

## Electricity Distribution Discussion Questions:

- 1) How is electricity generated?
- 2) How does electricity get from the power station to your house?
- 3) What are some safety issues regarding electricity supply?

Michael Faraday was a British chemist and physicist who experimented with electromagnetism and electrochemistry during the 1830s. He found that an electric current could be produced when a copper disc was rotated between the poles of a magnet. His work in the field of electromagnetic induction led to the production of the transformer and the generator.

A modern electric motor (or generator) works using the same principle. Metal wire is coiled around a metal rod. The rod spins within a strong magnetic field. Electric current is generated and pushed along within the wires.

Power stations produce electric current using the same method. A coiled metal rod spins within a magnetic field inside a turbine. The power to turn the turbine usually comes from steam. (The steam comes from water that is heated by burning coal or by nuclear fission.) Alternative methods of turning the turbine include wind power, and the power of moving water.

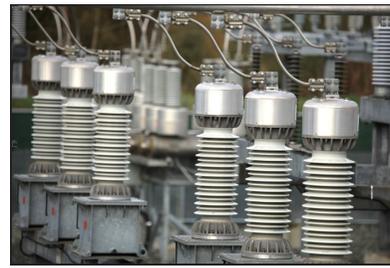


Michael Faraday ( 1791 - 1867 )

# How Electricity is Supplied to Households.



1 Electricity is produced in generators at the power plant.



2 The current is sent through transformers to increase the voltage so it can travel a long way.



3 The current travels through high voltage cables across the country.



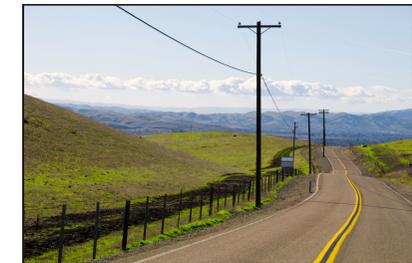
4 The voltage is lowered at substations so that the current can run through smaller cables.



7 The distribution cables connect to your household wiring.



6 The voltage is lowered again so it can be distributed to households.



5 The current travels through distribution cables to all areas.

Why are substations such dangerous places?



*If you touch a live wire electricity will flow from the wire, through your body to get to the ground you are standing on. Never touch exposed electric wires or poke things into a power socket!*

