

## PROS

Both Developed and Developing nations need energy for society to function. Rising energy demands need to be met.

Conventional North Sea oil and gas are running out and renewable and nuclear are unlikely to be able to fill the UK energy gap.

Use of shale gas is a geo-political necessity giving energy security and lowering the need to costly imports from unstable parts of the world.

Although it is a fossil fuel it is cleaner than coal or oil. It gives out only half the emissions of greenhouse gases compared to coal. This will allow countries such as the UK and USA hit carbon emission targets and protocols, such as those committed to by COP21 in Paris.

Shale gas has a long projected lifetime. At present 50% of all USA natural gas is shale gas. The UK is estimated to have up to 40 trillion cubic metres in reserves.

Earthquakes have taken place after the fracking process but they have been minor with no reported damage.

**FRACKING : Hydraulic Fracturing** is a method of extracting gas from shale rocks that would not normally release it. It involves sending water, sand and chemicals under high pressure into the rocks to fracture, fissure and crack them to allow the flow of gas.

Although water is polluted and made toxic by the process, the extreme depth that fracking takes place makes it impossible that water supplies and aquifers will be polluted.

Depleted shale gas field can be used for Carbon Capture. Carbon Dioxide can be injected and stored in the shale rocks. This will enable countries to reach the net zero emissions target for 2050, as it allows a balance between emissions and sinks such as carbon capture or planting trees.

Shale gas is a fossil fuel and as such its use is unsustainable. Its use produces carbon dioxide emissions which contribute to global warming, climate change and sea level rises. Countries are now committed to keeping the temperature rise below 2 degrees this century.

## CONS

Countries should be concentrating on the change to renewable sources of energy such as wind, solar and tidal power rather than fossil fuels if they wish to meet the zero emissions target by 2050.

The stress put on rocks by the high pressure Hydraulic Fracturing process has been shown to cause earthquakes.

Fracking uses vast quantities of water which becomes toxic after use. The water may even be radioactive and it is proposed to store some of this water on the surface where it may leak and contaminate water supplies.

It has been estimate that the use of natural gas in the UK will need to fall to 10% if the country is to meet the COP21 2050 commitment of zero emissions.

Even if the water is re-injected into the depleted gas field to be stored it may still leak into underground aquifers and in any case it will also be lost to the hydrological cycle forever.

Areas near fracking sites will be contaminated by toxic materials and methane will leak from storage pools and areas. Methane is the most powerful greenhouse gas which could make the global warming problem even worse, and make reaching the 1.5 to 2 degree maximum warming target impossible.