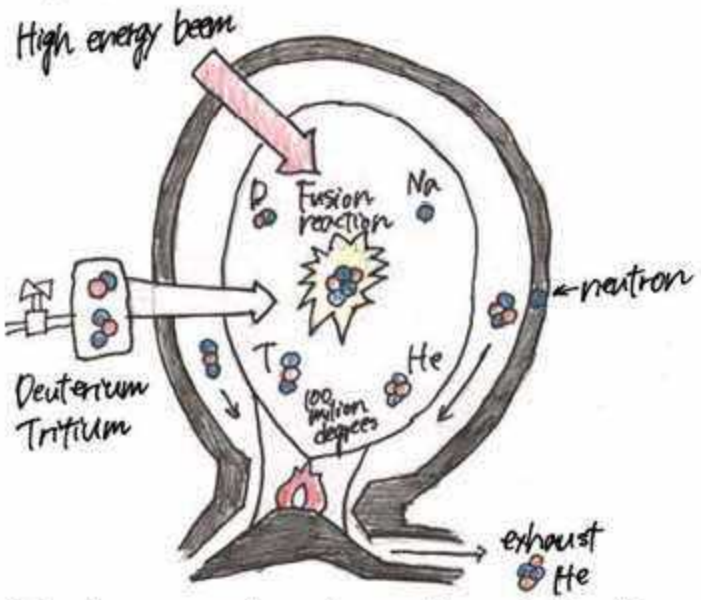
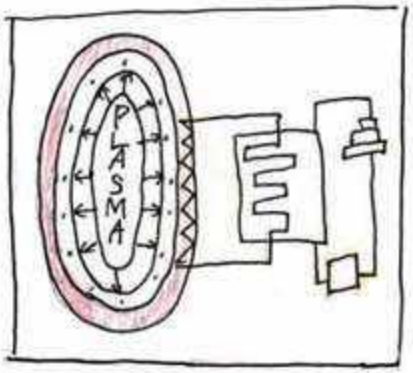
~Mechanism of fusion reactor~

The reaction occurs by burning. deuterium and tritium.



Fuel is produced inexhaustibly from seawater, and reaction occurs when it is heated Greenhouse gas isn't discharged, only helium is discharged and it is friendly to the earth.

However, the inside of the furnace must be kept at 100 milion degrees and it becames plasma.



~Merit and Demerit~

Compared to nuclear power

〈Merit〉

Power generation efficiency is very good. Energy equivalent to 8 tons of oil can be generated with 1g.

If a nuclear accident happens people can't live in that area for a long time.

Fusion can be stopped easily like a gas burner. No harmful byproducts make it Eco friendy.

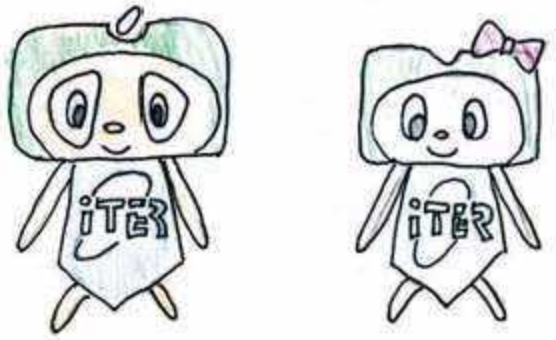
〈Demerit〉

It will take a lot of time before it can be fully supplied to the home. However it will be used as a better power generations method.

Source

QST's Pamphlet

The world of Fusion Energy



Homeroom 15 Group 5
Hirosaki Minami High School

[illegible]

Purpose

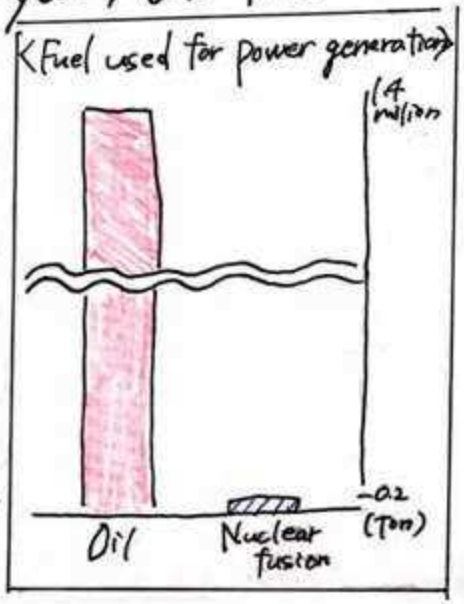
We wanted to know about a safe and new energy in the world.

What is Fusion energy?

Energy created by fusing deuterium and tritium nuclei.

~ Energy generation efficiency ~

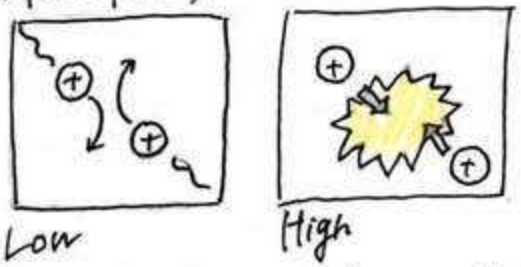
To operate a 1 milion kw power plant for 1 year, 0.2 tons of fusion fuel is required Oil needs 1.4 milion tons and is inefficient.



~ To keep it hot ~

It is necessary to maintain the plasma at a high temperature for practical use

〈temperature〉

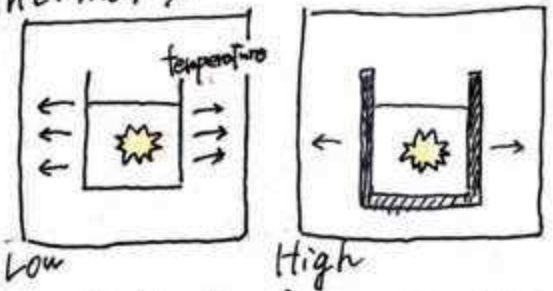


Make sure the nuclei collide.

〈density〉

Increase the frequency of nuclear fusion reactions.

〈thermal〉

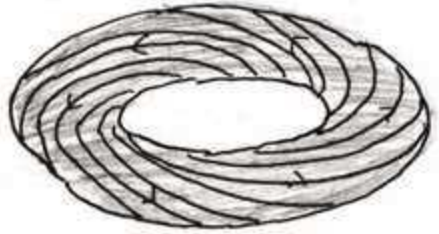


Present heat from escaping.

~ In a magnetic field ~

Plasma temperature is very high. If it touches the fusion reactor, it melts, so it must be floated in the air with a magnetic field.

〈Tokamaku method〉



These devices are called "Tokamaku" devices. The maximum temperature of 520 milion degrees is recorded, and it is floats by confining the plasma with a magnetic field.

〈Example〉

Magnetic levitation globe