



# GREENHOUSE GASES

INFORMATION CARDS



# WHAT ARE GREENHOUSE GASES?

Greenhouse gases are heat-trapping gases in Earth's atmosphere.

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Carbon dioxide and other greenhouse gases are increasing quickly because of human activities. This enhances the greenhouse effect.

# THE GREENHOUSE EFFECT

The greenhouse effect is a process that helps to maintain a comfortable temperature for life on Earth.

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Some of the sun's energy is trapped by greenhouse gases in the atmosphere. This warms Earth's surface like an invisible blanket.

Some of the other heat is released back into space.

# SOURCES AND SINKS

A source is an activity that releases a greenhouse gas into the atmosphere. Greenhouse gases can come from natural and human activities.

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A sink is a place where a greenhouse gas is taken up and removed from the atmosphere. For example, trees are known as a carbon sink as they absorb large amounts of carbon dioxide.

# GET TO KNOW THE GREENHOUSE GASES

The main greenhouse gases are:

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- Water vapour
- Carbon dioxide
- Methane
- Ozone
- Nitrous oxide
- Chlorofluorocarbons

# WATER VAPOUR

This is the most abundant  
greenhouse gas.

It is water in gas form, like water  
evaporating from a lake.  
It forms clouds and rain, which  
can provide a cooling effect.



# CARBON DIOXIDE

Consists of carbon and oxygen. It is derived naturally from decomposing and living organisms, and ocean release.

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The burning of fossil fuels for electricity, heat, and transportation is a key human source of this gas. Other sources include forest clearing. Carbon dioxide levels are rising quickly because of this.

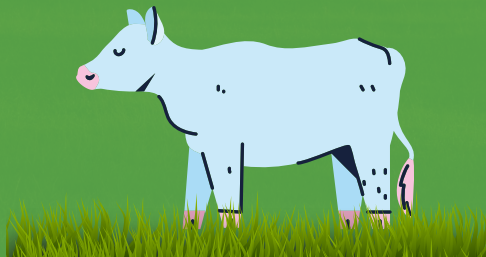


# METHANE

Made up of carbon and hydrogen.  
Typically, released from  
wetlands, wildfires, and oceans.

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Human sources include fossil  
fuel production, growing rice,  
and raising cattle.





# NITROUS OXIDE

Naturally part of the nitrogen cycle. Produced by bacteria in soils and oceans.

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Important human emissions include agricultural practices [like applying nitrogen-based fertilizer] and fossil fuel combustion.



# OZONE

In the atmosphere where planes fly. It helps block the sun's radiation and protects us from its rays.

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Human-made compounds, like chlorofluorocarbons, can break down ozone.



# CHLOROFLUOROCARBONS

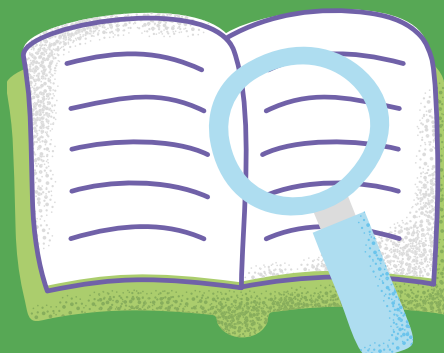
Fluorinated gases are human-made. They were widely used to manufacture aerosol sprays and refrigerants.

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Due to their impact on Earth's ozone layer, countries have taken action and banned them!



# REFERENCES USED TO CREATE THIS RESOURCE



[climatekids.nasa.gov](https://climatekids.nasa.gov)  
[davidsuzuki.org](https://davidsuzuki.org)  
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