



CLIMATE CHANGE

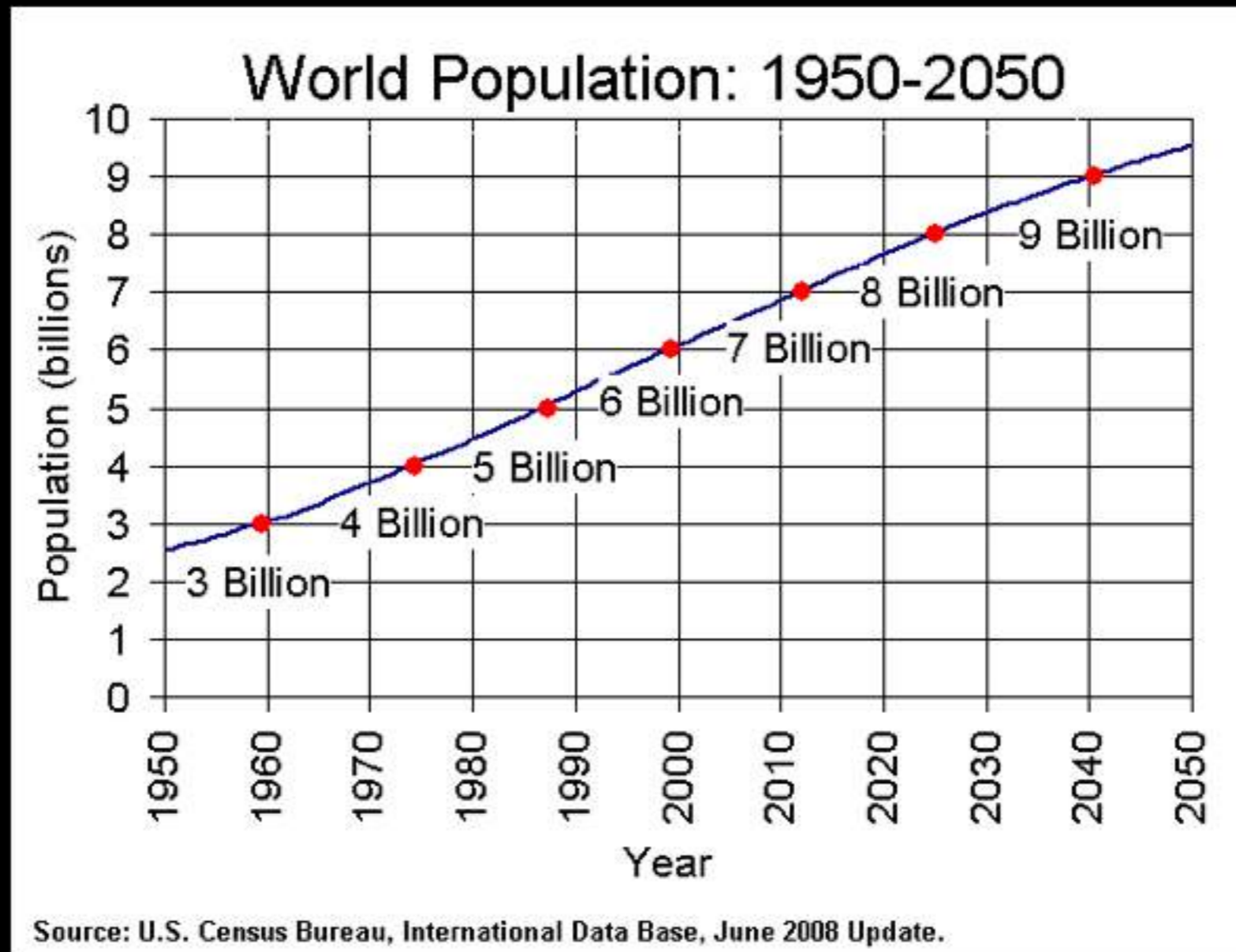


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Education Officer

Before We Begin

Breathing Earth

Worldmeter



What Is Climate Change?

Climate Change is the long-term shift in weather patterns in a specific region or globally.

Climate change refers to changes in a regions overall weather patterns, including precipitation, temperatures, cloud cover, and so on.

Global Warming refers to just one aspect of climate change it is a rise in the surface temperature of the earth's surface



Causes of Climate Change?

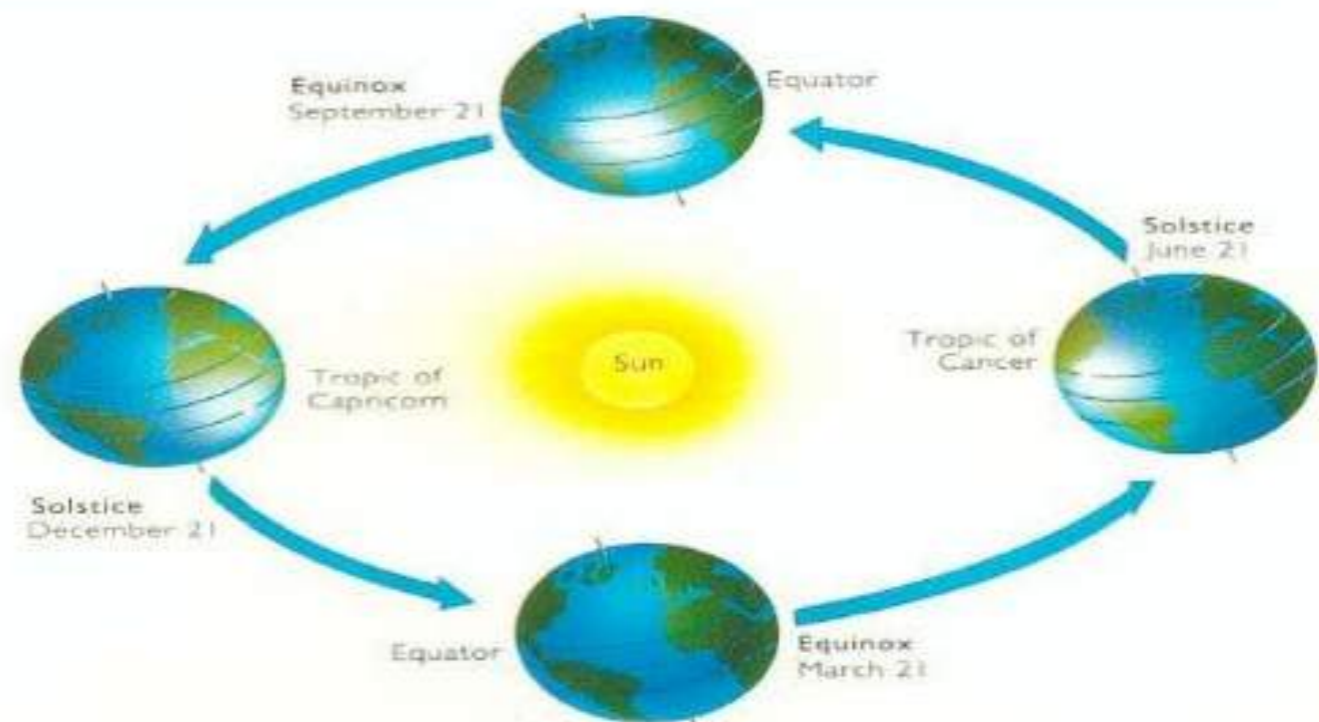
Natural Causes

There are a number of natural factors responsible for climate change. Some of the more prominent ones are

- Continental drift
- Volcanoes
- The earth's tilt

Earth orbital changes-

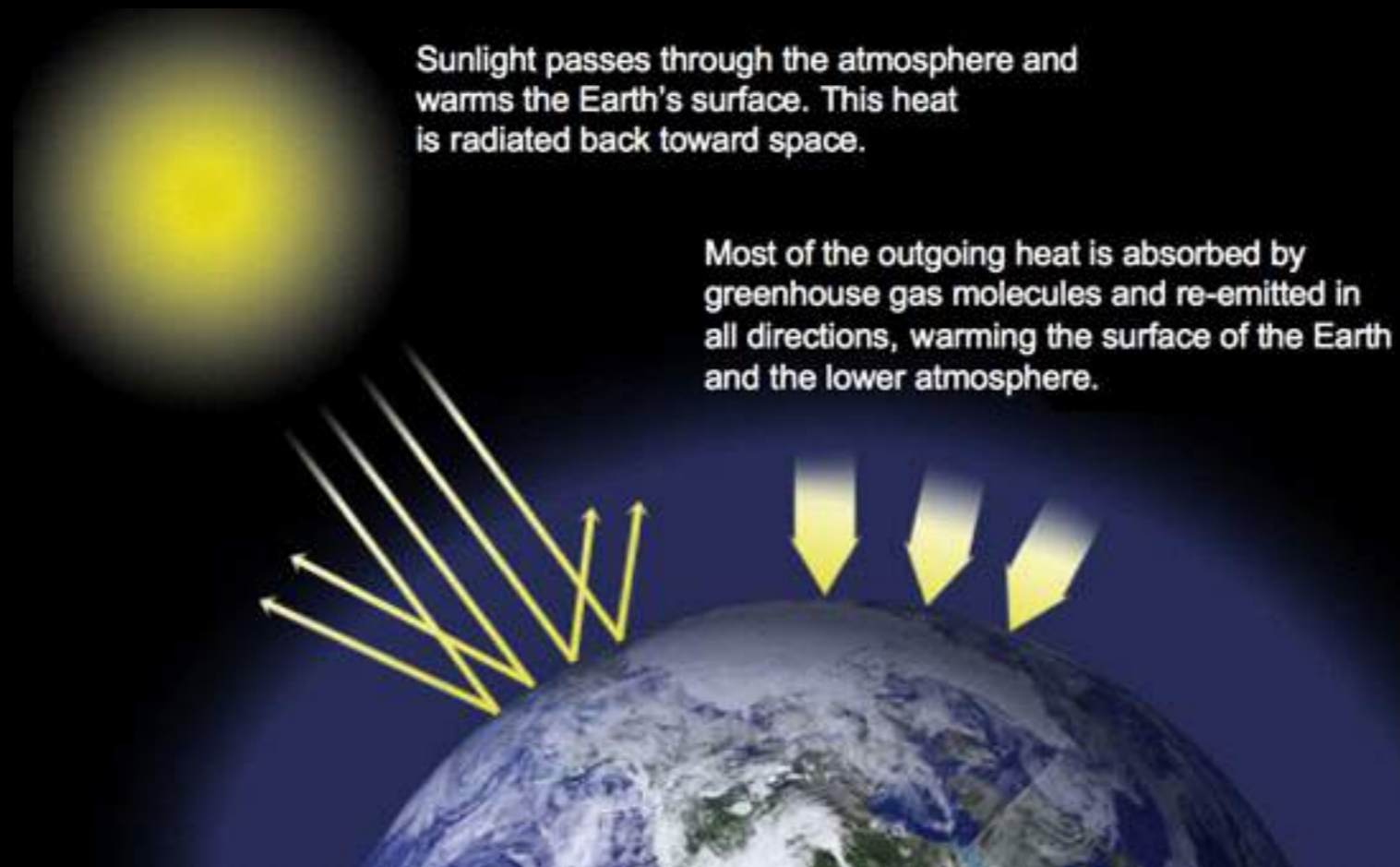
- More tilt = warmer summers & colder winters
- Less tilt = cooler summers & milder winters



Causes of Climate Change?

Human Causes

Green House Gases (GHG)



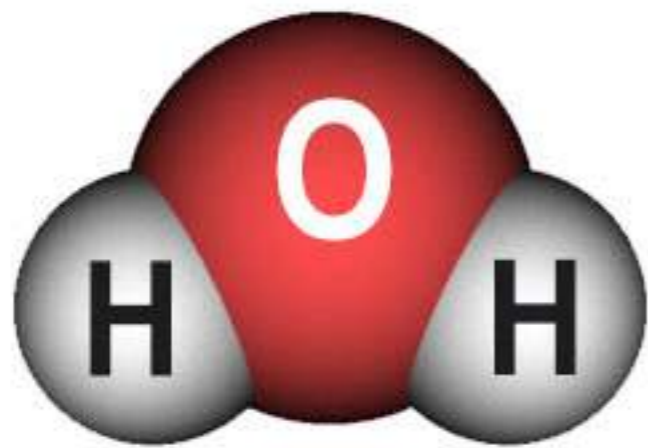
Most climate scientists agree the main cause of the current global warming trend is human expansion of the greenhouse effect - warming that results when the atmosphere traps heat radiating from Earth toward space.

Causes of Climate Change?

Human Causes

Green House Gases (GHG)

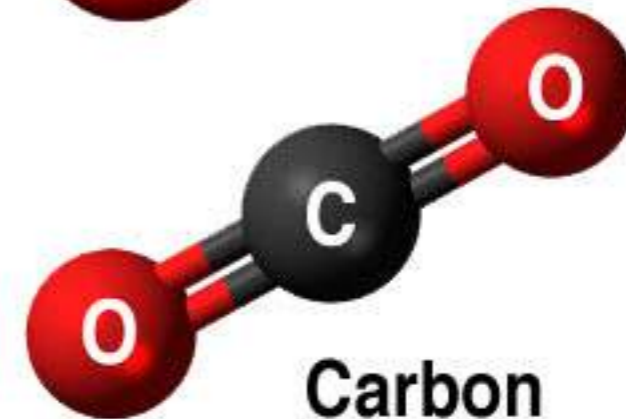
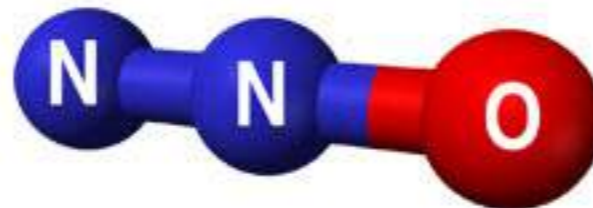
Gases that contribute to the greenhouse effect include:



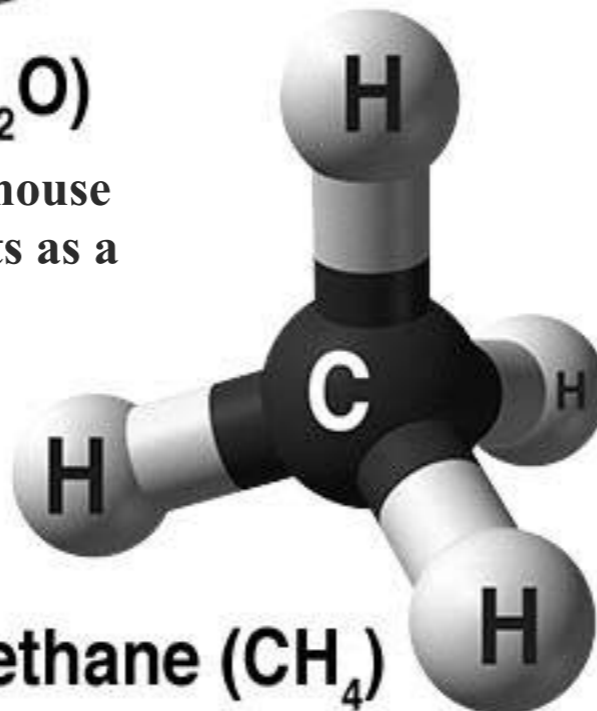
Water vapor (H₂O)

The most abundant greenhouse gas, but importantly, it acts as a feedback to the climate.

Nitrous oxide (N₂O)



Carbon dioxide (CO₂)



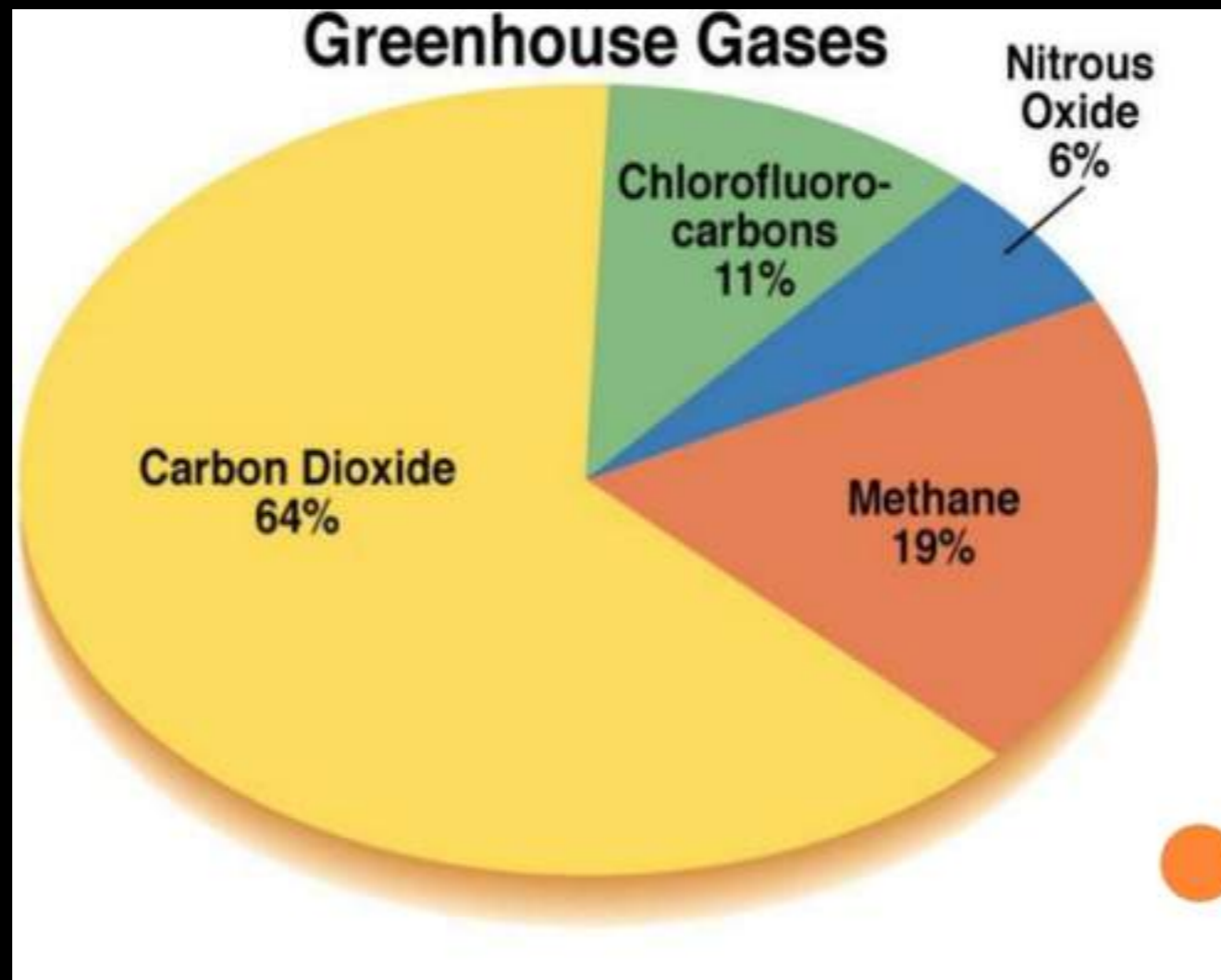
Methane (CH₄)

Chlorofluorocarbons (CFCs)

Causes of Climate Change?

Human Causes

Green House Gases (GHG)



Human activities such as deforestation, land use changes, and burning fossil fuels. Humans have increased atmospheric CO₂ concentration by a third since the Industrial Revolution began.

Causes of Climate Change?

Human Causes

Deforestation

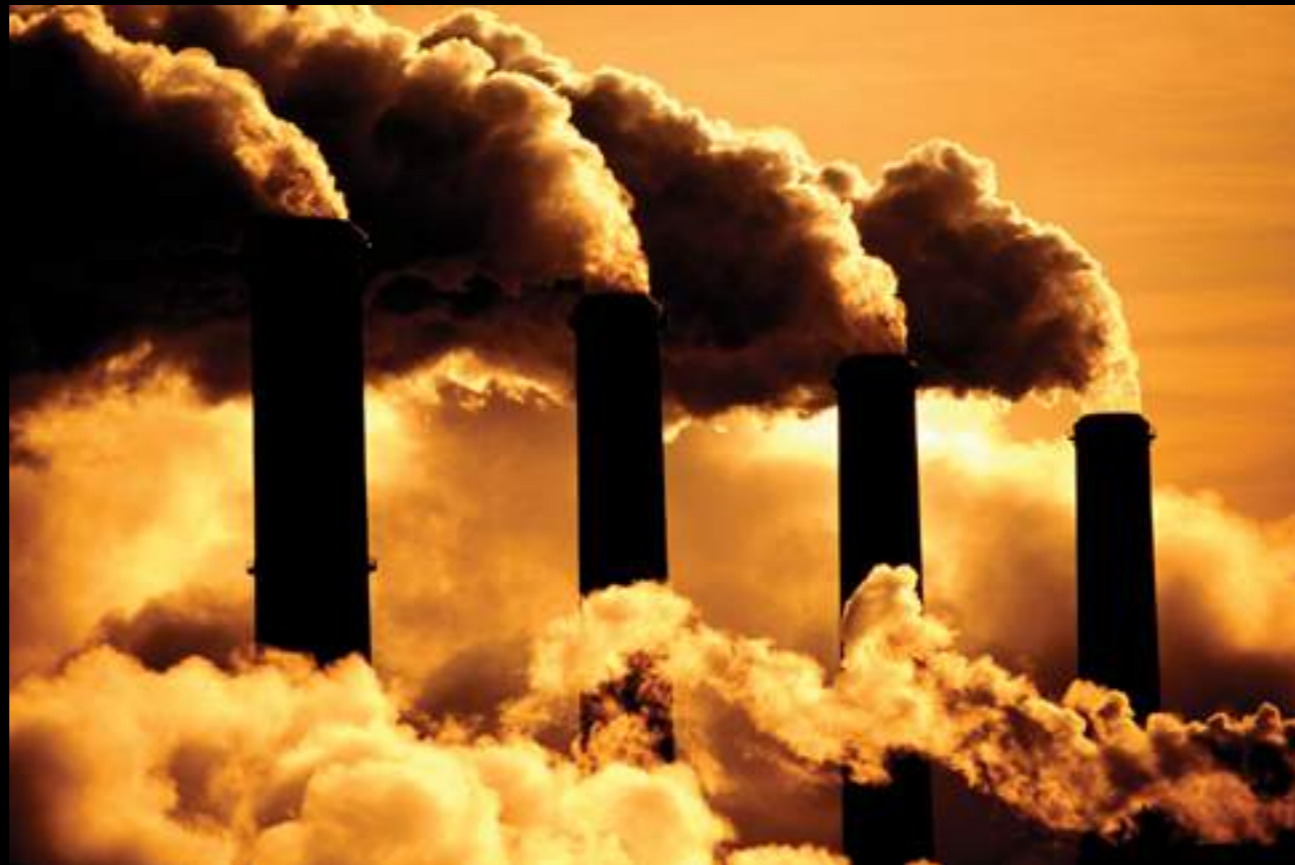


Forests have a vital role to play in the fight against global warming. Forests absorb and store carbon in their trees and soil. But if forests are cleared or disturbed, this carbon is released as carbon dioxide and other greenhouse gases. Up to a fifth of global greenhouse gas emissions come from deforestation and forest degradation.

Causes of Climate Change?

Human Causes

Burning fossil fuels



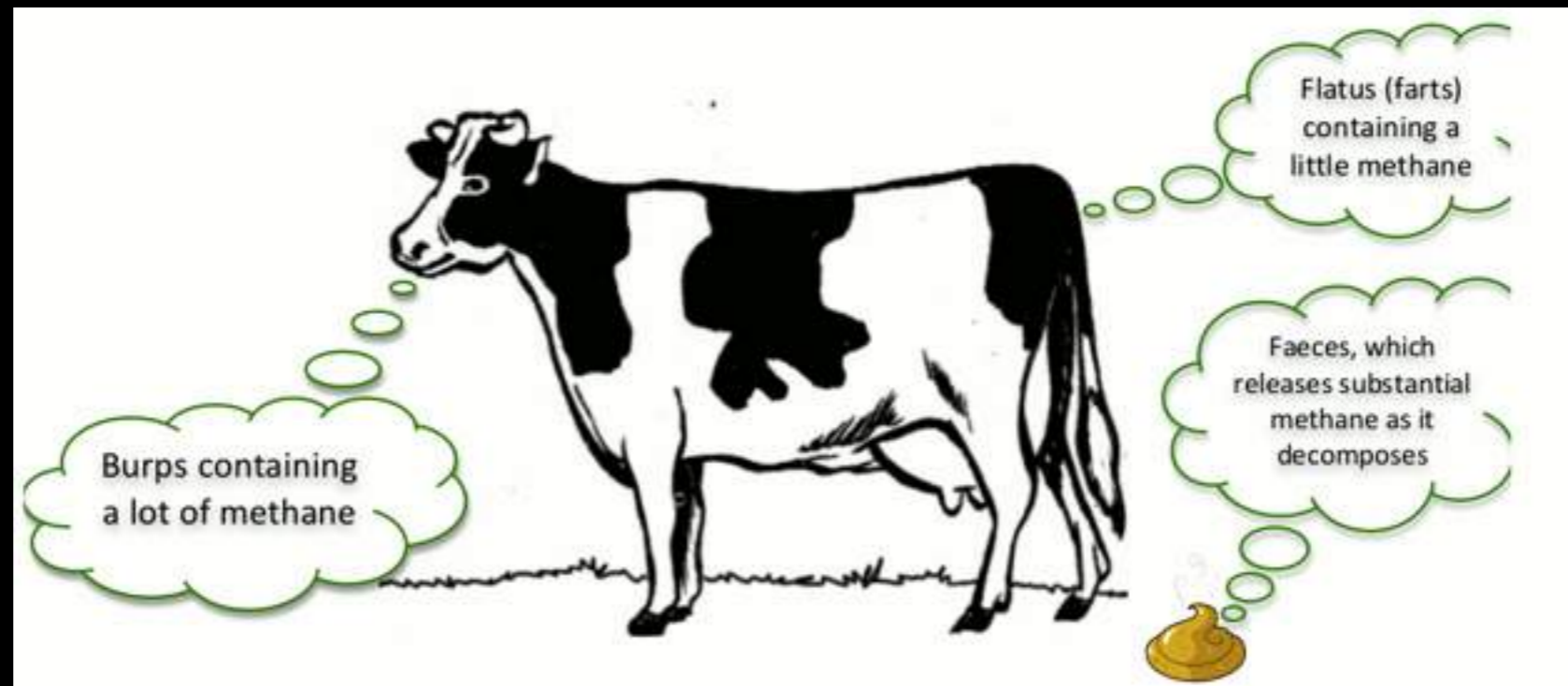
Burning coal, oil and gas produces carbon dioxide and nitrous oxide.

Causes of Climate Change?

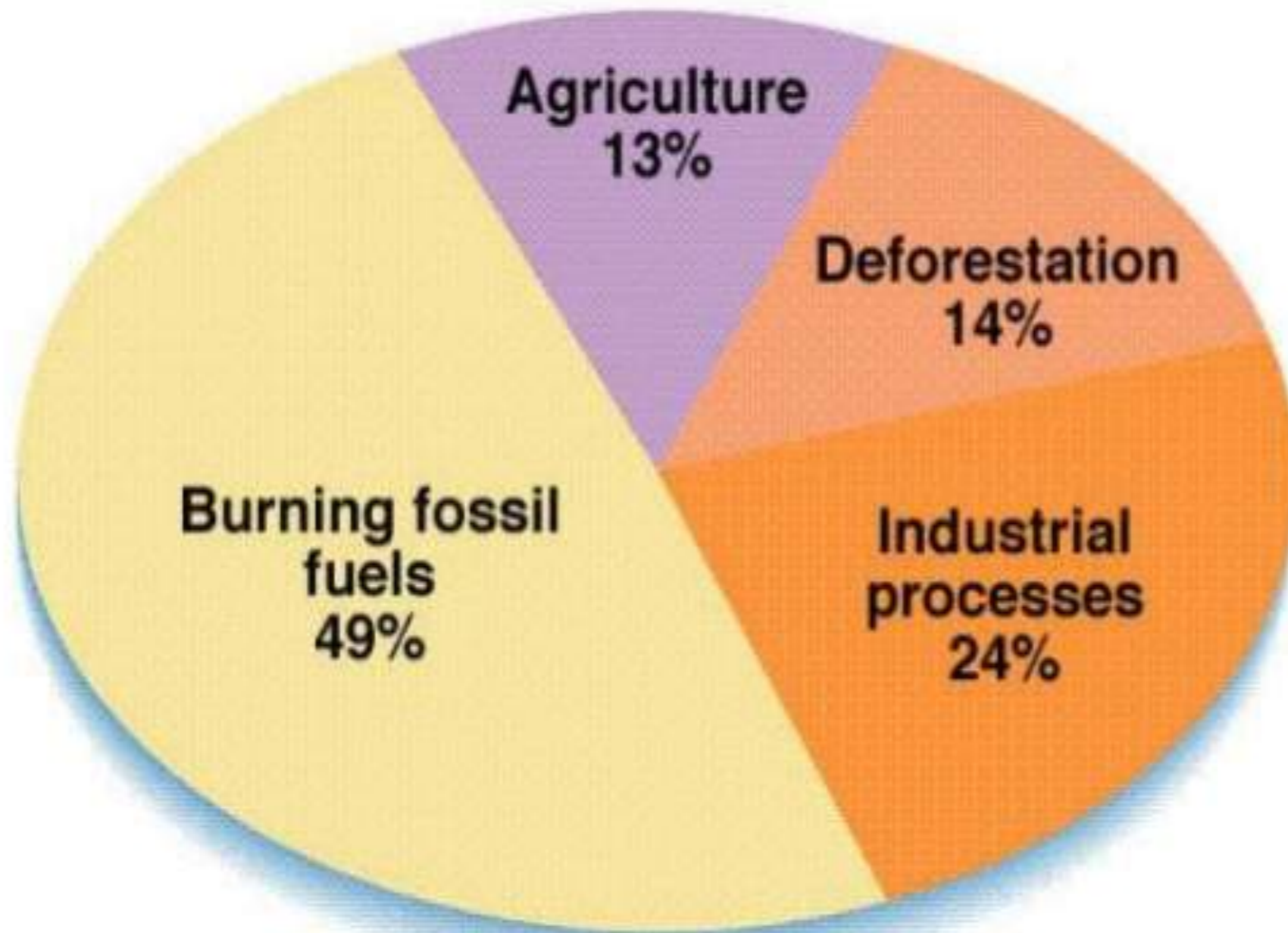
Human Causes

Increasing livestock farming - Cows and sheep produce large amounts methane when they digest their food.

Fertilisers containing nitrogen produce nitrous oxide emissions.



Global Warming & Humans



Impacts of Climate Change

- Ice is melting worldwide, especially at the Earth's poles.
- Sea level rise became faster over the last century.
- Hurricanes and other storms are likely to become stronger.
- Species that depend on one another may become out of sync.
 - For example, plants could bloom earlier than their pollinating insects become active.
- Floods and droughts will become more common. Rainfall in Ethiopia, where droughts are already common, could decline by 10 percent over the next 50 years.



In a Nutshell

Climate Change

What renewables are

- These are resources found in nature that are self-regenerating:

sunlight

wind

geothermal heat

biomass

waves

tides

- These sources are normally used to produce **clean** (or **green**) energy. This production does not lead to climate change and does not involve emission of pollutants.
- A related term is **sustainable** energy: this concept refers to generating energy with an awareness of the future, i.e. in a way that would enable future generations to meet their energy needs too. The concept is related not only to renewables, but also to **energy efficiency**.

Frank Kenyon Centre

Research Education and Conservation



So Lets Discuss!

What Can We do!

Breathing Earth