

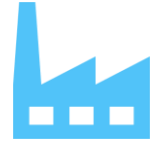
Greenhouse effect

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How does greenhouse effect work?



Causes



Impacts



Kyoto protocol



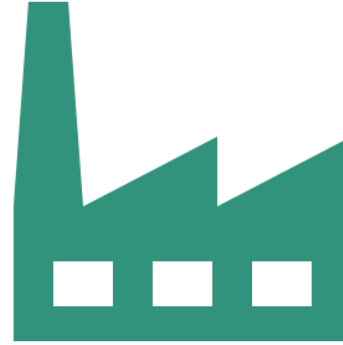
Earth's Day

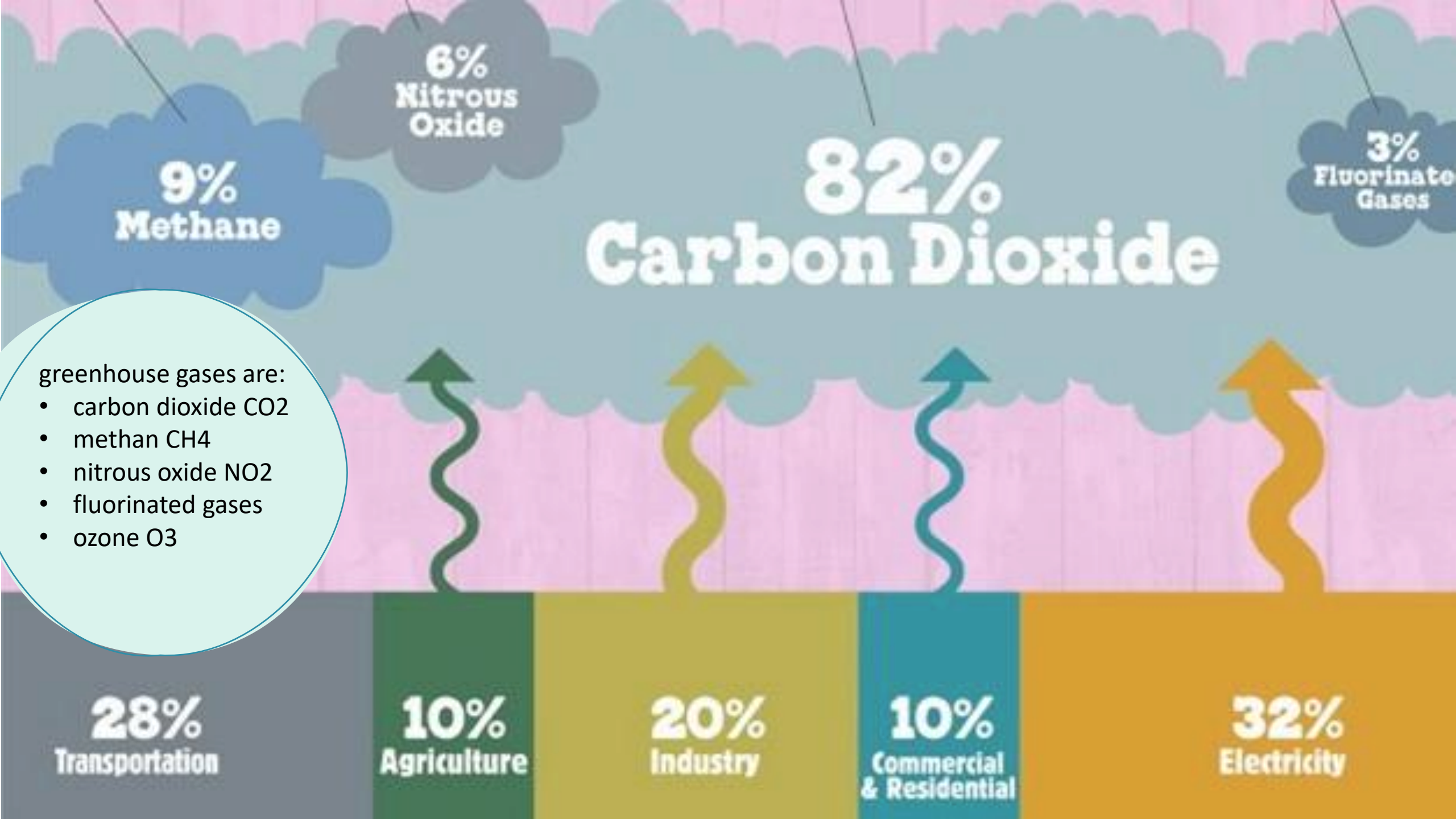


Prevention measures

Greenhouse gases

- Gases in the atmosphere that allow sunlight to pass through and reach the Earth's surface.
- Some of this sunlight is captured as heat on Earth, and some of it is radiated back towards space.
- When greenhouse gases are present in the right amounts, they trap just enough heat to keep the Earth warm enough for organisms to survive, while letting some of that heat back into space.





greenhouse gases are:

- carbon dioxide CO₂
- methane CH₄
- nitrous oxide NO₂
- fluorinated gases
- ozone O₃

How does it work?

- Greenhouse gases such as CO₂ let sunlight pass through the atmosphere, but retain the heat generated by the sun.
- Adding greenhouse gases to the air increases the greenhouse effect.
- Without greenhouse gases the temperature on Earth would be below freezing.
- This trapping of heat under the atmosphere is called the greenhouse effect, and it is both natural and beneficial to life on Earth.

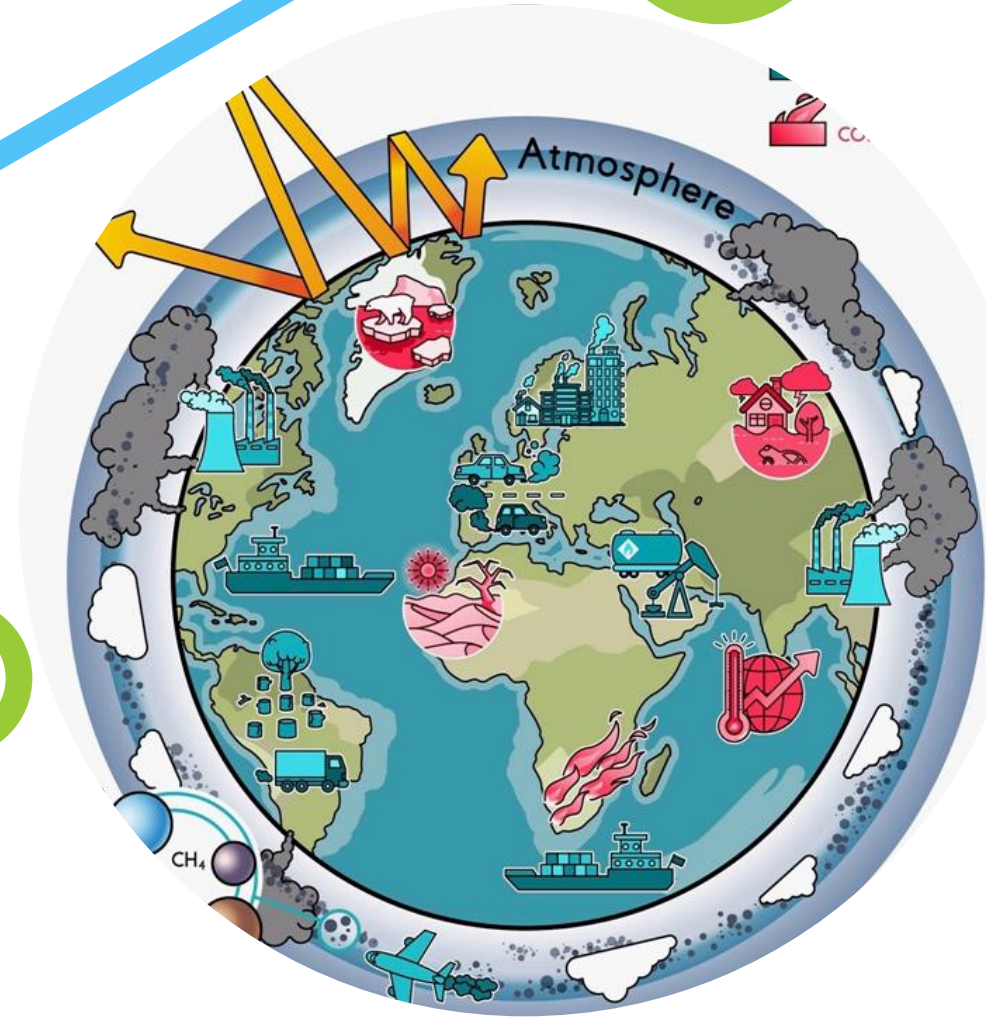


Enhanced greenhouse effect

- So, if greenhouse gases are so good for us, why do they get such a bad reputation?

Beacuse they need to be present in specific amount. When too much gas is present, too much heat gets trapped, which warms the Earth more than usual

- The rapid increase in greenhouse gas concentrations in the atmosphere has led to the **enhanced greenhouse effect**.
- Too much heat is trapped on Earth, resulting in an overall increase in global temperatures



Kyoto protocol



- An international treaty that commits state parties to reduce greenhouse gas emissions.
- Adopted in Kyoto, Japan, on 11 December 1997 and entered into force on 16 February 2005 with ratification of Russia.
- It was necessary ratification of at least 55 States which were causing at least 55% of greenhouse enhanced effect.
- Target: to minimise global warming by reducing greenhouse gas concentrations in the atmosphere to "a level that would prevent dangerous anthropogenic interference with the climate system"



Kyoto Protocol

Kyoto protocol targets

- The Kyoto Protocol applies to six greenhouse gases:
 - Carbon dioxide
 - Methane
 - Nitrous oxide
 - Hydrofluorocarbons
 - Perfluorocarbons
 - Sulphur hexafluoride
- However, **USA** are not participating in the Kyoto Protocol and they are responsible of 36,2% of global emissions.



Causes

Greenhouse effect is **caused** by the presence of greenhouse gases in the air. This type of gases are: water vapour, carbon dioxide, methane, and certain other **gases**.

The human activities emit greenhouse gases to the atmosphere.

- There are two very important causes:
 - The burning of fossil fuels. This ones contain carbon, and when they are burnt this carbon combines with oxygen in the atmosphere to form carbon dioxide.
 - Changes in land use are sources of greenhouse gas emissions. For example the deforestation.

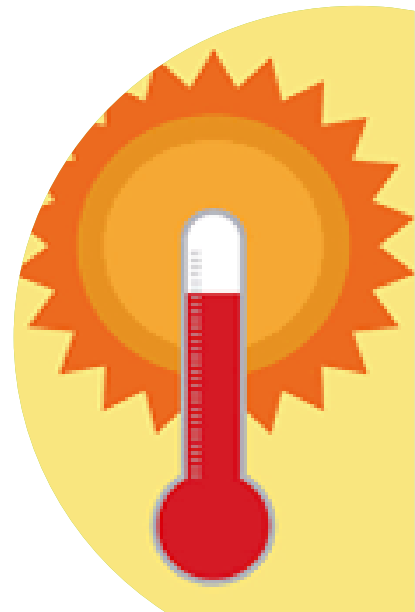
We emit carbon dioxide in enormous quantities because we burn so much fossil fuel and the changes in land use that we have implement are so widespread.



Impacts

The main impact of greenhouse effect is an **increase in the temperature**, that during the last years has been causing many problems:

- **glaciers melting and ocean warming** → raised oceans' surface level above the danger level
- **Rainfall pattern changes** → harmful impacts on agriculture
- **Acidification of the Ocean** → carbonic acid in all our seas.
- **Depletion of the Ozone Layer** → nitrous oxide has depleted the ozone layer, that protects us from harmful ultraviolet rays



How can we reduce greenhouse effect?

Daily, for everyone:

- Buy products with **minimal packaging**
- Use Less **Heat** and **Air Conditioning**
- Wherever practical, replace regular **light bulbs** with compact florescent light bulbs.
- **Drive Less and Drive Smart.**
- Buy **Energy-Efficient Products**
- Use **Less Hot Water.**
- Use the "Off" Switch.
- Plant a Tree.
- Encourage Others to Conserve

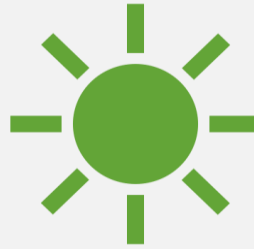


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REUSE
RECYCLE

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Prevention: solar panels



Generating energy from **renewable sources** can improve public health, pollution and global warming by lowering the emission of greenhouse gases.



Residential solar panels are capable of meeting a household's electricity consumption entirely and result in 80% lower carbon emissions than fossil fuels.



Solar energy makes more **energy secure** in the face of increased natural disasters and powerful storms that become more frequent in a changing climate



The initial **cost** of purchasing a solar system is fairly high and panels are strongly dependent on **weather**. Furthermore, they do not work for every roof type

Earth day: what is it

- **Earth Day** is an annual event celebrated in more than 193 countries on April 22 to demonstrate support for environmental protection.
- It is an entire week of activities focused on the environmental issues that the world faces.
- In 1969 at a UNESCO Conference in San Francisco, peace activist John McConnell proposed a day to honor the Earth and the concept of peace, to first be celebrated on March 21, 1970
- John McConnell, with a passion for peace, religion, and science, was the founder and creator of Earth day and The **Earth Society Foundation**.
- He also promoted many other ideas to relieve human suffering and promote the common good.



Earth day: the history

- On January 28 1969, a **well drilled** by Union Oil Platform A off the coast of Santa Barbara, California, blew out. More than three million gallons of oil spewed, killing more than 10.000 seabirds, dolphins, seals, and sea lions.
- As a reaction to this disaster, activists created the Earth Day, that in 1990 gave a huge boost to recycling efforts worldwide.
- The Earth's day from 1990 to 1999 helped people focus on global warming and understand that future meant **renewable Energy**.
- **Earth Day 2000** combined the ambitious spirit of the first Earth Day with the international activism of Earth Day 1990. This was the first year that Earth Day used the **Internet** as its principal organizing tool, proving invaluable nationally and internationally.
- The 2000 Earth day **enlisted more than 5,000 environmental groups outside the United States**. Leonardo Di Caprio was the official host for the event.



Earth day 2000

used the Internet as its principal organizing tool for the first time

March 21 1970

first celebration of Earth day

January 28 1969

Union Oil Platform blew out

Earth day 1990 gave a huge boost to recycling efforts worldwide