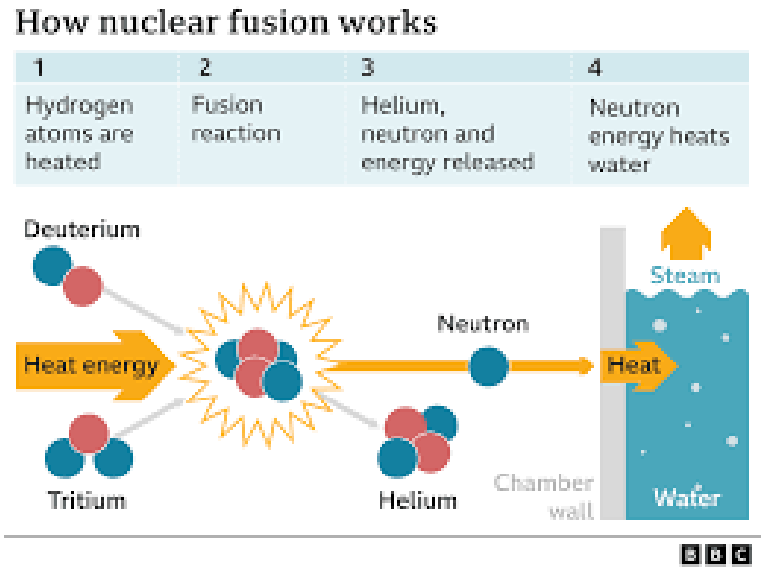
Fusion – Energy for the future

While fission is well known to produce nuclear energy, fusion, meanwhile, is the opposite - a melting together, or fusing of atoms in a controlled way. Both processes can produce energy. In a recent experiment, 192 laser beams struck the inner wall of a capsule leading to the initiation of fusion reaction. The fusion stayed hot enough to ignite, and it produced more energy than the lasers had brought to it.

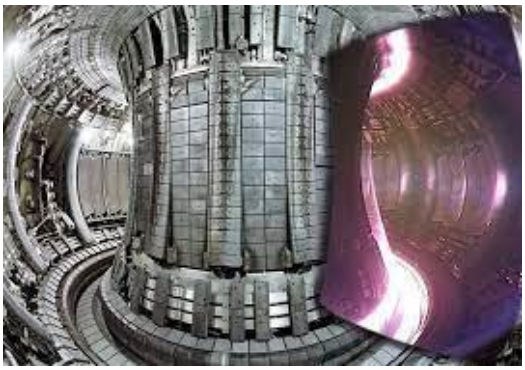
It is reckoned that fusion could bring enough. energy to fuel the planet. The process will bring almost 4 million times more energy than coal, oil, gas — and 4 times as much as nuclear fission.

As the call for a reduction in greenhouse gases grows, nuclear energy which produces less greenhouse emissions than even solar or wind will be increasingly in demand.

The major concern is how to deal with the waste from nuclear reactions. There will be less waste from fusion.



International Thermonuclear Experimental Reactor (ITER)



35 countries are members of the project based in South of France.

Powerful heating systems will heat the materials to 150 million °C in order to generate a super-hot plasma, which will be housed inside a doughnut-shaped chamber. Gigantic magnets will be cooled down to -269 °C to become superconductive so as to create a massive magnetic cage around it.

Beneath the surface of the components exposed to the high temperatures, pipes with cooling water will be installed to capture the heat which eventually will be diffused through cooling towers.

Several countries are working on possible approaches.