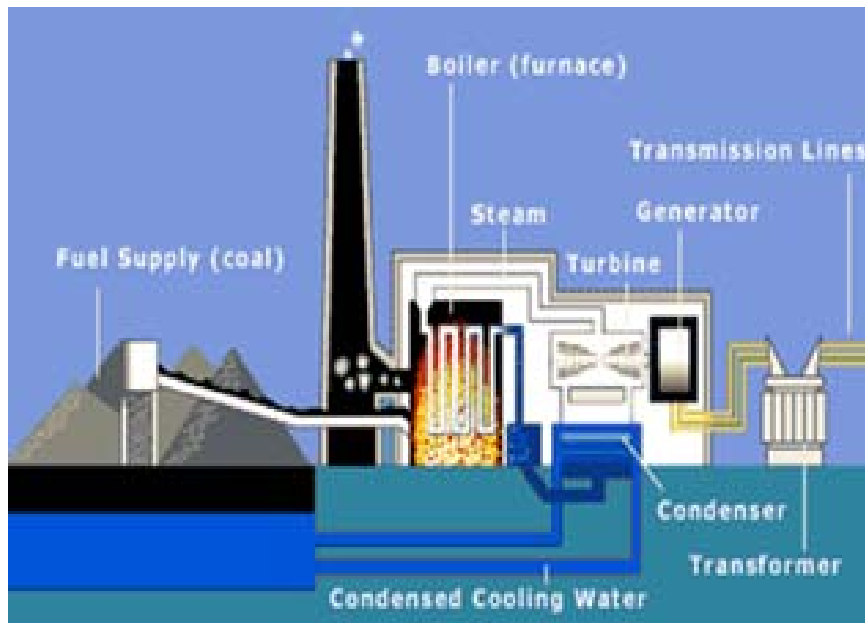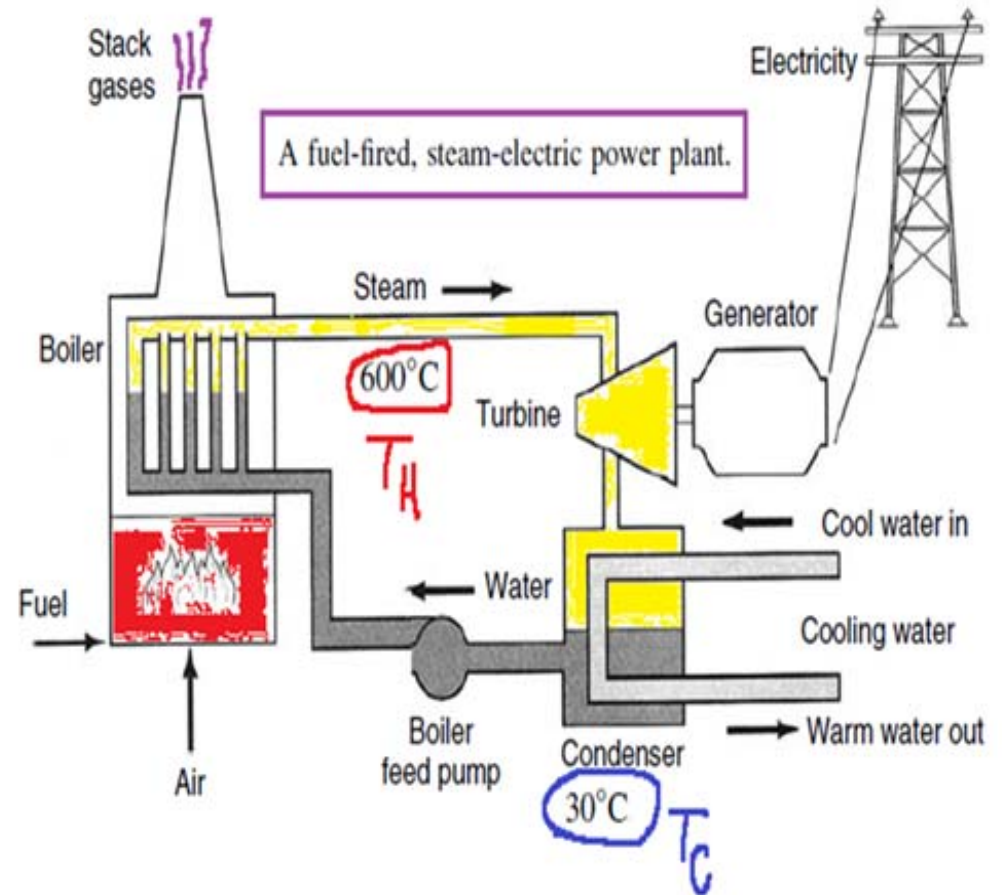# Material Balance

A fuel-fired, steam-electric power plant.

⌘ **1 kWh= 3412 Btu**
⌘ **1 kWh = 3600 kJ**

⌘ "<u>Heat Rate</u>" = how much "Thermal Input (Btu or kJ) required to deliver 1kWh of Electrical Output"
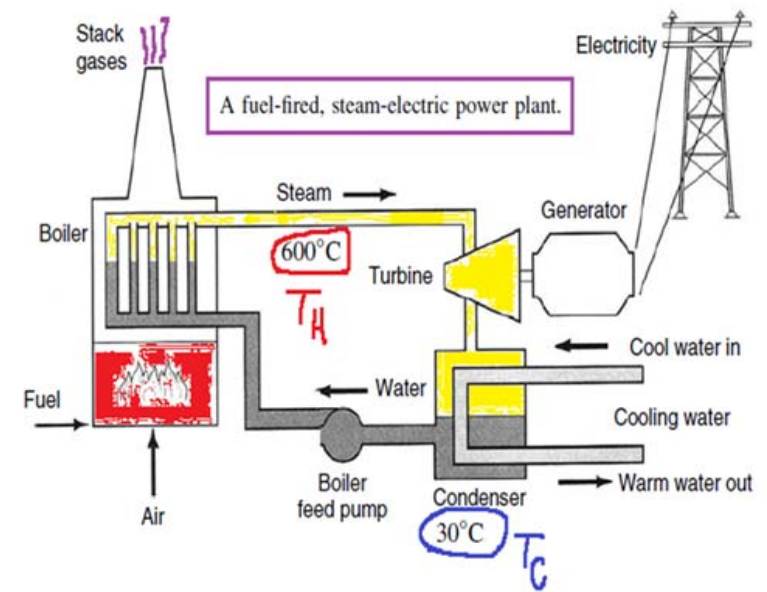
A fuel-fired, steam-electric power plant.

Material Balance - Big Picture

⌘ **Subject** - A steam-cycle power plant

- ⌃ **How much fuel we need for 1kWh**
- ⌃ **How much emission is produced from the fuel**
- ⌃ **How the steam was cooled – how much water**

⌘ **Players**

Heat Rate, Heating Value, Fuel Rate

example problem solving