

Small Wind Electric System Energy Saver

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Abstract: *A small wind turbine is a compact, renewable energy solution designed to harness wind power for local electricity generation. Typically used for residential, agricultural, and remote applications, these turbines range from a few hundred watts to several kilowatts in capacity. Unlike large-scale wind farms, small turbines are often installed on rooftops or standalone towers, providing an efficient and sustainable alternative for off-grid or supplemental power. The turbine consists of rotor blades, a generator, and a tower. As wind flows over the blades, it causes rotation, converting kinetic energy into mechanical energy. This mechanical energy drives a generator that produces electricity. Advances in aerodynamics and materials have led to improved efficiency and durability, making small wind turbines viable even in moderate wind conditions.*

Small wind turbines contribute to energy independence, reducing reliance on conventional power sources and lowering carbon footprints. With evolving technology and policy support, they present an increasingly attractive option for decentralized clean energy production

Keywords: Kinetic energy, Mechanical energy, Aerodynamics, Carbon footprint

