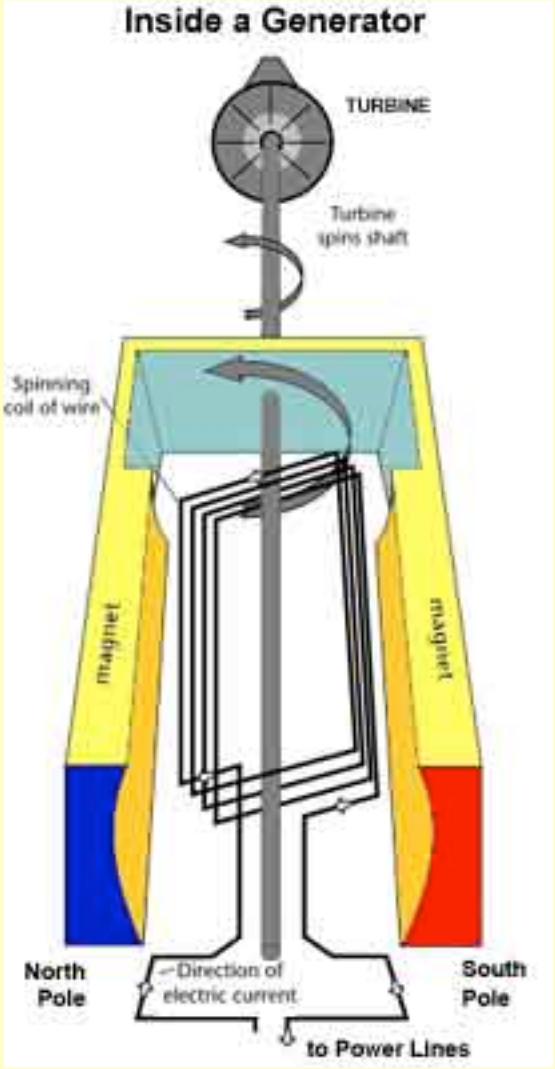
How the Generator Works

The turbine is attached by a shaft to the turbogenerator. The generator has a long, coiled wire on its shaft surrounded by a giant magnet. You can see the inside of the generator coil with all its wires in the picture on the right.

The shaft that comes out of the turbine is connected to the generator. When the turbine turns, the shaft and rotor is turned. As the shaft inside the generator turns, an electric current is produced in the wire. The electric generator is converting mechanical, moving energy into electrical energy.

The generator is based on the principle of "electromagnetic induction" discovered in 1831 by Michael Faraday, a British scientist. Faraday discovered that if an electric conductor, like a copper wire, is moved through a magnetic field, electric current will flow (or "be induced") in the conductor. So the mechanical energy of the moving wire is converted into the electric energy of the current that flows in the wire.



The electricity produced by the generator then flows through huge transmission wires that link the power plants to our homes, school and businesses. If you want to learn about transmission lines, go to **Chapter 7.**

All power plants have turbines and generators. Some turbines are turned by wind, some by water, some by steam.