How Wind Turbines Work

You may have noticed the huge rotating mills in fields.

They are called wind turbines.

They have huge metal poles leading to

a massive fan in the air.

Wind turbines collect energy from wind

because wind is a form of solar energy.

they use the energy they collect to

to power lots of things.

The wind turbine has 16 parts.

All those 16 parts make it run

Here is a list of them.

The anemometer: measures the speed of the wind and transmits the wind speed to the controller.

The blades: when wind blows over the blades it causes them to “lift” and rotate.

The brake: which can be applied in many ways such as mechanically can stop the wind turbine in emergencies.

The controller: starts up the machine at wind speed about 8 to 16 mph per hour.

The gearbox: the gears connect the high speed shaft to the low speed shaft.

The generator: usually an off- the- shelf induction generator that produces 60 -cycle AC electricity.

The high speed shaft: drives the generator.

The low speed shaft: the rotor turns the low speed shaft at about 30 to 60 rotations per minute.

The nacelle: a nacelle sits atop the tower and contains the low-and high-speed box, generator, controller and brake.

The pitch: blades are turned, or pitched, out of the wind to control the rotor speed and keep the rotor from turning in winds that are either too big or too small to produce electricity.

The rotor: the blades and the hub are called the rotor.

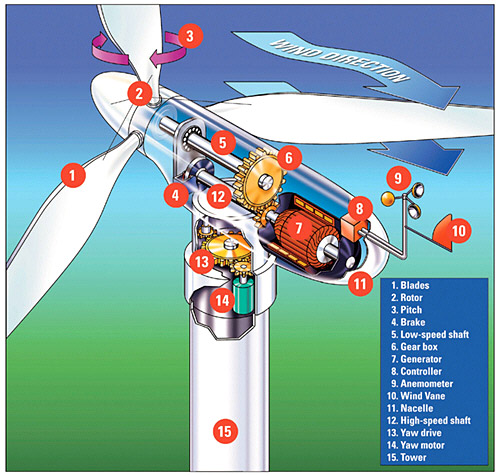
Towers: towers are made from tubular steel, concrete or steel lattice.

Wind direction: it means the turbine is facing the wind.

Wind vane: measures the wind direction.

Yaw drive : Upwind turbines face into the wind; the yaw drive is used to keep the rotor facing into the wind as the wind direction changes.

Yaw motor :powers the yaw drive.

All the parts of the wind turbine work

together to collect energy.

You don’t have to turn a button on the wind turbine because it works by itself.

So that is the basic use of a wind turbine.