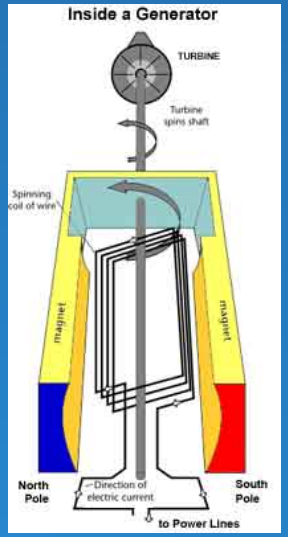
Generators and Motors

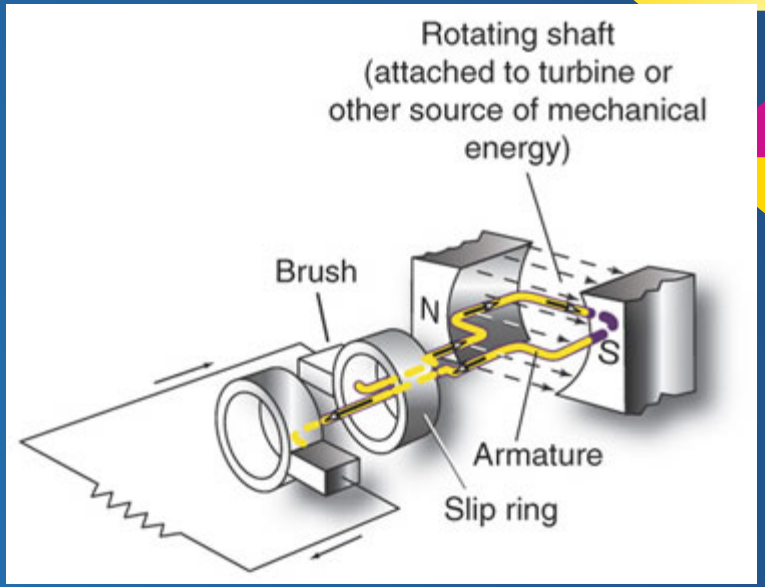
What are Generators?

Generators supply us with most of the electric current we use. Generators turn **MECHANICAL** energy (movement) into **ELECTRICAL** energy.

The “Guts” of a Generator

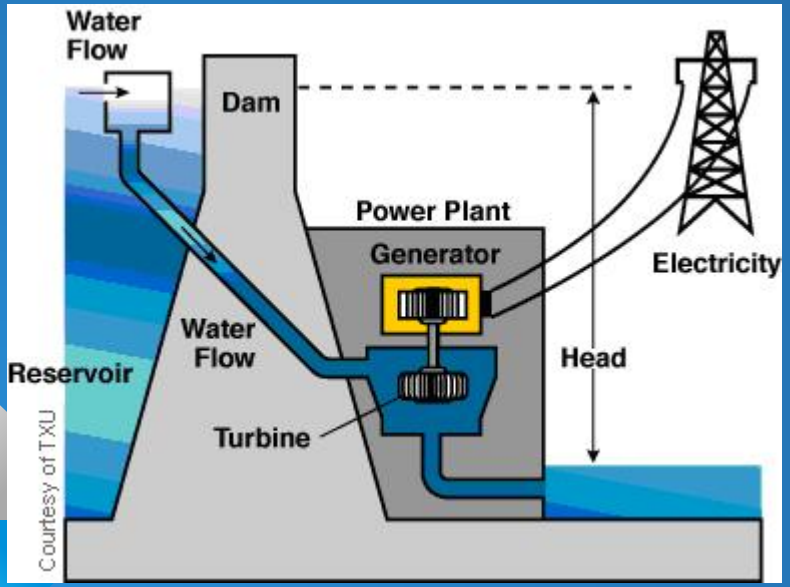


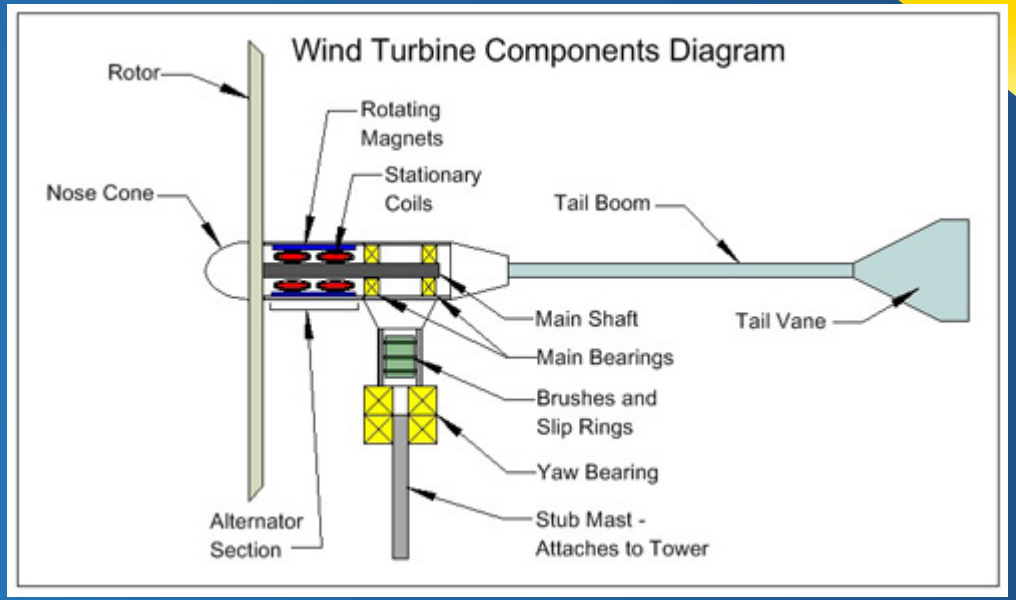
Inside a generator, a coil of wire is spun inside a powerful magnetic field. This creates an electric current in the wire that can be used to power electronic devices to entire cities.



Common Electrical Generators

Renewable Energy



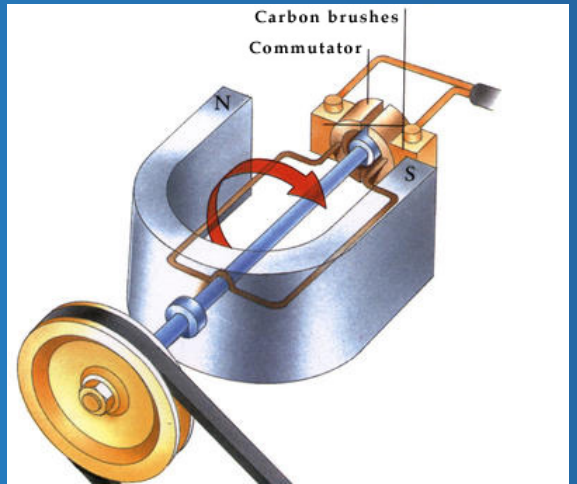


What are Electric Motors?

Electric motors are machines that turn **ELECTRICAL** energy into **MECHANICAL** energy to do work. Electric motors can be small or large.

How Do Electric Motors Work?

A current turns a conductor into an electromagnet. If the current is reversed, the electromagnetic poles will reverse, too. When the electromagnet is placed near a fixed magnet, the two sets of poles repel and attract each other. This produces a force that makes the conductor rotate (spin) at high speeds. This turns a shaft, which then drives a machine.



Electric Motors

What are three examples of electric motors not used in class?

1.
2.
3.

Exploration of Electric Motors