

9.2 CARBON DIOXIDE AND METHANE AS GREENHOUSE GASES

Greenhouse gases

Long wavelength radiation reflected back by the Earth (thermal radiation)

Agriculture – farm animals release methane

Landfill sites release methane and CO₂

Burning fossil fuels

Deforestation – less CO₂ taken in

Human activity increases the amount of greenhouse gases

Scientists believe human activity is causing climate change

Earth's climate is complex and hard to model

Changes in rainfall patterns

Gases which ensure the Earth's temperature is high enough to support life

Short wavelength radiation from the sun

Carbon dioxide, methane and water vapour

Very difficult to measure

A measure of the amount of greenhouse gases released over the full cycle of something

Carbon footprints

Alternative processes and technologies need more work

Governments are not prepared to make radical changes

Don't want to disrupt the economy

Some people don't want to make changes to their lifestyle

Difficult to make reductions

The footprint can be reduced by...

Using processes that use less energy

Using technology that captures carbon dioxide before it is released

Using renewable energy resources

Taxing companies based on the amount of greenhouse gases released

Climate change

Consequences

Increased flooding

Ice caps melting leads to higher sea levels

Storms become more frequent and extreme

Food production affected by changes in temperature and rainfall

The increasing average global temperature is a major cause of climate change

AQA