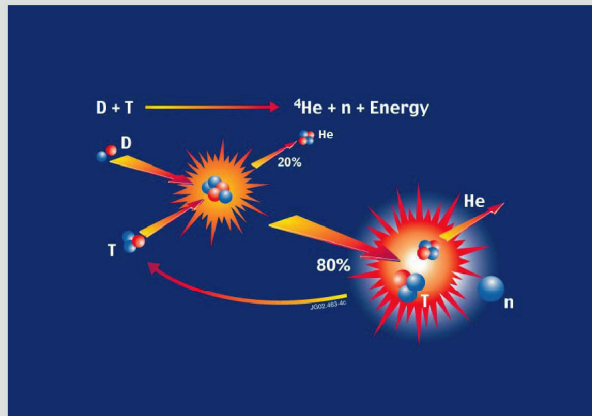


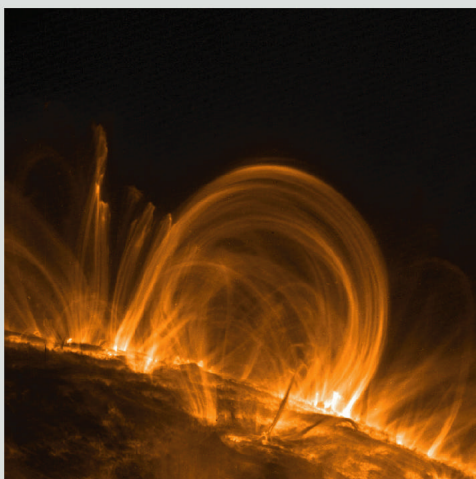
## WHAT IS FUSION ?

- Fusion is the process that powers the sun and other stars - providing heat and light to sustain life on Earth.
- Gravity confines the hot plasma in the stars. On earth magnetic fields are used to hold the plasma inside a chamber (magnetic confinement approach).
- To harness fusion on earth, light nuclei are forced together, undergoing reactions that produce a net energy gain. In order to make fusion happen, the fuel (a hot gas called plasma) has to be heated in excess of 100 million degrees.
- The "tokamak" has been the most successful concept to confine fusion plasmas up to now. "Alternative" concepts, which can build on tokamak experience, are also developed to prepare for fusion power plants.
- The primary fuels are deuterium and lithium. Deuterium can be extracted from sea water and lithium is abundant in the earth's upper crust. In a power plant lithium is used to breed the tritium which fuses together with deuterium.
- Only 150 Kg deuterium and 2-3 tonnes of lithium are needed for a full year of electricity supply for one million persons.



*The Fusion Reaction*

### *Gravitational Confinement in the Sun*



### *Magnetic Container on Earth*

