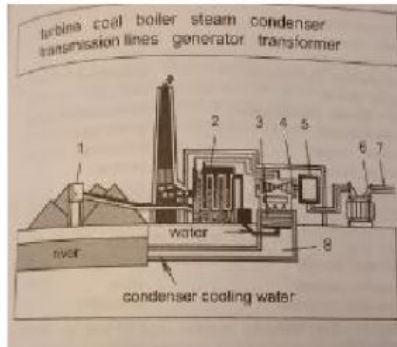


Generation of electricity

Write the terms next to the numbers:



Complete the text using the words in *italics*:

carbon dioxide, coal, emits, fission, generate, heat, nuclear, permanent, similar, spins, steam, through

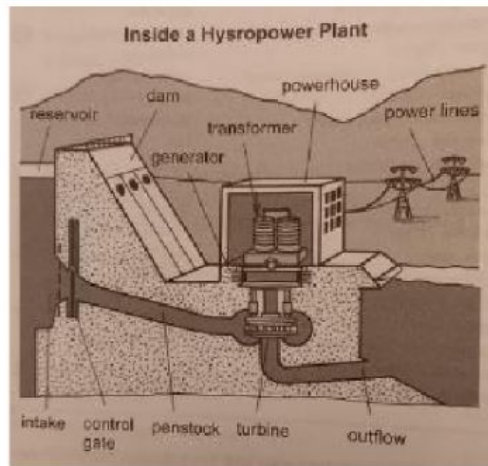
The most common turbine driver is 1. _____ in fossil fuel plants or 2. _____ power plants. For example **coal-fired units** produce electricity by burning 3. _____ in a boiler to heat water to produce steam. The steam, at very high pressure, flows into a turbine, which 4. _____ a generator to produce electricity. The electricity generated in at the plant is sent to the consumers 5. _____ high-voltage power lines.

The problem with fossil fuels is that they will not last forever and when combusted, they 6. _____ sulphur dioxide, nitrogen oxides and 7. _____, which cause acid rain and the greenhouse effect. What's more, a typical coal-burning power plant 8. _____ more radiation than a properly functioning nuclear power plant.

Nuclear power plants nowadays produce about 30% of the world's electric power. In a nuclear power plant the fuel is placed in a reactor and the individual atoms are allowed to split apart. The splitting process, known as 9. _____ releases great ammount of energy in the form of gamma rays. This energy is used to 10. _____ water unti it turns to steam. The process that follows is 11. _____ to what happens in coal-fired plants. The problem to be solved is that the spent fuel stays toxic for centuries and there is not yet safe, 12. _____ storage facility for it.

Look at the picture of the hyrdoelectric dam, read the definitions and write the terms which are defined:

dam, generator, intake, long distance power lines, penstock, reservoir, transformer, turbine, water head



- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

1. It holds water back, creating a large reservoir.
2. It is often used as a recreational lake.
3. Gates on the dam that open and gravity pulls the water through the penstock
4. A pipeline that leads to the turbine. Water builds up pressure as it flows through this pipe.
5. It can weigh as much as 172 tons and turn at a rate of 90 revolutions per minute (rpm). The water strikes and turns its large blades. It is attached to the generator.
6. Its giant magnets rotate past copper coils, producing alternating current (AC).
7. It takes the AC and converts it to higher-voltage current.
8. It refers to the distance between the water surface and the turbines.
9. They come out of every power plant.