

Fossil fuels

Fossil fuels comprise mainly of coal, oil and gas. These three were formed millions of years ago beneath the earth's surface from the decomposed bodies of dead plants and animals. They are foreseen to be in short supply in the future as man's fuel needs continue to grow at a fast rate.

Crude oil is also referred to as petroleum. Compared to coal, this is easier to extract from the ground through the use of pipes thereby making it less costly to transport from one place to another.

Natural gas has other uses apart from being burned in power plants to generate electricity. Many people also use it in their home heating systems to provide warm air during the cold winter season.

Advantages of Fossil Fuels

- A major advantage of fossil fuels is their capacity to generate huge amounts of electricity in just a single location.
- Fossil fuels are very easy to find.
- When coal is used in power plants, they are very cost effective. Coal is also in abundant supply.
- Transporting oil and gas to the power stations can be made through the use of pipes making it an easy task.
- Power plants that utilize gas are very efficient.
- Power stations that make use of fossil fuel can be constructed in almost any location. This is possible as long as large quantities of fuel can be easily brought to the power plants.

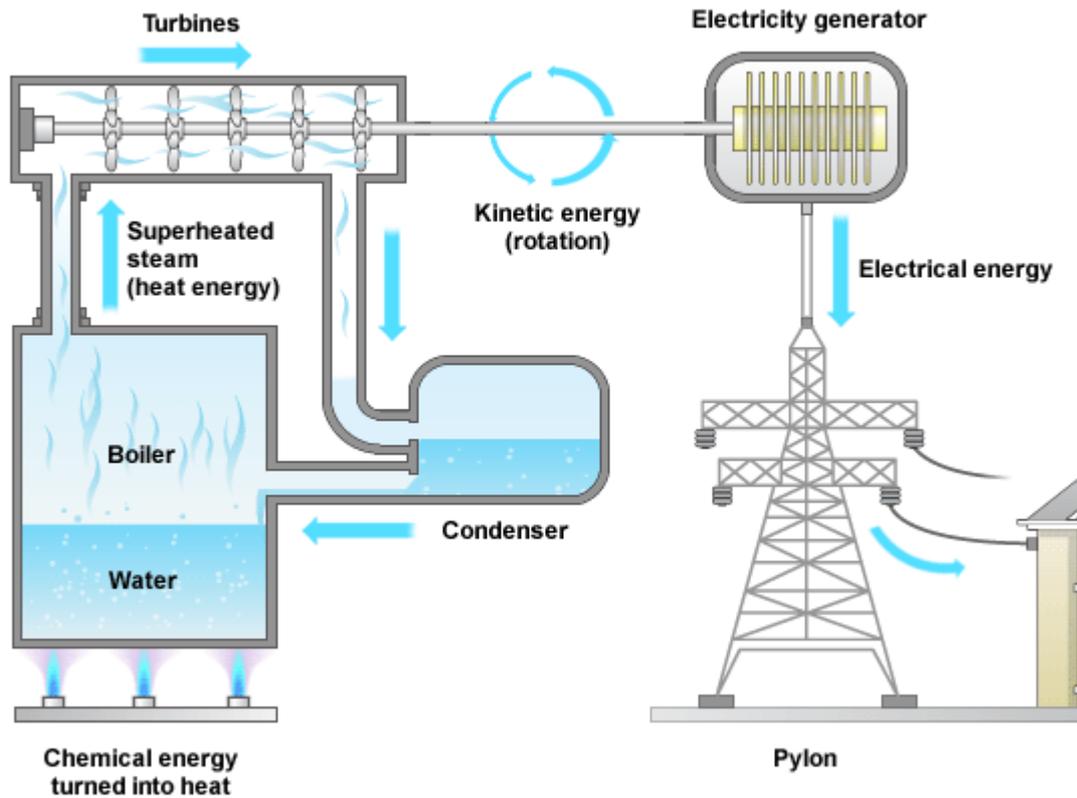
Disadvantages of Fossil Fuels

- Pollution is a major disadvantage of fossil fuels. This is because they give off carbon dioxide when burned thereby causing a greenhouse effect. This is also the main contributory factor to the global warming experienced by the earth today.
- Coal also produces carbon dioxide when burned compared to burning oil or gas. Additionally, it gives off sulphur dioxide, a kind of gas that creates acid rain.
- Environmentally, the mining of coal results in the destruction of wide areas of land. Mining this fossil fuel is also difficult and may endanger the lives of miners. Coal mining is considered one of the most dangerous jobs in the world.
- Power stations that utilize coal need large amounts of fuel. In other words, they not only need truckloads but trainloads of coal on a regular basis to continue operating and generating electricity. This only means that coal-fired power plants should have reserves of coal in a large area near the plant's location.
- Use of natural gas can cause unpleasant odors and some problems especially with transportation.
- Use of crude oil causes pollution and poses environmental hazards such as oil spills when oil tankers, for instance, experience leaks or drown deep under the sea. Crude oil contains toxic chemicals which cause air pollutants when combusted.

Thermal power stations

In a thermal power station fuel such as coal, oil or gas is burned in a furnace to produce heat - chemical to heat energy.

- this heat is used to change water into steam in the boiler.
- the steam drives the turbine - heat to kinetic energy
- this drives the generator to produce electricity - kinetic to electrical energy.



GLOSSARY: