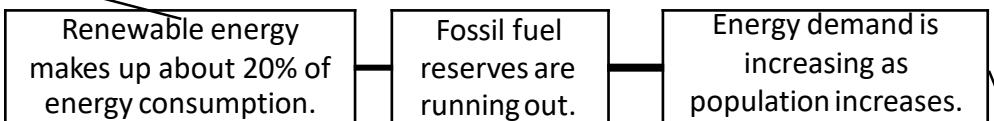
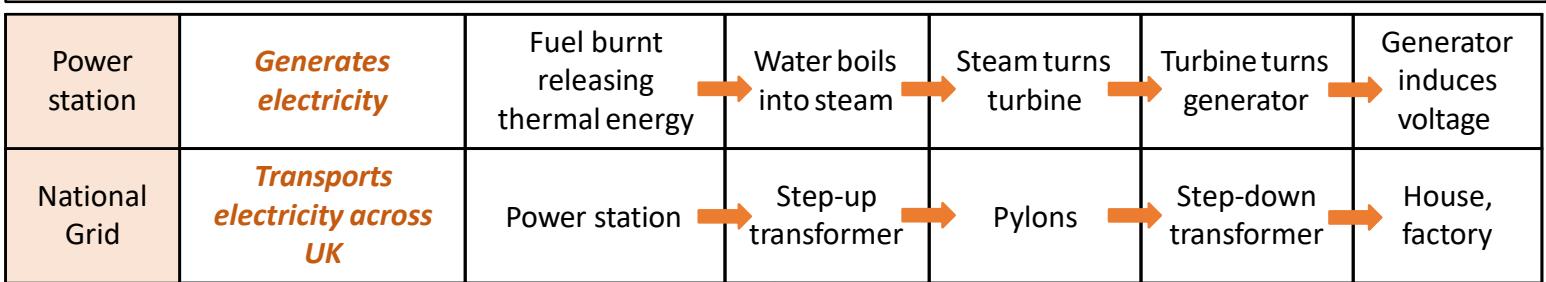


Transport	Petrol, diesel, kerosene produced from oil	Used in cars, trains and planes.
Heating	Gas and electricity	Used in buildings.
Electricity	Most generated by fossil fuels	Used to power most devices.

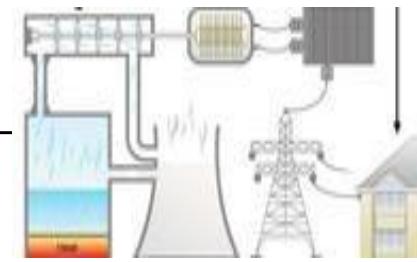
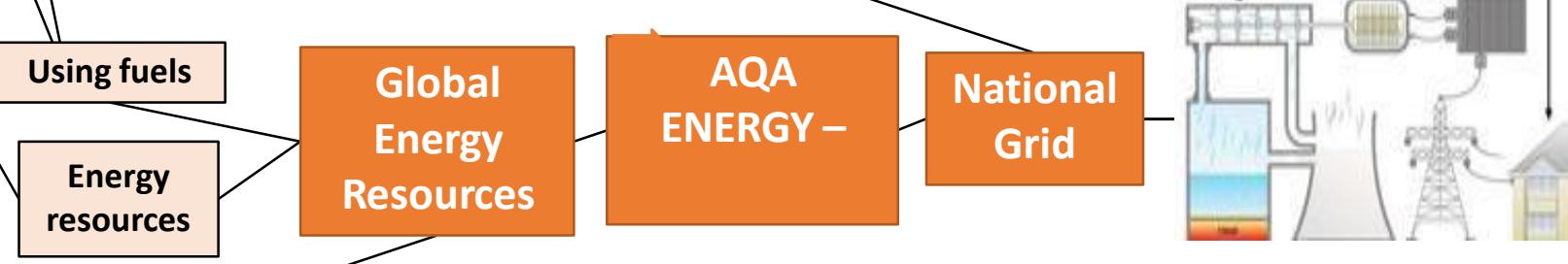
Using renewable energy will need to increase to meet demand.



<https://www.bbc.co.uk/bitesize/guides/z2wxf/r/revision/1> bbcbitesize-ks4 science-physics – aqa combined science
<https://www.senecalearning.com> Seneca-combined science physics – AQA foundation or higher – energy – energy resources
<https://app.senecalearning.com/classroom/course/fe56ca00-05aa-11e8-9a61-01927559cfd5>



Non-renewable energy resource	These will run out. It is a finite reserve. It cannot be replenished.	e.g. Fossil fuels (coal, oil and gas) and nuclear fuels.
Renewable energy resource	These will never run out. It is an infinite reserve. It can be replenished.	e.g. Solar, Tides, Waves, Wind, Geothermal, Biomass, Hydroelectric



Energy resource	How it works	Uses	Positive	Negative
Fossil Fuels (coal, oil and gas)	Burnt to release thermal energy used to turn water into steam to turn turbines	Generating electricity, heating and transport	Provides most of the UK energy. Large reserves. Cheap to extract. Used in transport, heating and making electricity. Easy to transport.	Non-renewable. Burning coal and oil releases sulfur dioxide. When mixed with rain makes acid rain. Acid rain damages building and kills plants. Burning fossil fuels releases carbon dioxide which contributes to global warming. Serious environmental damage if oil spilt.
Nuclear	Nuclear fission process	Generating electricity	No greenhouse gases produced. Lots of energy produced from small amounts of fuel.	Non-renewable. Dangers of radioactive materials being released into air or water. Nuclear sites need high levels of security. Start up costs and decommission costs very expensive. Toxic waste needs careful storing.
Biofuel	Plant matter burnt to release thermal energy	Transport and generating electricity	Renewable. As plants grow, they remove carbon dioxide. They are 'carbon neutral'.	Large areas of land needed to grow fuel crops. Habitats destroyed and food not grown. Emits carbon dioxide when burnt thus adding to greenhouse gases and global warming.
Tides	Every day tides rise and fall, the water spins a turbine	Generating electricity	Renewable. Predictable due to consistency of tides. No greenhouse gases produced.	Expensive to set up. A dam like structure is built across an estuary, altering habitats and causing problems for ships and boats.
Waves	Up and down motion of waves turns turbines	Generating electricity	Renewable. No waste products.	Can be unreliable depends on wave output as large waves can stop the pistons working.
Hydroelectric	Falling water spins a turbine	Generating electricity	Renewable. No waste products.	Habitats destroyed when dam is built.
Wind	wind causes turbine to spin which turns a generator	Generating electricity	Renewable. No waste products.	Unreliable – wind varies. Visual and noise pollution. Dangerous to migrating birds.
Solar	Directly heats objects in solar panels or sunlight captured in photovoltaic cells	Generating electricity and some heating	Renewable. No waste products.	Making and installing solar panels expensive. Unreliable due to light intensity.
Geothermal	Hot rocks under the ground heats water to produce steam to turn turbine	Generating electricity and heating	Renewable. Clean. No greenhouse gases produced.	Limited to a small number of countries. Geothermal power stations can cause earthquake tremors.