wind speed was high at which there is no possibility to harness wind energy for the commercial power generation. The total wind energy generation at 10 m height was found to be 58.28 kWh/m². Total turbine energy for the area of 4.9 m² turbine was observed to be 285.6 kWh.

Key Words : Wind energy, wind turbine, turbulence intensity, wind velocity.