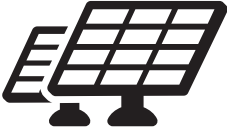
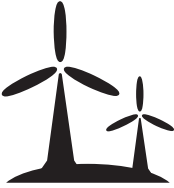
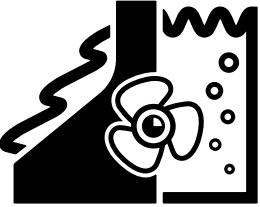





Activity 3 – Information sheet

| Type of energy | Where is it from | Advantages | Disadvantages |
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| <p>Solar</p>  | <p>Energy from sunlight is caught in solar panels and turned into electricity.</p> | <p>The sun will always be there during our lifetime.</p> <p>Solar energy doesn't produce greenhouse gases.</p> <p>The energy from the sun is free.</p> | <p>Some people don't like the look of solar panels.</p> <p>It's quite expensive to build solar power stations.</p> <p>At night or when it is cloudy there is not enough light to use solar power.</p> |
| <p>Wind</p>  | <p>Wind turbines turn wind energy into electricity.</p> | <p>There are very few safety risks with wind turbines.</p> <p>Wind power generation does not create greenhouse gases.</p> <p>Wind is free and will not run out – the only cost is building the turbines.</p> | <p>Some people don't like the way the wind turbines look in the countryside.</p> <p>We need a lot of turbines to make a lot of electricity.</p> <p>We can only use them in areas where there is a lot of wind. Some days there might not be much wind.</p> |





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| <p>Tidal</p>  | <p>The movement of tides drives turbines.</p> <p>A dam is built to force the water through gaps.</p> | <p>Tides are free and will not run out so the cost is in building and running the power station.</p> <p>Tidal energy does not produce greenhouse gases.</p> <p>We know exactly when the tides happen so we know when electricity will be made.</p> | <p>You may have to build a dam to make the water flow through generators – this might be harmful to the plants and animals that live nearby.</p> <p>The tides only happen twice a day, so can only produce energy at that time.</p> |
| <p>Wave</p>  | <p>The movement of seawater in and out drives a turbine.</p> | <p>Wave power does not produce greenhouse gases.</p> <p>Waves are free and will not run out – the cost is on building and running the power station.</p> <p>There are very few safety risks.</p> | <p>Waves can be too big or too small, so you might not always be able to generate electricity.</p> <p>You need to find a way to transport the electricity from the sea to the land.</p> <p>Because not many people have tried to generate electricity this way yet, the equipment is expensive.</p> |

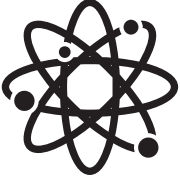



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| <p>Geothermal</p>  | <p>In volcanic regions you can use the natural heat of the earth. Cold water is pumped under ground and turns into steam. This drives turbines.</p> | <p>It is free and will not run out.</p> <p>Geothermal energy does not produce greenhouse gases.</p> | <p>There are not many places where we can build geothermal power stations.</p> <p>Harmful gases and minerals which are hard to control sometimes come up from the ground below.</p> |
| <p>Hydroelectric power</p>  | <p>Energy is taken from the water that runs through rivers, lakes and dams.</p> | <p>It is a renewable energy source.</p> <p>The water used is free.</p> <p>No greenhouse gases are produced.</p> | <p>If it does not rain much we may not have enough water to turn the turbines.</p> <p>Building a dam means flooding the nearby area, which could affect wildlife and plants.</p> <p>Building a dam is expensive.</p> |



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| <p>Coal (fossil fuel)</p>  | <p>Carbon is formed from fossilised plants and dug up from the ground in mines. It is then burnt to make energy.</p> | <p>It is a relatively cheap energy source.</p> <p>It can be found in the UK.</p> <p>It can be easily transported to power stations.</p> | <p>Burning coal produces polluting gases like sulphur dioxide which make acid rain.</p> <p>Burning coal produces the most greenhouse gases.</p> <p>Digging mines can be very dangerous and harm the environment.</p> <p>Coal is non-renewable and will run out in about 100 years.</p> |
| <p>Oil and natural gas (fossil fuel)</p>  | <p>Oil and gas are found trapped between rocks under the earth's surface. Pipes are sunk down into the ground to pump it out.</p> | <p>Oil and gas are found in lots of places in the world.</p> <p>We can transport oil and gas in pipes and by using ships.</p> | <p>Working on an oil or gas rig can be dangerous, and spillages pollute the environment.</p> <p>They are not renewable.</p> <p>Burning these fuels releases greenhouse gases.</p> |



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| <p>Nuclear</p>  | <p>Radioactive minerals such as uranium are mined. Energy is made when the atoms of these minerals are split.</p> | <p>Nuclear fuel does not make harmful greenhouse gases.</p> <p>You only need a very small amount of nuclear fuel to make a lot of energy.</p> | <p>World uranium supplies might run out in about 50 years.</p> <p>The waste produced when using nuclear fuel is radioactive. It needs to be disposed of carefully.</p> |
| <p>Biomass</p>  | <p>Biomass energy is made from burning plant or animal waste or other organic waste.</p> | <p>The fuel is cheap and can use things that we might otherwise throw away.</p> <p>We can find waste everywhere and it should not run out.</p> | <p>Sometimes people grow biomass crops where we could grow food.</p> <p>We may not have enough space to grow biomass fuel.</p> <p>When the fuel is burned, greenhouse gases are made which pollute the environment.</p> |

