

Small civil wind power generation system





Overview

How does a small wind energy system work?

The key feature of a small wind energy system is the wind turbine. The turbine uses the energy of motion (kinetic energy) from the wind to turn a shaft, thus making mechanical energy. This shaft is attached to a generator. The resulting spin within the generator makes electricity. A wind turbine thus operates the opposite way of a fan.

What is a small wind turbine?

Farmers have widely utilised small wind turbines to generate electricity for their homes and pump water. These turbines have a power output ranging from 3.5 kW to 50 kW and must be mounted on a tower (BWEA, 2006). Micro-wind turbines are smaller than the so-called small wind turbines, having power outputs below 3.5 kW.

What is a micro-wind turbine?

Micro-wind turbines are small wind turbines that generate electricity from the wind. Farmers have widely utilised small wind turbines to generate electricity for their homes and pump water. These turbines have a power output ranging from 3.5 kW to 50 kW and must be mounted on a tower (BWEA, 2006).

What is the potential of small-scale wind energy systems?

The potential of small-scale wind energy systems depends on factors such as wind speed, location, and the type of wind energy harvesting system used . The unpredictable wind conditions in urban areas can make it difficult to generate a steady and reliable source of energy.



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