**Advantages and Disadvantages of different energy sources**

### Non-renewable energy

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<tr>
<th>Source of energy</th>
<th>Advantages</th>
<th>Disadvantages</th>
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| **Coal**         | - Coal is a relatively cheap form of energy.  
                  - There are still several places where coal can be found in the UK and the rest of the world.  
                  - Coal is easily transported to power stations.  
                  - Supplies of coal will run out in about 100 years.  
                  - When burned, coal releases lots of greenhouse gases.  
                  - Coal is dug up from big holes (mines) in the ground which can be dangerous and affect the countryside. |  
| **Gas & Oil**    | - Oil and natural gas are found in lots of places around the world.  
                  - Oil and gas can be easily transported by pipes or ships.  
                  - Natural gas is the “cleanest” of the fossil fuels, releasing half the greenhouse gases of coal.  
                  - Supplies of oil and gas are running out and once they are gone, they are gone forever.  
                  - Working on oil and gas rigs can be dangerous for people (explosions, fires etc) and the environment (oil spills).  
                  - Burning oil and gas releases pollution which increases global warming. |  
| **Nuclear**      | - Nuclear fuel does not create greenhouse gases when making energy.  
                  - Only a very small amount of nuclear fuel is needed to make a lot of energy.  
                  - Supplies of nuclear fuel will run out in 50 years.  
                  - The waste produced from nuclear energy is radioactive and very dangerous for a long time. We currently have no secure long term storage arrangements in place. |  

### Renewable energy

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| **Solar**        | - Energy from the sun is free.  
                  - Solar energy does not create greenhouse gases. |  
| **Wind**         | - Wind power does not create greenhouse gases. The energy used to build one of the large turbines is repaid in 3-6 months. They last for 25 years.  
                  - Wind turbines are very safe. |  
| **Hydroelectric**| - Hydroelectricity creates no greenhouse gases.  
                  - Energy from water is free and will not run out.  
                  - Hydroelectric energy is more reliable than wind or solar power. |  
| **Biomass**      | - Biomass fuel is cheap and could use rubbish that we might otherwise throw away.  
                  - Biomass fuels will not run out.  
                  - Biomass crops that are grown absorb the same amount of pollution whilst they are growing as they release when they are burned, so do not create extra greenhouse gases in the atmosphere.  
                  - Growing biomass crops needs a lot of space and could replace growing valuable food crops.  
                  - Biomass fuels that are not grown (such as waste products) create greenhouse gases when burned. |  

Can you think of any other **advantages** or **disadvantages** for any of the **types of fuel** we use to make energy? Have a go at thinking about the **advantages and disadvantages** for the other forms of **renewable energy** listed below. You will find more information about these in Chapter 5.  

- **Geothermal energy** (energy from heat in the ground).  
- **Tidal and wave energy** (energy from the movement of the water in the sea).