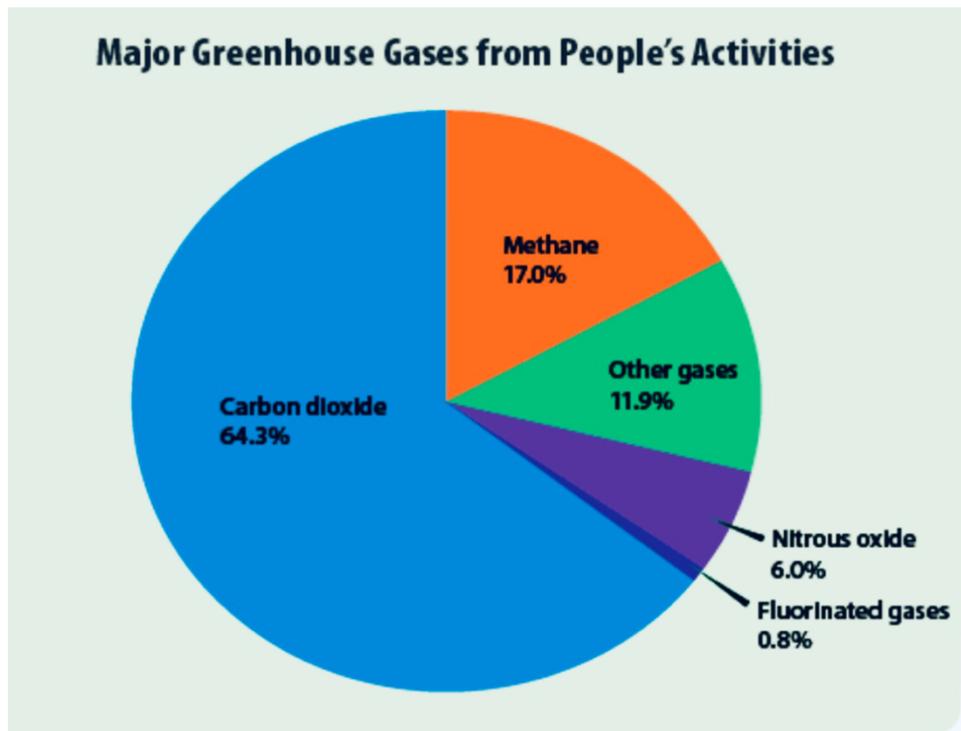


Global warming

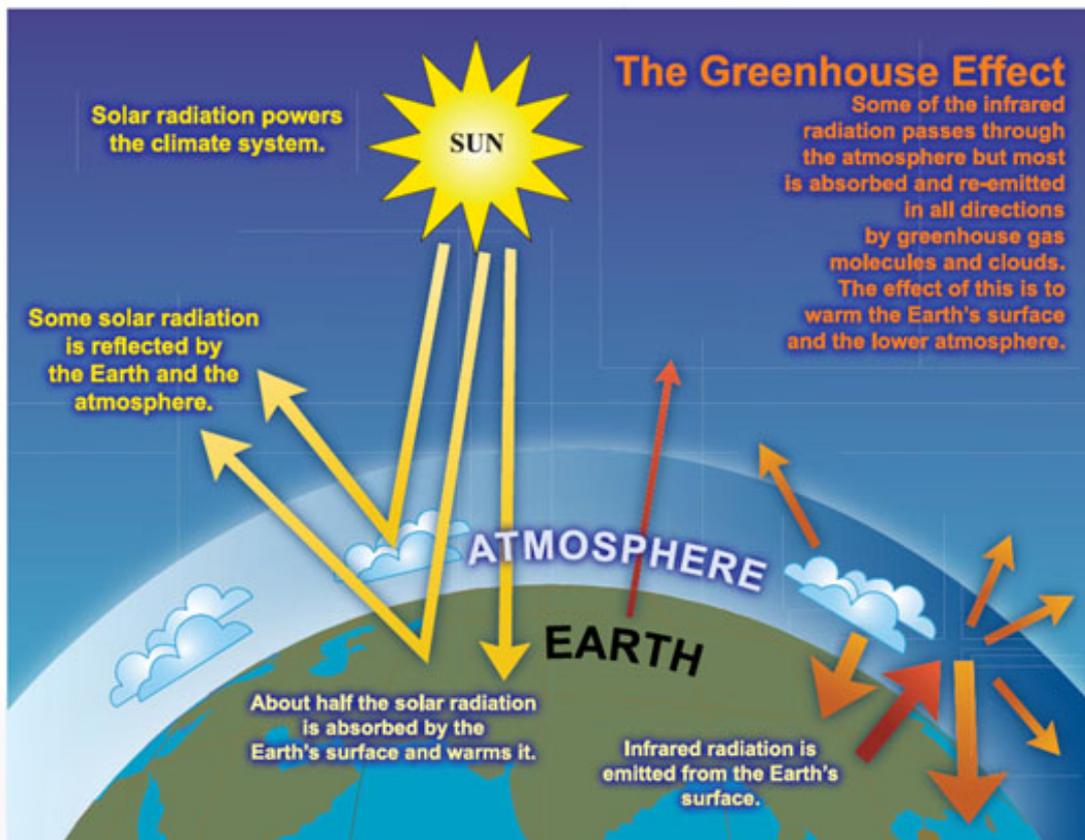
Greenhouse gases

- A greenhouse gas is a gas that **absorbs infrared radiation from the Sun** so it remains trapped in the Earth's atmosphere.
- This is important to ensure Earth is warm enough for life, however if levels of these gases in the atmosphere increase it leads to an increase in the **greenhouse effect** which causes the **Earth's average temperature to rise**.
- There are many greenhouse gases, the most important are:
 1. **Water vapour**
 2. **Carbon dioxide**
 3. **Methane**
 4. **Nitrous oxides**
 5. **CFCs(chlorofluorocarbons)**
- Human activities have led to increasing levels of **carbon dioxide** and **methane** in the atmosphere. **Carbon dioxide** is produced during the **combustion of fossil fuel**.
- **Methane** is produced by **cattle** as they digest grass and released by **rice paddy fields**



The greenhouse effect

- The Sun emits rays that enter the Earth's atmosphere.
- The heat **bounces back** from the Earth's surface.
- Some heat is reflected back out into space.
- Some heat is **absorbed by greenhouse gases** and is trapped within the Earth's atmosphere.
- However, as the levels of greenhouse gases in the atmosphere rise due to human activities the Earth's **average temperature rises beyond normal** (an **enhanced greenhouse effect**), causing **global warming**



Consequences of Global warming:

1. **Sea levels to rise** - since the earth is getting warmer, ice caps are melting, which in turn rises the sea levels
2. **The distribution of organisms change** - because the environments are changing so animals need to change their behaviour in order to survive. Some don't make it and become extinct.
3. **Changes in migration patterns** - Since there is a shift in environmental conditions birds have to fly to different places for migration (since their

original migration place might now be too cold). This can cause problems since they may not be adapted for this new environment.

4. **Reduced biodiversity** - since global warming is changing the habitats of many organisms, lots of organisms may become extinct (or die out in that particular habitat). This decreases the variety of species that live in a habitat and hence decreases the biodiversity.

5. Increasing temperature - causing extreme weather like super storms, flooding, droughts

Evidence for global warming

- There is **scientific consensus** (almost all scientists agree) that global warming is happening and that **human activities are largely responsible** for the most recent warming.
- This scientific consensus is based on systematic reviews of thousands of scientific research papers that have been '**peer reviewed**' by other scientists (the method used by scientists to check each other's work in order to ensure that research findings are valid).
- Although they can make good **predictions**, it is **difficult for scientists to say for certain** what the **consequences** of global warming will be