

Non- Renewable Energy Resources

Energy which can not be regenerated.

Coal:

It is a solid fossil fuel.

Disadvantages:

1. when coal is burnt large amount of CO_2 is released. Which causes global warming.
2. S, N produces toxic gases during burning.

Petroleum:

Crude oil is a liquid consists of more than hundreds of hydrocarbons and small amount of impurities. The petroleum can be refined by fractional distillation. In the world level 25% of oil reserves are in Saudi Arabia. At present rate of usage, the world crude oil reserves are expected to get exhausted in just 40 years.

Liquefied petroleum gases(LPG):

Petroleum gases obtained during FD and cracking can be easily converted into liquid under high pressure as LPG. It is colourless and odourless gas, but during cylindering mercaptans are added to detect leakage.

Natural gas:

These are found above oil in oil wells. It is a mixture of methane and other hydrocarbons. Calorific value is high. There are two types. Dry gas and wet gas.

Nuclear energy:

Dr.H.Bhabha is a father of nuclear power development in India. 10 nuclear reactors are present in India. It produces 2% of India's electricity. Nuclear energy can be produced by two types of reactions. Nuclear fission and nuclear fusion.

Nuclear fission;

It is a nuclear change in which heavier nucleus split into lighter nuclei on bombardment of fast moving neutrons. Large amount of energy is released through chain reaction.

E.g

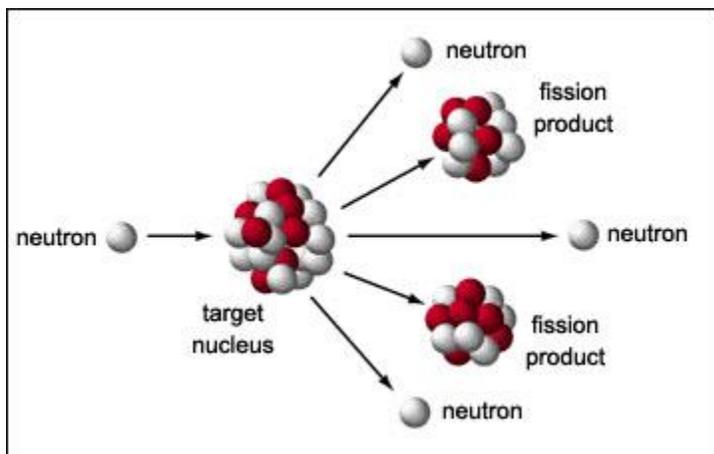
Uranium with fast moving neutron gives barium and krypton in addition to three neutrons, in the second stage it gives nine neutrons and so on. This process of propagation of the reaction by multiplication is called chain reaction.

Nuclear fission:

It is a nuclear change in which lighter nucleus are combined together at extremely high temperature (1 billion $^{\circ}\text{C}$) to form heavier nucleus and a large amount of energy is released.

E.g

Isotopes of hydrogen combine to form helium molecule.



Case Study:

Wind energy in India:

India generating 1200 MW electricity using the wind energy. Largest wind farm situated near Kanyakumari in Tamil nadu. It produces 380 MW electricity.

Hydrogen fuel car:

General motar company of china discovered a experimental car (fuel H_2) can produce no emission only water droplets and vapours come out of the exhaust pipe. This car will be commercially available by 2010.

Source : <http://nprcet.org/e%20content/eee/EVS.pdf>