

EN-GB

ESSENTIALS



**CL!MATE
FRESK**

All the cards are in your hands!

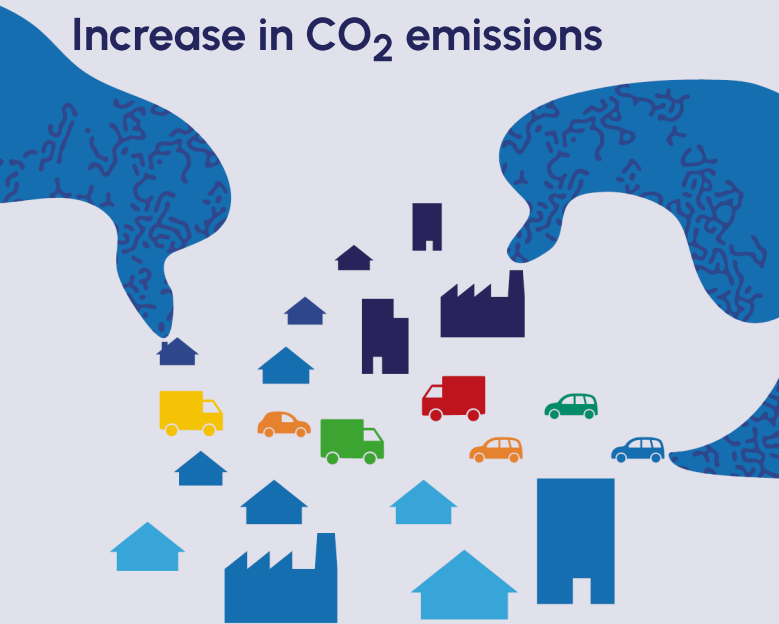
How to play

You need one deck of cards per team (4 to 7 people), a 1 x 2 m piece of paper, pencils, rubbers, coloured pens and some tape.

The aim of the game is for each team to map out the story of climate change by arranging the cards on the table, in order of cause and effect, and drawing arrows to show links between cards.

The workshop lasts 3 hours: 10-min introduction ; 60 mins to play the card game; 15 mins to decorate and present the Fresk; 10 mins to share feelings; and 80 mins to discuss action ideas; 5-min conclusion.

Increase in CO₂ emissions



Increase in CO₂ emissions

Carbon dioxide is a greenhouse gas, like methane. Its chemical formula is CO₂.

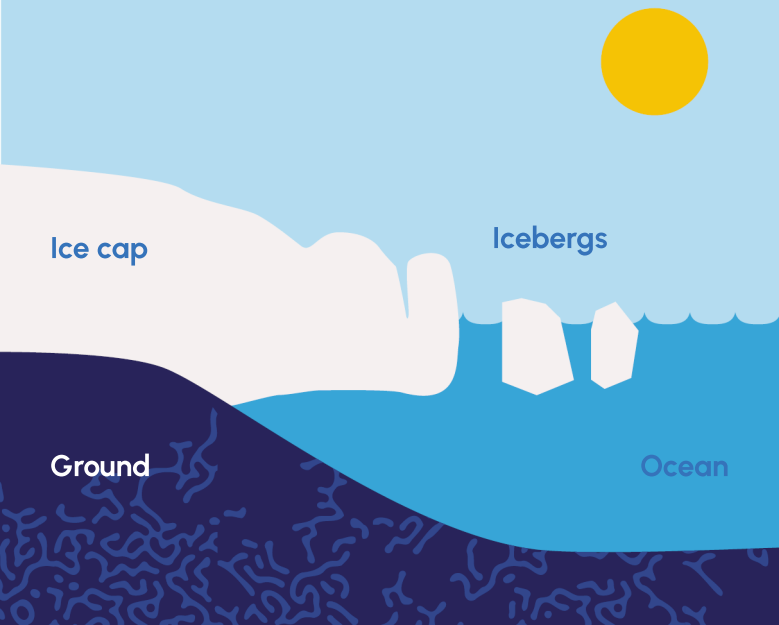
It is emitted into the atmosphere when fossil fuels are burned.



1

Set 1

Melting glaciers and ice caps



Melting glaciers and ice caps

Glaciers and ice caps are sensitive to the Earth's rising temperature. When the Earth warms, glaciers and ice caps melt.



2

Set 1



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Transport



Transport

The transport of goods and people (in planes, trucks, cars, boats, trains, etc.) is highly dependent on fossil fuels.

Transport accounts for 15% of greenhouse gas emissions.

3

Set 1

Rising Earth's Temperature



Rising Earth's Temperature

The Earth's average temperature has already increased by nearly 1°C since 1900. Depending on the scenario, it will have increased by 1.5°C to 5°C by 2100.



4

Set 1

Use of fossil fuels



Use of fossil fuels

Fossil fuels are coal, oil and gas. They are mainly used in buildings, transport and industry. When fossil fuels are burned, they emit carbon dioxide.



5

Set 1

Human Activities

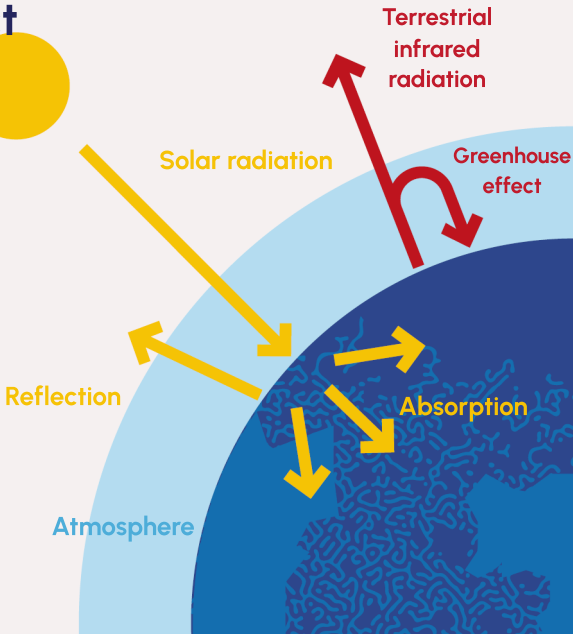


Human Activities

This is where it all begins.



Increase in the greenhouse effect



Increase in the greenhouse effect

The greenhouse effect is a natural phenomenon that allows life on Earth. Without the greenhouse effect, the temperature would be 33°C colder.

Human activities emit carbon dioxide and methane. This leads to an increase in the greenhouse effect.

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Set 1

Use of buildings



Use of buildings

Building operations (heating, lighting, electronics, etc.) consume fossil fuels and electricity.

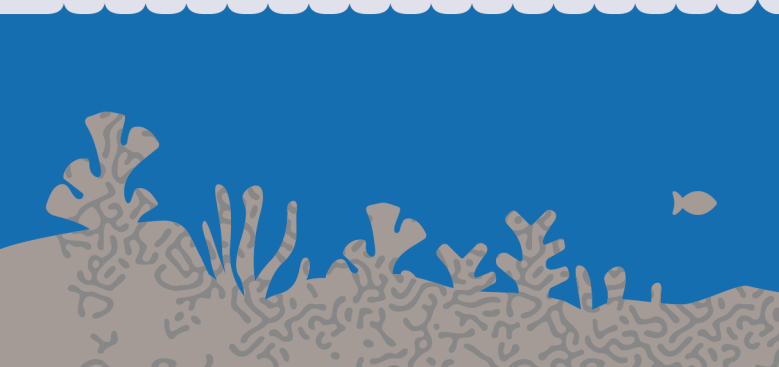
This accounts for 20% of greenhouse gases.



8

Set 2

Ocean acidification



Ocean acidification

When carbon dioxide dissolves in the ocean, it changes its chemical characteristics and acidifies it.

This acidification of the ocean threatens the survival of species such as coral, plankton and certain fish.

9

Set 2

Agriculture



Agriculture

Agriculture produces human food through crops (like cereals, fruits, vegetables, etc.) and livestock (such as meat, fish, milk, eggs, etc.).

Agriculture is responsible for 25% of greenhouse gases.



10

Set 2

Industry



Industry

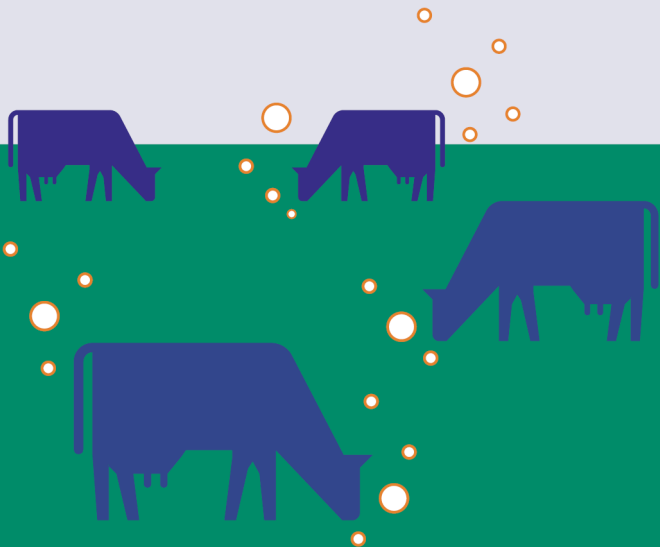
Industry uses fossil fuels and electricity to make consumer goods like cars, clothing, paper, steel, chemicals and electronics...

Industry is responsible for 40% of greenhouse gases.

11

Set 2

Increase in methane emissions



Increase in methane emissions

Methane is a more powerful greenhouse gas than carbon dioxide.

Agriculture is one of the main causes of the increase in methane emissions into the atmosphere. For example, cows emit methane when they feed.

12

Set 2

Rising ocean temperature



Rising ocean temperature

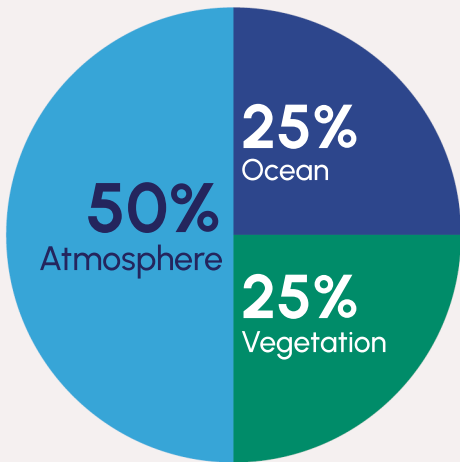
The ocean absorbs the vast majority of the energy retained on Earth. When the Earth warms, the ocean warms in turn. This causes the ocean's volume to increase due to thermal expansion.



13

Set 2

What happens to the CO₂ emitted by human activities?



What happens to the CO₂ emitted by human activities?

Half of the carbon dioxide emitted each year is absorbed by carbon sinks:

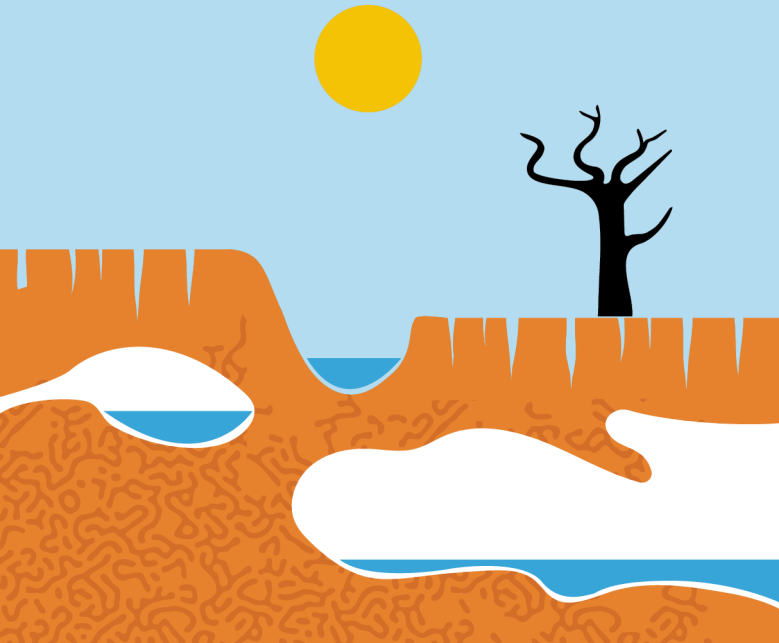
- a quarter is used by plants in photosynthesis;
- a quarter is dissolved in the ocean.

The remaining half stays in the atmosphere.

14

Set 2

More droughts



More droughts

The disruption of the water cycle can bring an excess of water to some areas, and less water to others. Less water is a drought.

15

Set 3

More violent cyclones



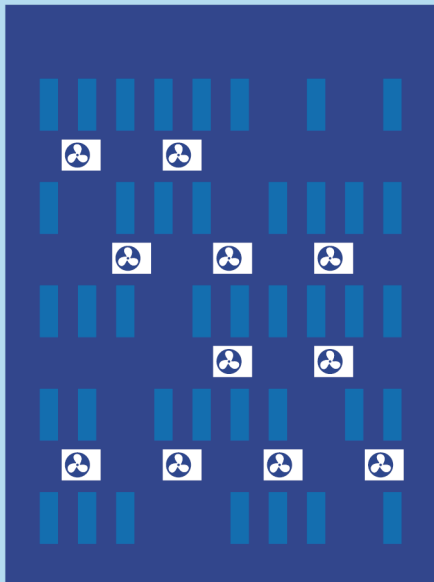
More violent cyclones

Cyclones draw their energy from warm waters on the surface of the ocean. Warm ocean waters are becoming increasingly warm, which increases the power of cyclones.

16

Set 3

More heatwaves



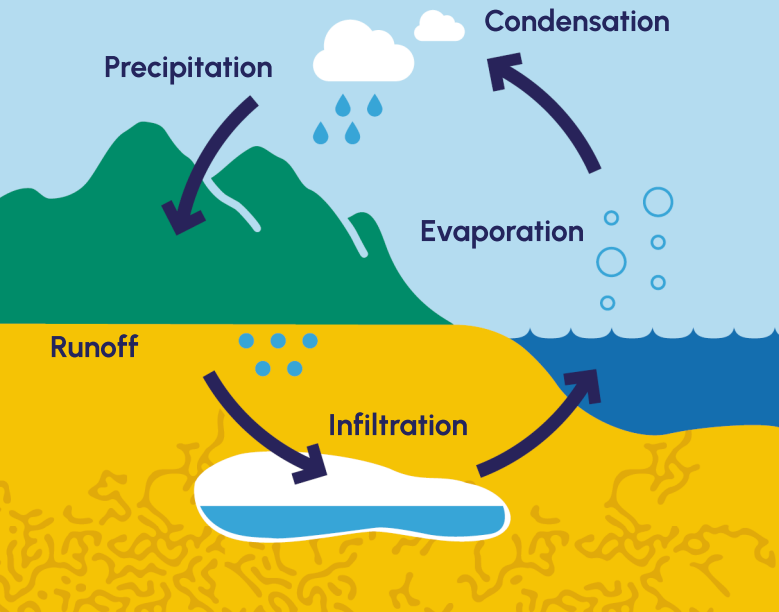
More heatwaves

The rise in average air temperatures causes more frequent and intense heatwaves.

17

Set 3

Disruption of the water cycle



Disruption of the water cycle

Human activities and Earth's rising temperatures (of the air and ocean) disrupt the water cycle.

The result: more runoff, more floods, more droughts...

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Set 3

Rising ocean levels



Rising ocean levels

Since 1900, ocean levels have risen by 20 cm. This is due to the expansion of the ocean and the melting of glaciers and ice caps.

19

Set 3

Permafrost thawing



Methane
release

Thawing

Organic matter
frozen in permafrost

Permafrost thawing

Permafrost refers to ground that is permanently frozen, all year round.

As the Earth's temperature rises, the permafrost begins to thaw and release methane. It's a vicious circle, as methane is a greenhouse gas that will warm the planet.

20

Set 3

More wildfires



More wildfires

Fires start easier and can be more intense when there are droughts and heatwaves.



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Set 4



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More frequent floods



More frequent floods

Cyclones come with strong winds and high waves. They can lead to temporary flooding of coastal areas. Rising ocean levels make this flooding worse.



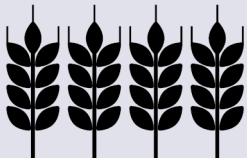
22

Set 4



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Decline in biodiversity



Decline in biodiversity

Biodiversity is the variety of life on Earth. It provides the raw materials for housing, clothing, food and medicine.

The rise in the Earth's temperature (of the air and ocean), disruption of the water cycle, and ocean acidification all contribute to the decline of biodiversity.



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Set 4



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Armed conflicts



Armed conflicts

We should avoid this ending...

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Set 4



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Population displacement



Population displacement

In some regions, the increase in extreme events (like droughts, floods, fires, famines) is putting inhabitants at risk. Some people are forced to leave their homes.



25

Set 4



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Famines



Famines

The decline in biodiversity and extreme events (like droughts, floods, fires, heatwaves) reduce agricultural production, which can lead to famine.



26

Set 4



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Human health



Human health

Decline in biodiversity, famines, population displacement, heat waves and armed conflicts can affect human health.



27

Set 4



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KEY



The Climate Fresk workshop is presented by the Climate Fresk association. To facilitate a Climate Fresk, you must attend a Climate Fresk workshop and a facilitator training.

Cédric Ringenbach is the author of Climate Fresk. This version of the card game, called Essentials Cards, was created based on simplification suggestions and graphic adaptations by Michel Guichard, L'École de design Nantes Atlantique and La Turbine.

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