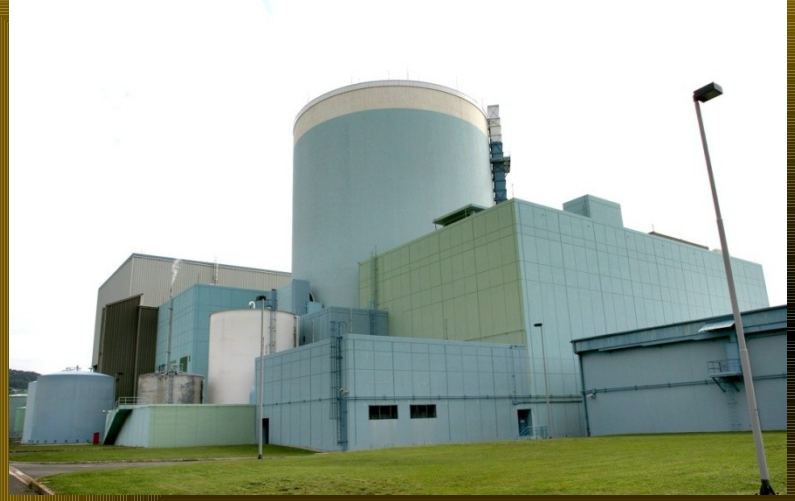
ELECTRICITY FROM NUCLEAR POWER-PLANT

Production electricity

- Nuclear power-plant operates on the same simple principles as plants powered by coal or oil.
- Heated water produces steam.
- Steam drives a turbine that turns a generator produces electricity.



Krško power-plant

- The heat source is the energy released by the fission, or splitting of nuclei of fissionable materials, (U-235).
- A neutron collides with U-235 nucleus splitting the nucleus in two.
- Part of the energy that held the nucleus together is released as heat.

Cold water for cooling system

- Other neutrons are ejected. These bombard other U-235 nuclei, thus setting up a chain reaction.

- The energy produced by the chain reaction in the reactor core heats the water and turns it into steam.

- The steam is then used to drive the turbines.

URANIUM

- The importance of uranium today is as a producer of nuclear power.

- Uranium was first discovered by the German chemist, Martin Klaproth in 1789. But for a century and a half afterwards few uses could be found for the new metallic element.

Depleted uranium

- In 1938, two scientists, Hahn and Strassmann, discovered that uranium could yield nuclear energy.

- One pound of uranium would give as much energy as three million pounds of coal. The first nuclear chain reaction was made by Enrico Fermi in 1942.

- This made possible the exploding of the first atomic bomb in 1945.

Common words and expressions

- Power-plant => elektrarna
- Fission => cepitev
- Split (the atom) => razbiti (atom)
- Collide => trčiti
- Chain reaction => verižna reakcija
- Reactor core => reaktorsko jedro