

Student 6: High Not Achieved

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Nuclear fusion and nuclear fission can be used to produce energy in New Zealand. Nuclear fusion takes place inside the sun, releasing the energy we know as solar radiation. Fusion reactors could be a very wise investment for New Zealand; currently New Zealand's main sources of power are wind farms and hydro power, machinery and buildings that cost a lot to build and run and produce little energy. A fusion reactor would be a similar cost to setup, and would require decent amount of start-up energy, but would be much more beneficial and "pay itself off" very quickly. The reactor would not require a large area to be built in, like conventional nuclear plants, so it could be placed in the hearts of cities to produce direct and clean energy. The only main disadvantages are the large amount of start-up energy which could be made very easily once the machine is running and the danger of the plasma of lasers overheating or destroying the reactor, currently extensive research is being done to develop ways to stop this from happening.

Nuclear fusion is when nuclei fuse to produce energy. Unfortunately it needs a lot of energy to happen which makes it expensive. This is because the nuclei have strong forces between them. This shows the reaction between Deuterium and tritium which gives the end result of Helium and a neutron.



Large amounts of energy are given off when the neutron is released. The result gives around 17.6 million electron volts (MeV) of kinetic energy through the conversion of mass to energy.