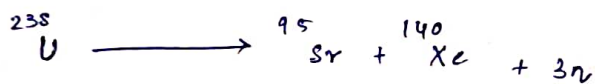


Q Write a short note on Nuclear Energy.

Nuclear energy is a non-renewable energy source. Although nuclear energy itself is a renewable energy source, the material used in nuclear powerplants is not. Nuclear energy harvests the powerful energy in the nucleus or core of an atom. Nuclear energy is released through nuclear fission, the process where the nucleus of an atom splits. Nuclear powerplants are complex machines that can control nuclear fission to produce electricity. The material often used in nuclear power plants is uranium. Although uranium is found in rocks all over the world, nuclear power plants usually use a rare type of uranium U-235. Uranium is a non-renewable resource.



and energy released $E = \Delta m c^2$

ADVANTAGES:

- Nuclear energy is a popular way of generating electricity around the world. They do not pollute air or emit greenhouse gases. They do not destroy the environment around them.
- Not very expensive. To build a powerplant, it requires some capital, but in the long run it ~~can~~ is equivalent to cost of mining and transporting coal.
- It is a reliable form of energy as it can function uninterrupted for a long time & happens because nuclear power plants do not get effected by weather or other suppliers

DISADVANTAGES

- Uranium-235 is unstable and difficult to extract ~~as~~, transport, store and dispose.
- Pollutes water bodies near the powerplants as the plants are connected to water bodies.
- Nuclear powerplants are difficult to build and run.
- Some of nuclear hazards and life threats, leaks etc.
- It also produces radioactive material. Radioactive waste can be extremely toxic causing burns, cancers etc.