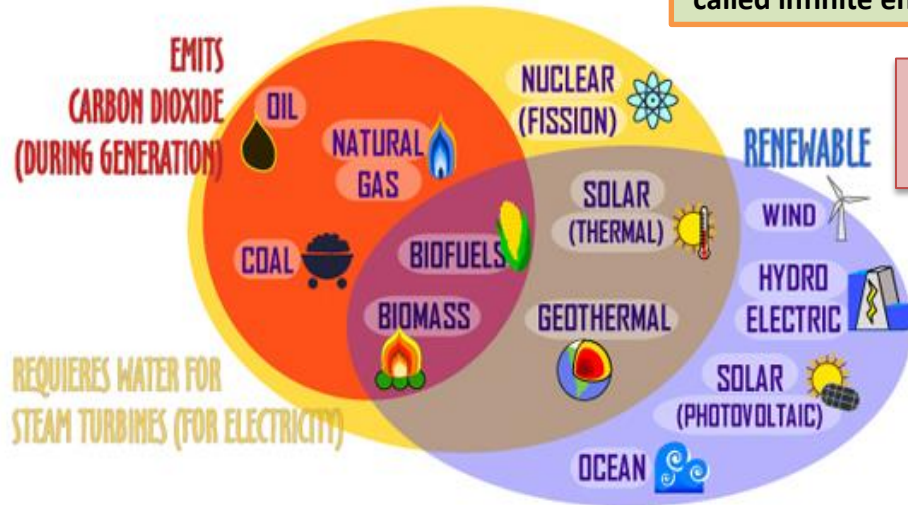
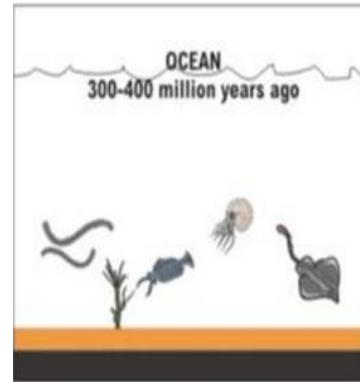


## Year 8 Energy Learn Sheet

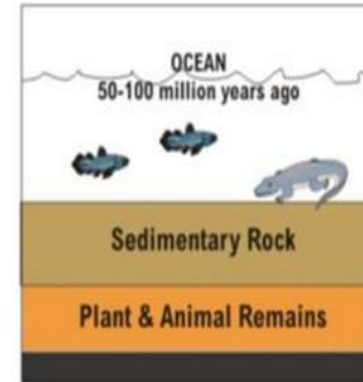
Renewable energy sources quickly replenish themselves and can be used again and again. For this reason they are sometimes called infinite energy resources



Non-renewable types of energy can only be used once. There is a limited amount of these materials on the Earth so they will run out eventually.



Tiny sea plants and animals died and were buried on the ocean floor. Over time, they were covered by layers of sand and sediment, which turned into sedimentary rock.



Over millions of years, the remains were buried deeper and deeper. The enormous heat and pressure from inside the earth and the rock above turned them into oil and gas.

### Impacts of Global warming

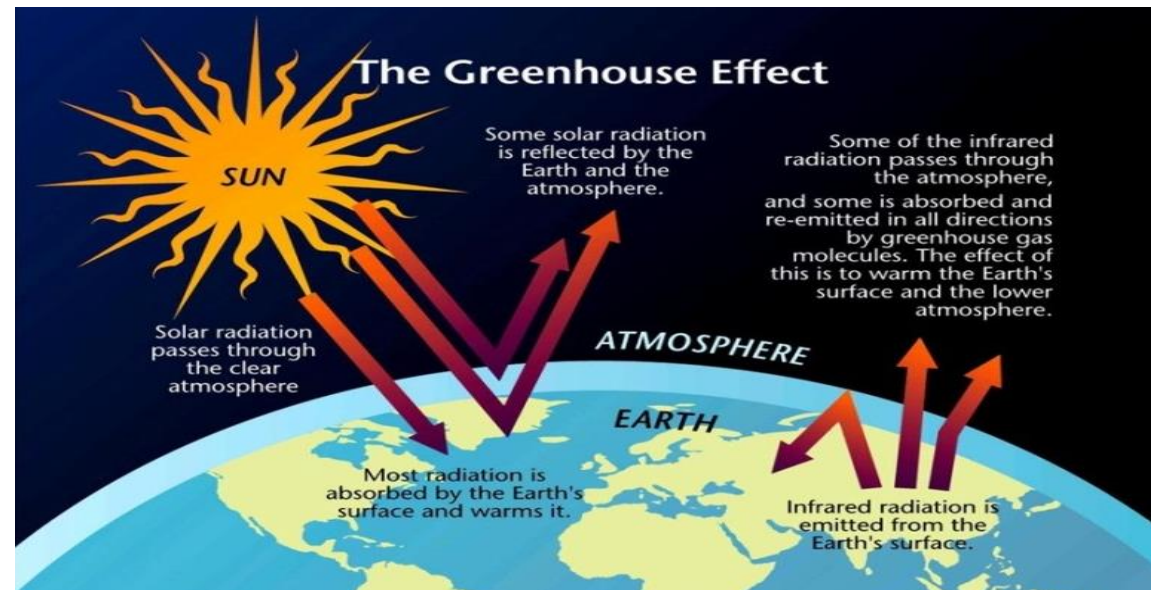
- Rising Sea levels
- Higher temperatures and heatwaves
- Droughts
- Melting ice caps
- Warmer oceans
- Damaged corals
- Stronger storms

Global warming is the term used to describe a gradual increase in the average temperature of the Earth's atmosphere and its oceans.

### Thermal power stations

- Water is taken into the boiler from a water source. The boiler is heated with the help of coal/oil/natural gas
- The increase in temperature helps in the transformation of water into steam. The steam generated in the boiler is sent through a steam turbine.
- The turbine has blades that rotate when high velocity steam flows across them. This rotation of turbine blades is used to generate electricity.
- A generator is connected to the steam turbine. When the turbine turns, electricity is generated and given as output by the generator, which is then supplied to the consumers through high-voltage power lines.

Nuclear power is the use of nuclear reactions that release nuclear energy to generate heat, which most frequently is then used in steam turbines to produce electricity in a nuclear power plant.



# PREVENTION:

Switch to Renewable Energy sources not based on fossil or nuclear fuels like direct or indirect use of solar energy, wind, tidal, geothermal, wood and other biomass.



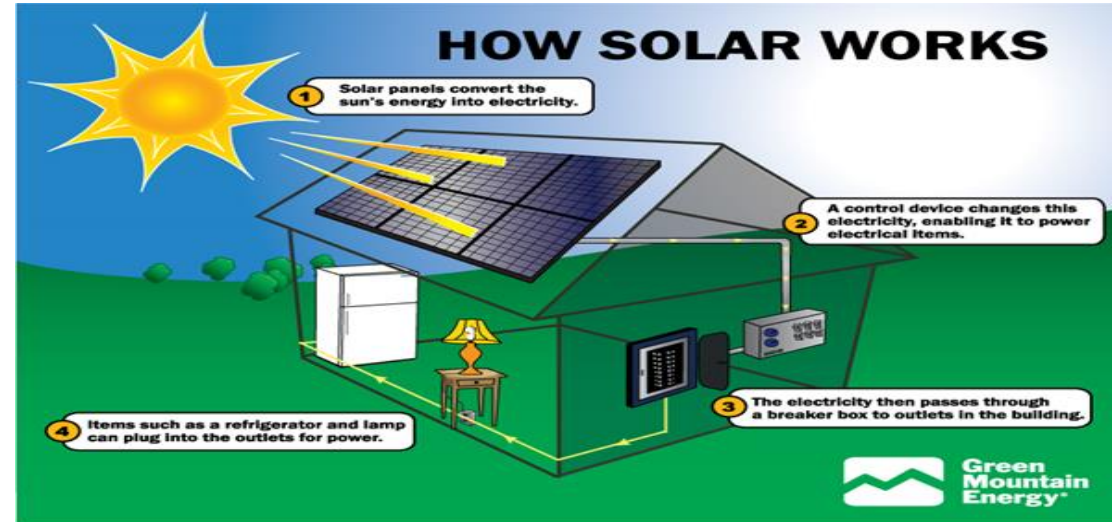
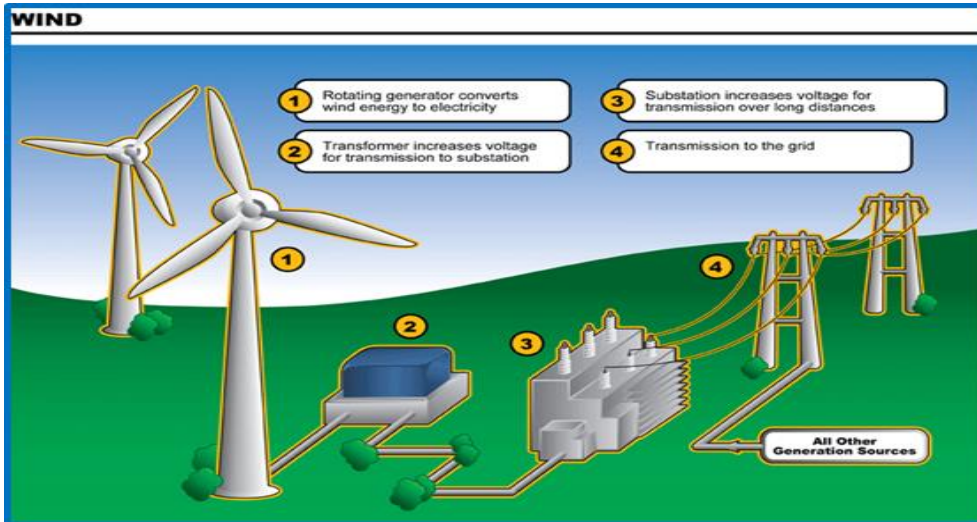
# NUCLEAR POWER

- **Advantages**
- Does not emit CO<sub>2</sub> pollutants
- Continuously generates electricity.
- **Disadvantages:**
- Expensive to start and maintain power plants.
- Safety concerns.
- Waste that remains toxic for many years.
- Non-renewable

Sustainability means development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.

Ways to be more sustainable:

- Save water
- Save electricity
- Recycle
- Buy locally sourced produce
- Walk instead of driving/bus



Positive	Negative
<ul style="list-style-type: none"> <li>• No greenhouse gases</li> <li>• Cost effective</li> <li>• Renewable energy source</li> <li>• Provide extra income for farmers</li> </ul>	<ul style="list-style-type: none"> <li>• Unreliable</li> <li>• Noisy</li> <li>• Can be an eye sore</li> <li>• Dangerous to wildlife</li> </ul>

Positive	Negative
<ul style="list-style-type: none"> <li>• No greenhouse gases</li> <li>• Cheap in the long run</li> <li>• No noise or moving parts</li> <li>• Cheaper/free electricity</li> <li>• Renewable energy</li> </ul>	<ul style="list-style-type: none"> <li>• No light – no energy</li> <li>• Takes up lots of space</li> <li>• Expensive to install</li> <li>• Not as effective in the winter months</li> </ul>