

GCSE Chemistry

Complete Revision Summary

Rates and Equilibrium

Organic Chemistry

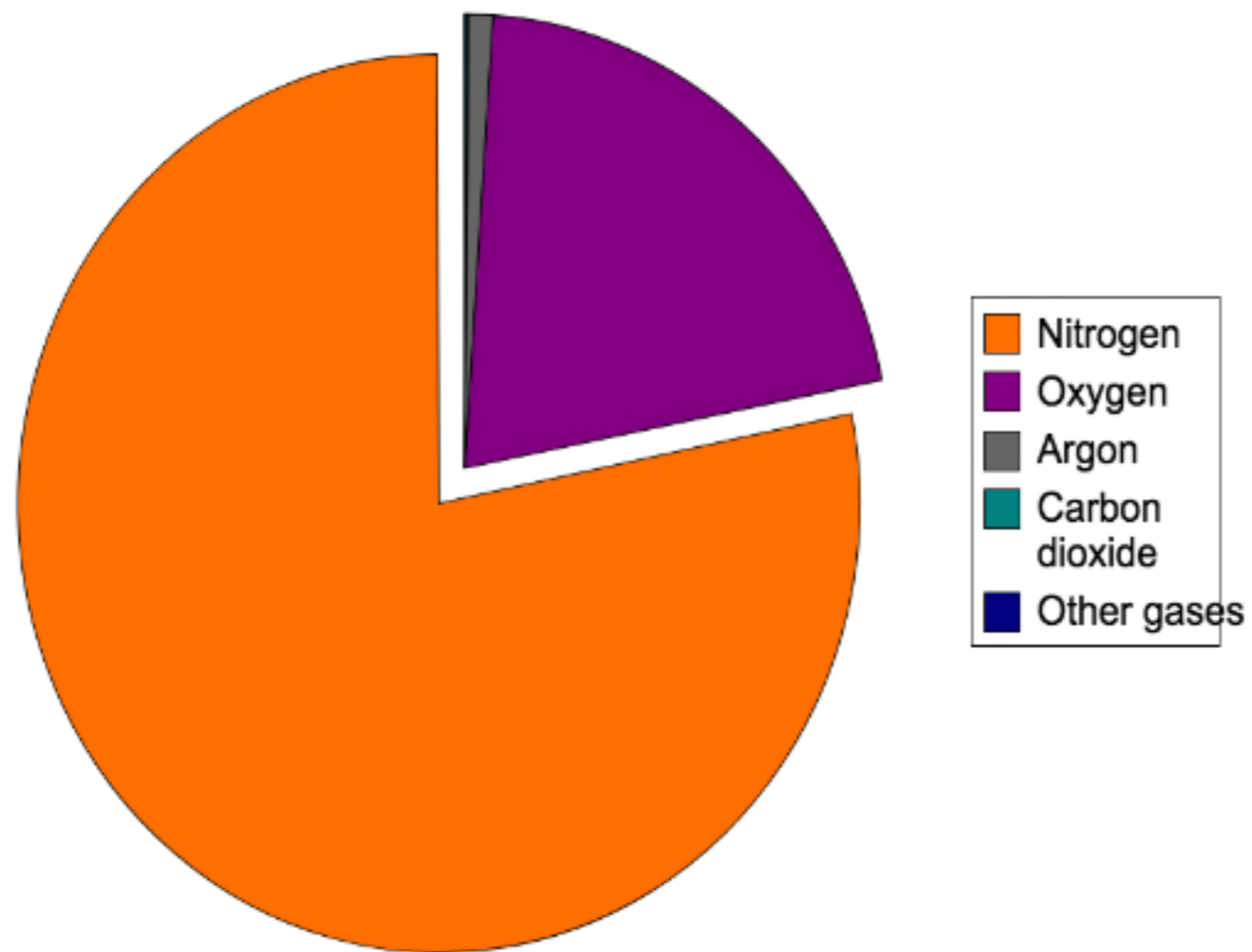
Chemical Analysis

Chemistry of the Atmosphere

Using Resources

Gases In The Atmosphere

Present Earth's Atmosphere
The Earth's Early Atmosphere
Increase in Oxygen
Decrease in Carbon Dioxide
Greenhouse Effect
Global Warming
Air Pollution
Atmosphere Pollutants

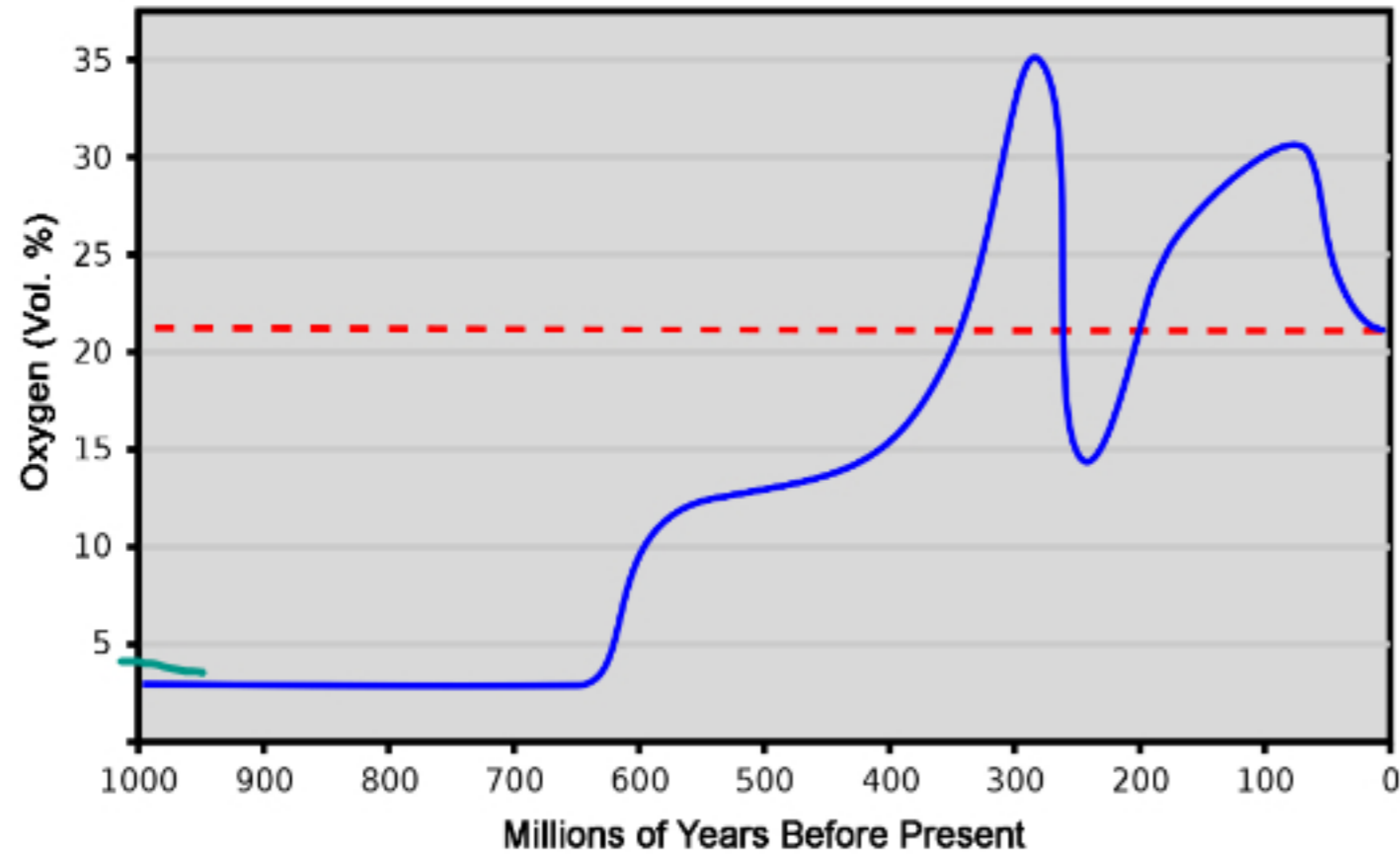


Source: Wikimedia Commons

Gases	Percentage (%)
Nitrogen	78%
Oxygen	21%
Argon	0.9%
Carbon Dioxide	0.04%
Trace of other gases	less than 0.1%

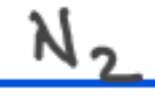
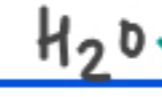
EARLY EARTH'S ATMOSPHERE

Oxygen Content of Earth's Atmosphere
During the Course of the Last Billion Years



VOLCANIC ERUPTION

Carbon Dioxide, Water and Nitrogen

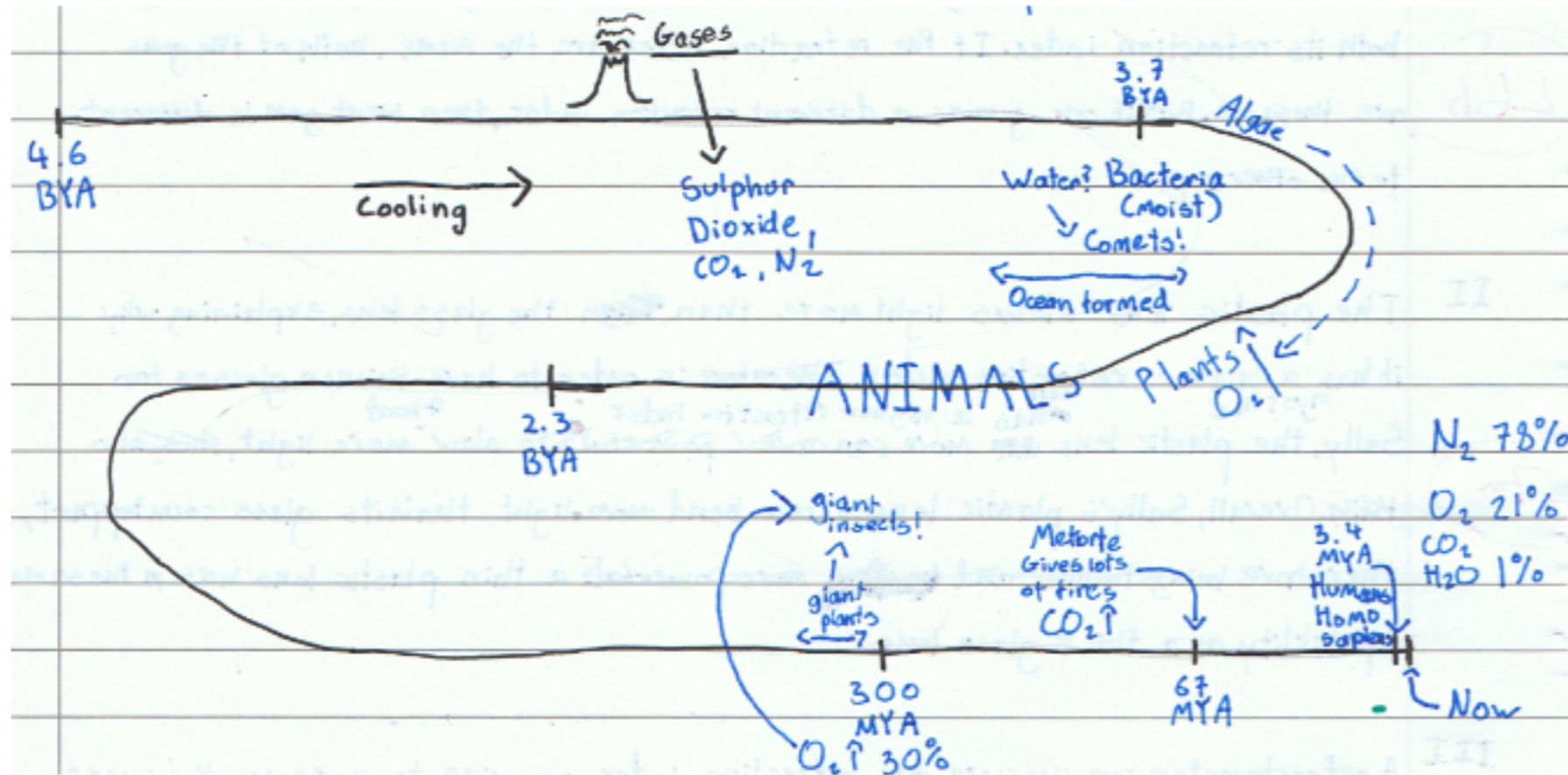


Water vapour condensed, rained and form oceans

Ice comets melted, rained and made water bodies

Stabilises Earth Atmosphere with no oxygen and life had carbon dioxide, water, nitrogen, with ammonia and methane in traces.

EVOLUTION OF OXYGEN



3.7 billions years ago simple organisms converting chemical into energy evolved.

2.7 billions years ago algae and bacteria that can photosynthesis evolved.

The plants increased the concentration of oxygen sustaining life.

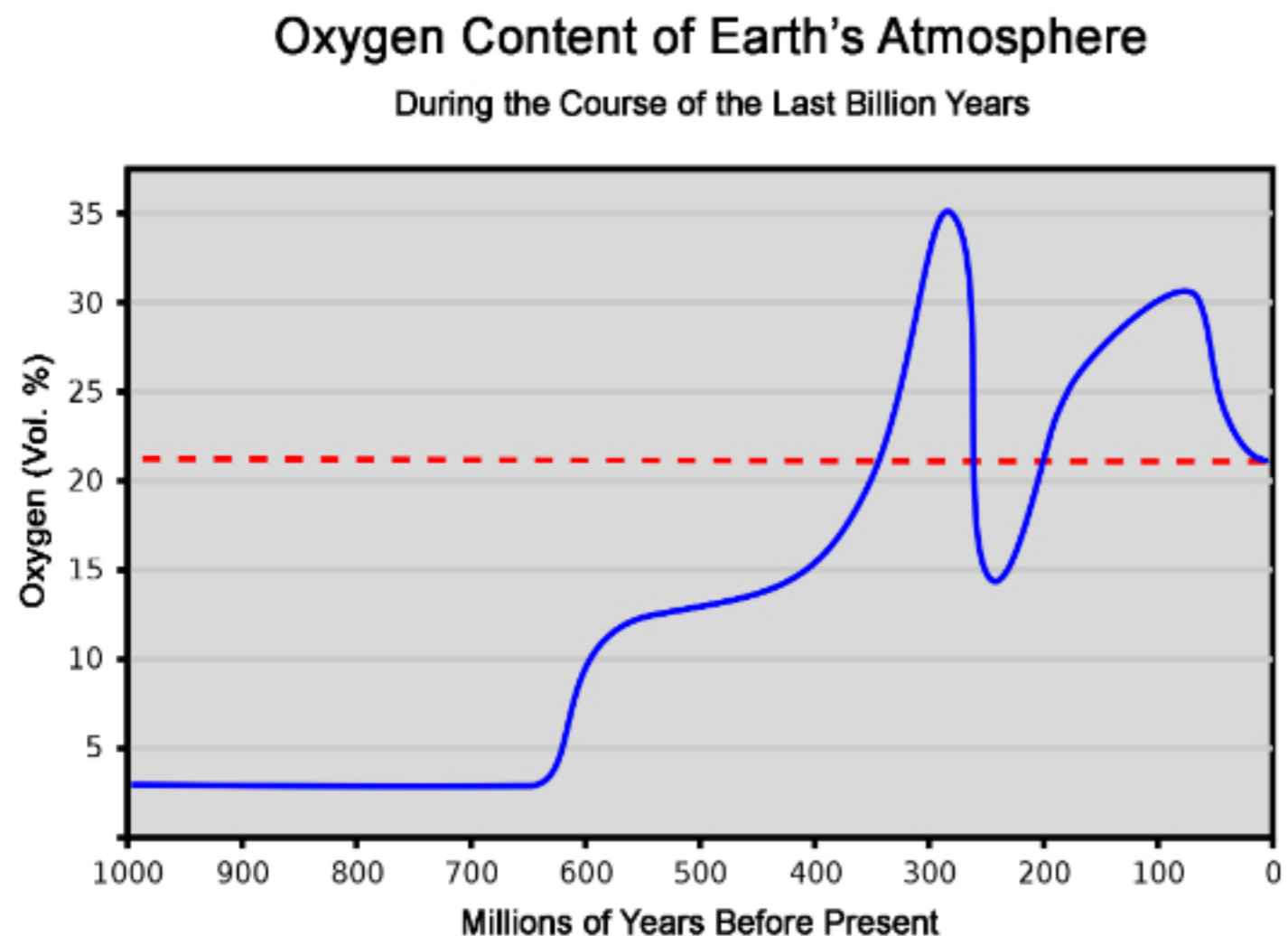
Plants colonised sea and land and then animals evolved.

DECREASE IN CARBON DIOXIDE

Used up by the plant in photosynthesis

Carbon dioxide got locked up in the rocks when the dead plants and animals died and decayed.

Carbon dioxide locked up in sea and also formed fossils fuels like coal, natural gas.



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WHY NITROGEN CONTENT IS HIGHER ?

Nitrogen is stable and unreactive gas.

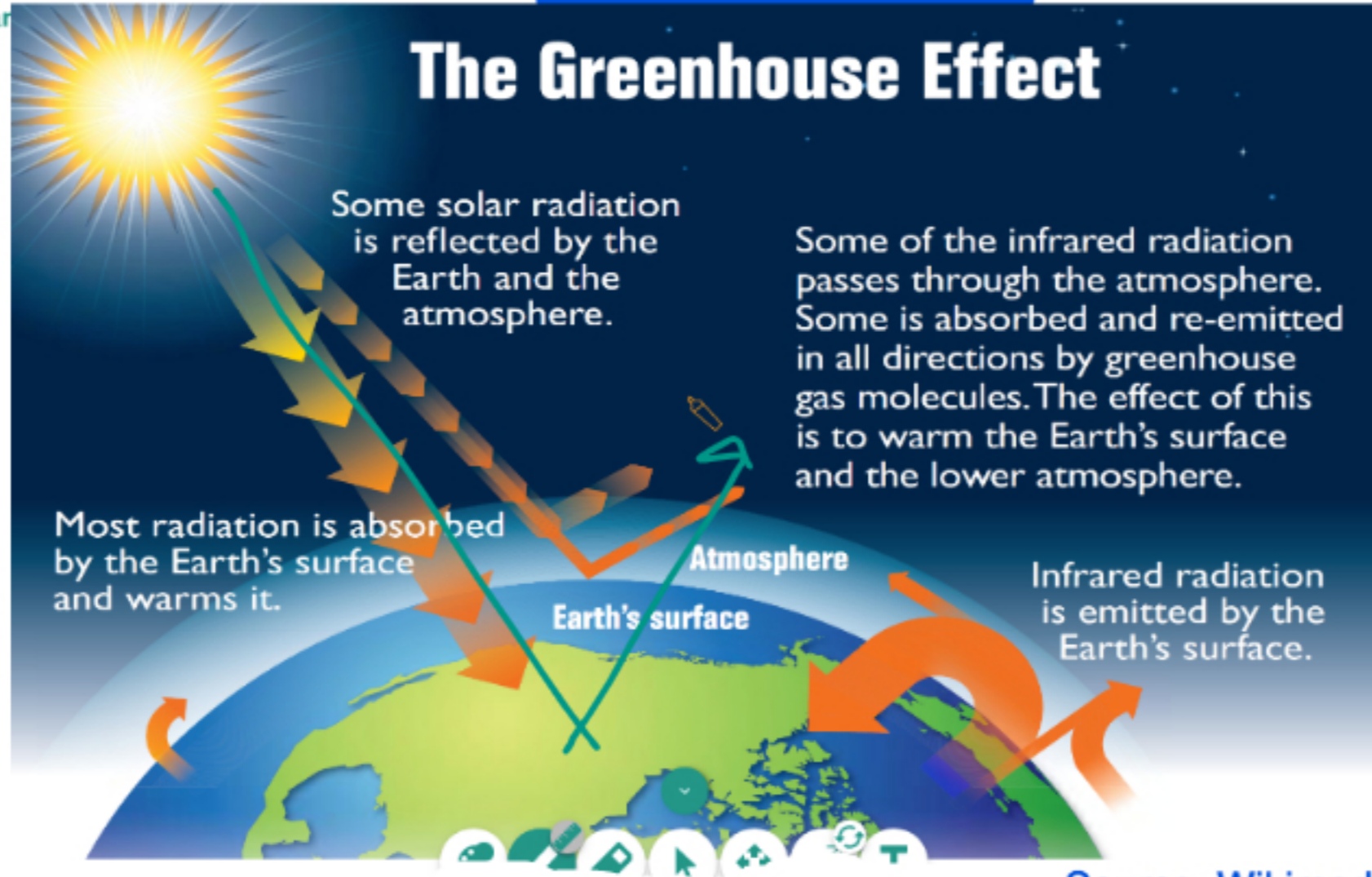
It is released in large amount by early volcanic activities.

Ammonia and methane were released in small quantities which reacted with oxygen to form nitrogen and carbon dioxide.

Nitrogen being unreactive build up in the atmosphere.

GREENHOUSE EFFECT

GREENHOUSE EFFECT

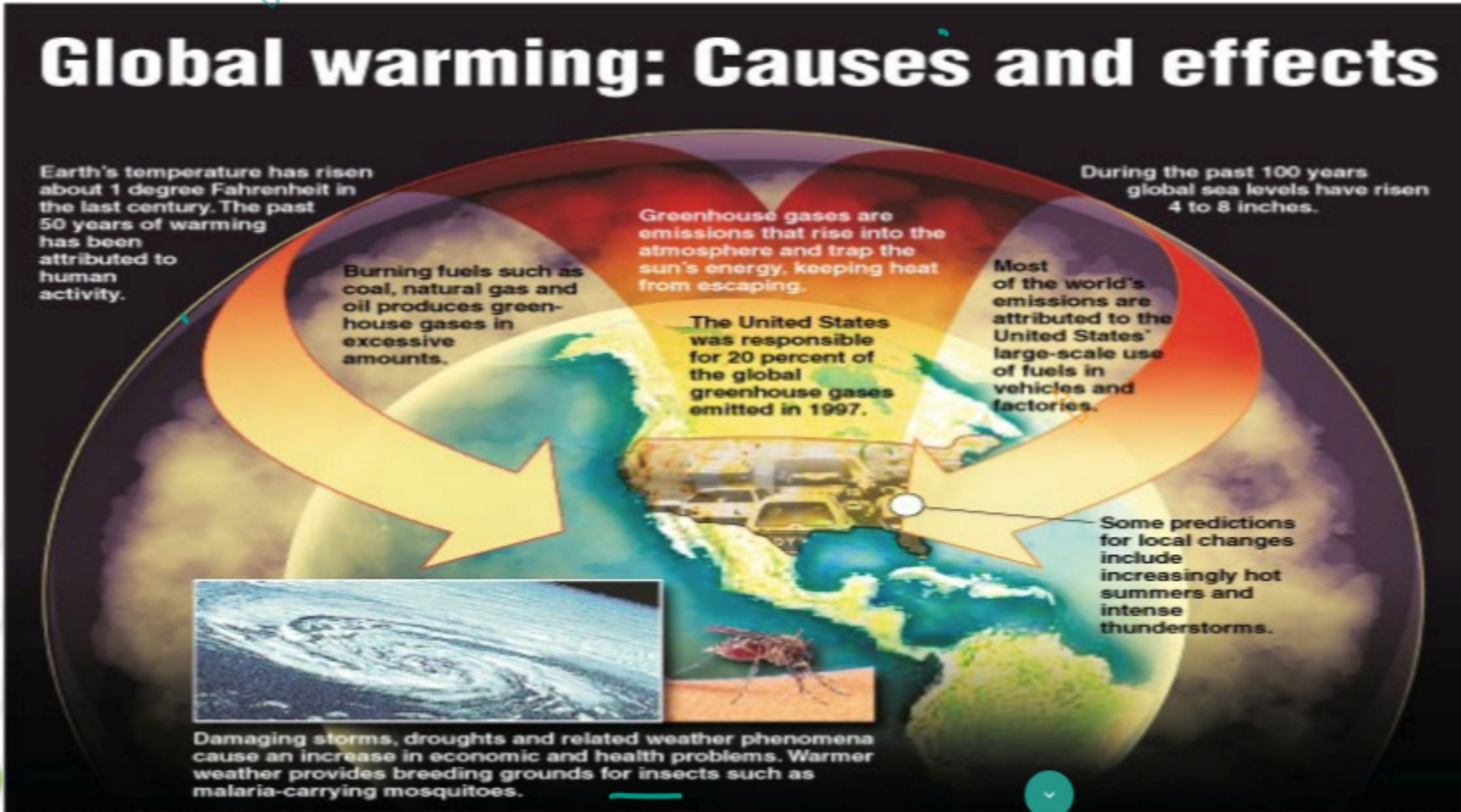


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Source: [Wikimedia Commons](#)



- Climate Change
- Habitat Loss
- Floods
- Change in Migration of Birds
- Change in distribution of plants and animals
- Change in seasonal pattern
- Loss of Biodiversity causing extinction of species.



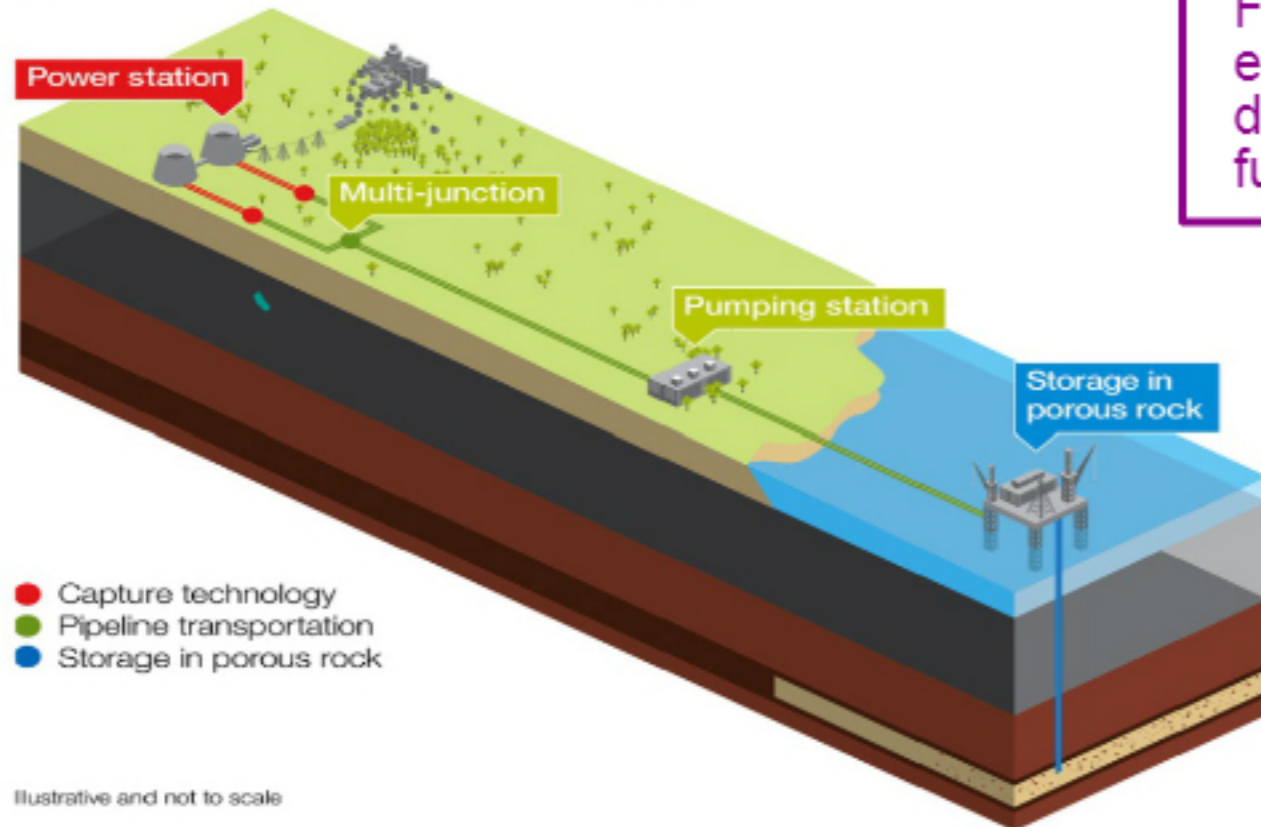
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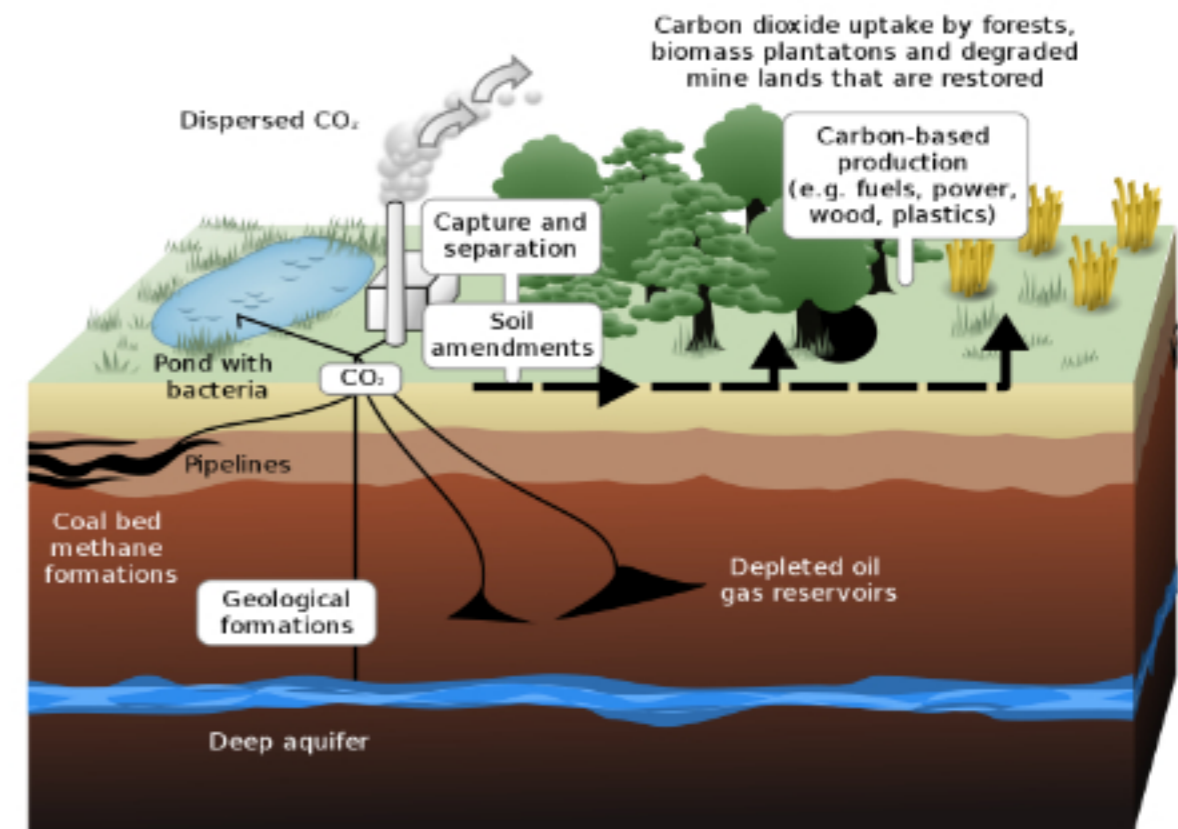
REDUCING CARBON FOOTPRINTS



Finding alternative source of energy to reduce the dependency on fossil fuels.



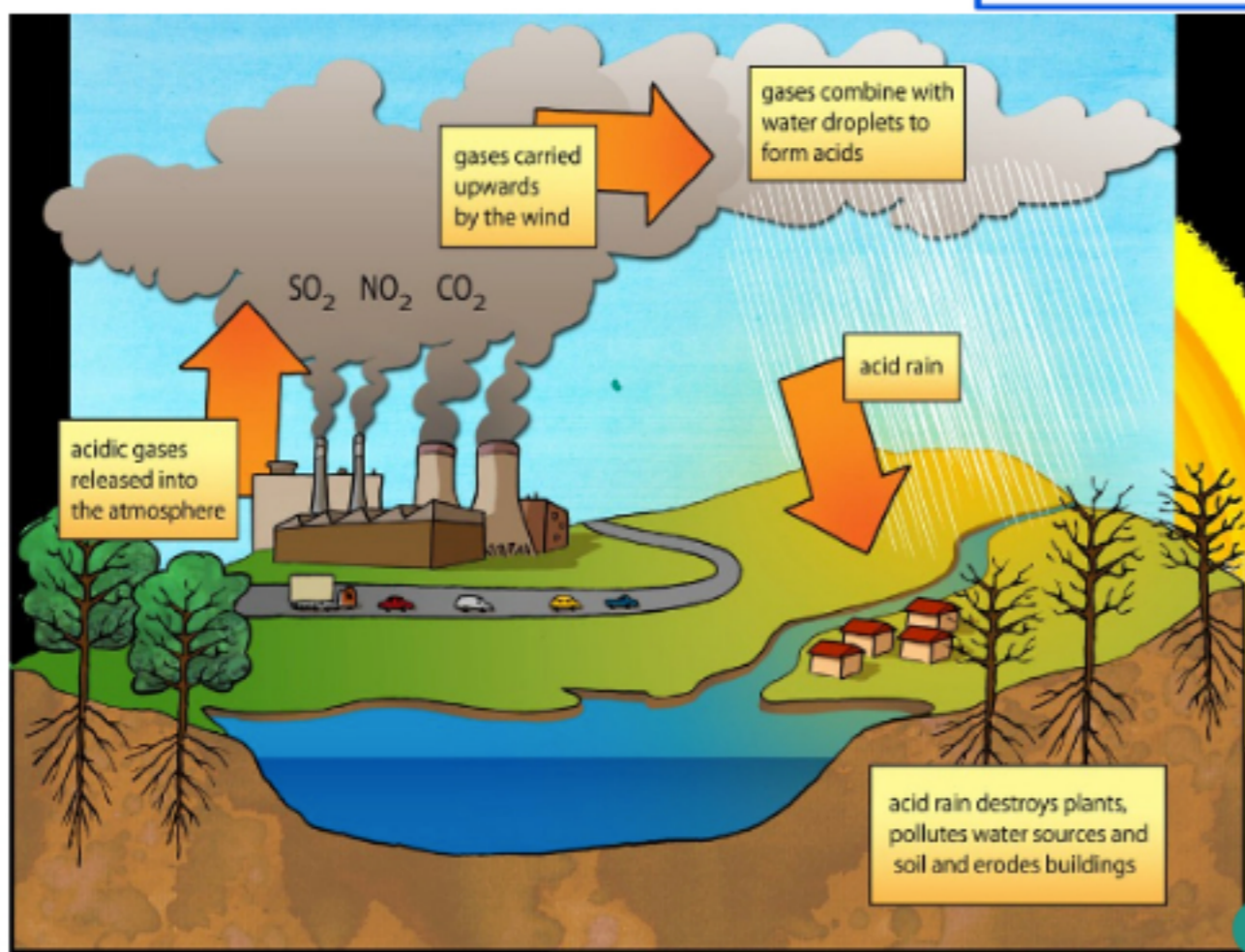
Carbon sequestration is the process of collecting the carbon dioxide in solid or the liquid form.



Illustrative and not to scale

AIR POLLUTION

ACID RAIN



Formation

Sulphur and nitrogen present in fossil fuels forms carbon dioxide and sulphur dioxide by combustion.

Carbon dioxide and sulphur dioxide combine with rainwater forming nitric acid and sulphuric acid and falls as acid rain.

Effects

- Makes soil acidic
- Damage trees and aquatic life
- Corrosion of building
- Errodes building and rocks

Prevention

- Decrease in use of fossil fuels.
- Treat the waste to remove nitrogen and sulphur before evolving.
- Use alternative source of energy.



Source: Wikimedia Commons

Mixture of nitrogen dioxide and sulphur dioxide particulates in the lower atmosphere.

Depletes ozone layer, causes dimming effect.

Lowers the Earth's temperature

If inhaled causes damage to lungs, respiratory problems and cardiovascular diseases.

KEY TERMS

Atmosphere

Fossil Fuels

Sedimentary Rocks

Greenhouse effect

Global Warming

Climate Change

Carbon Foot Print

Combustion

Particulates

Global Dimming

Combustion

Incomplete Combustion

NEXT STEP



CHECK SPECIFICATION




EXAM QUESTION ON THIS TOPIC

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