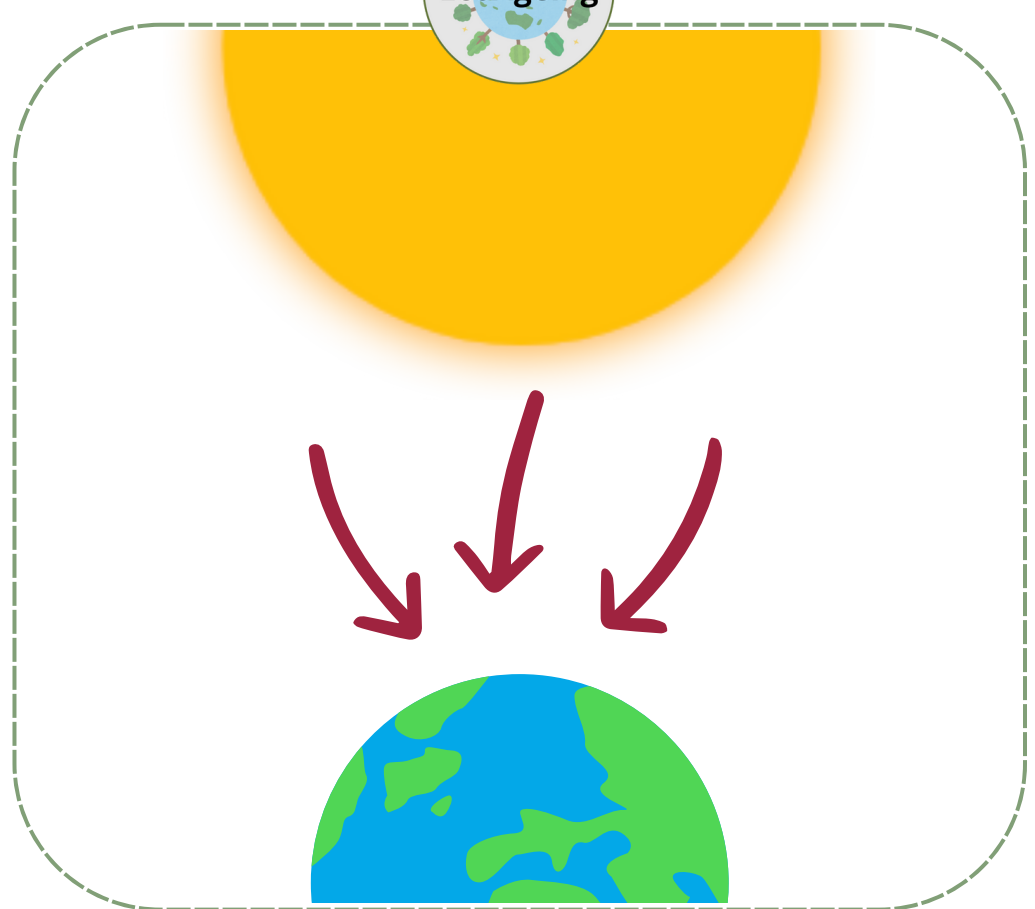


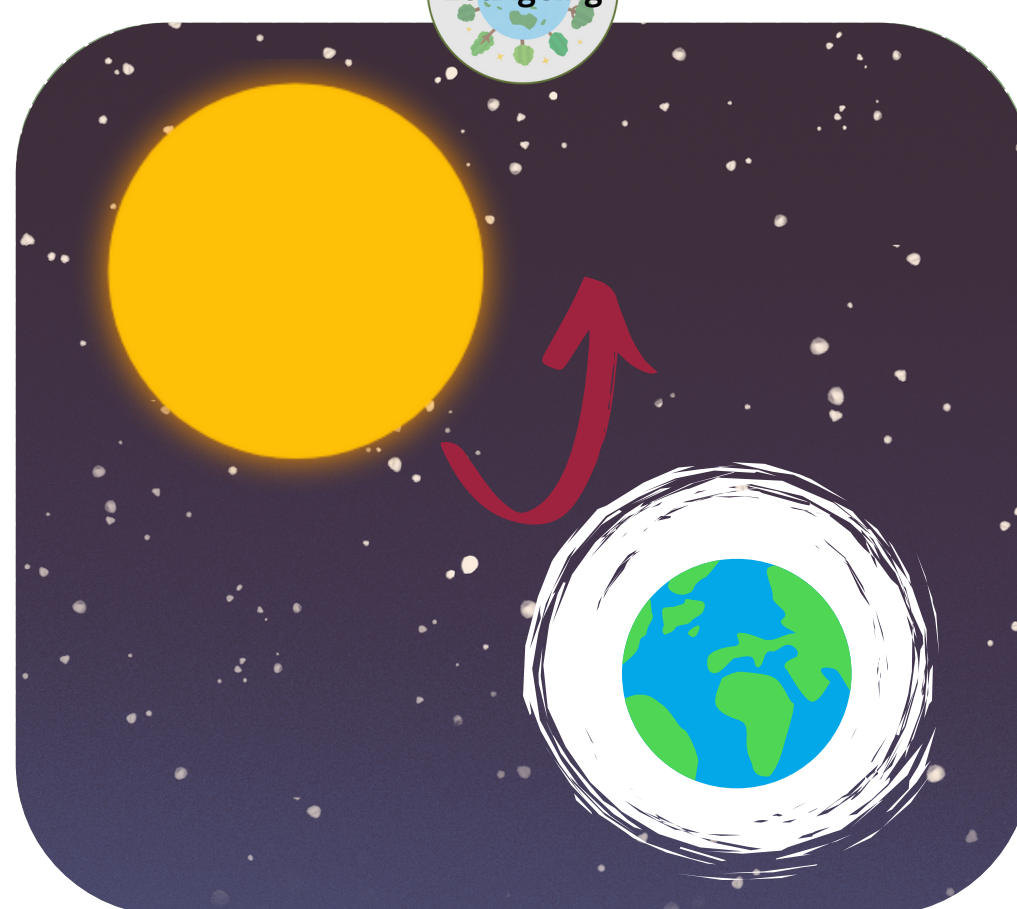


Sun shines onto earth

The sun which is about 109 times bigger than planet Earth, and is mainly made out of hydrogen and helium, has a temperature of about 15 million degrees Celsius at its core. Its hottest parts are its core and the outermost layer. Every second it transforms about 5 million tons of mass into energy. This energy warms the sun, which then heats up the Earth and all the other planets.

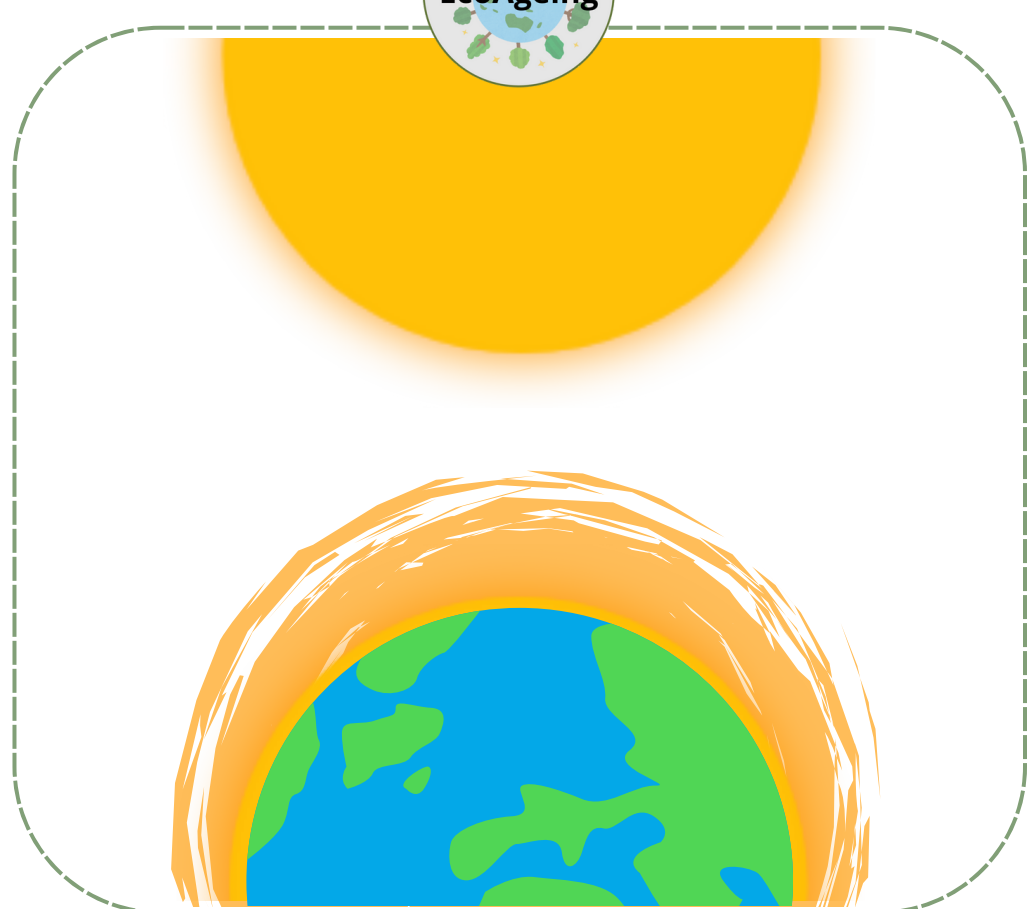


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Sun rays are reflected back into space

About 29% of the solar radiation that reaches the Earth's atmosphere is reflected back into space by clouds, the atmosphere itself and other possibly bright surfaces. The rest of the solar radiation continues shining through the atmosphere onto our planet.



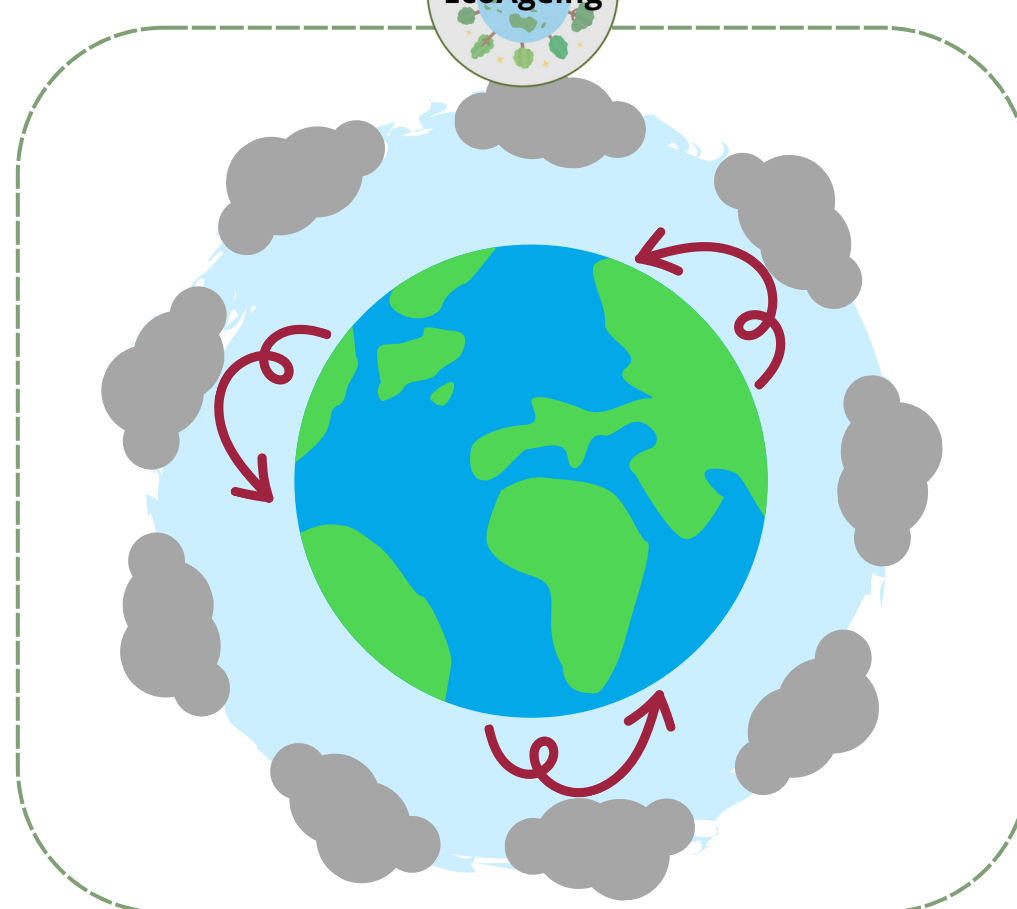
Sunlight is absorbed by Earth's surface

Out of the received solar radiation from the sun (not including the solar radiation that is reflected back), 71% is absorbed by the atmosphere and the surface of the Earth:

- 23% by the atmosphere and containing gases
- 48% by the surface of the Earth



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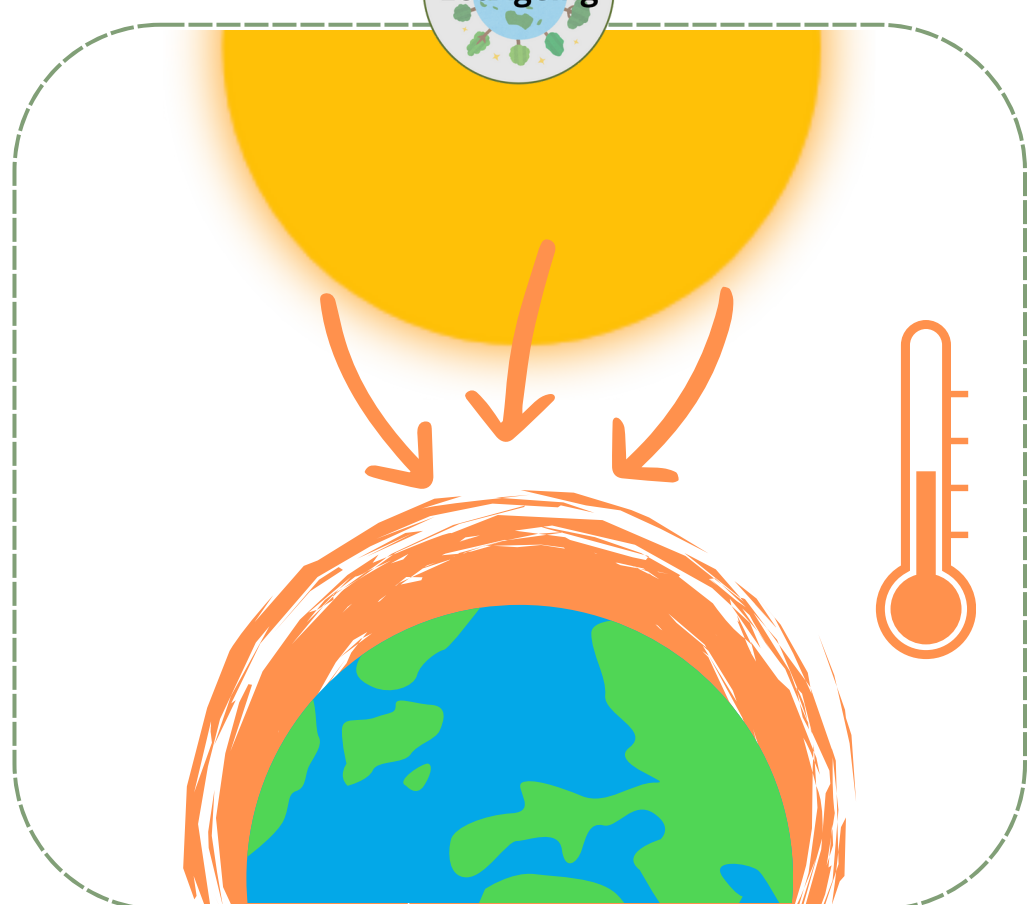


Greenhouse gases trap heat in the atmosphere

The sunlight in the atmosphere is then trapped by greenhouse gases. Due to this effect, the planet stays warm enough to sustain life. Without this effect and the atmosphere, Earth would not be warm enough to sustain life.



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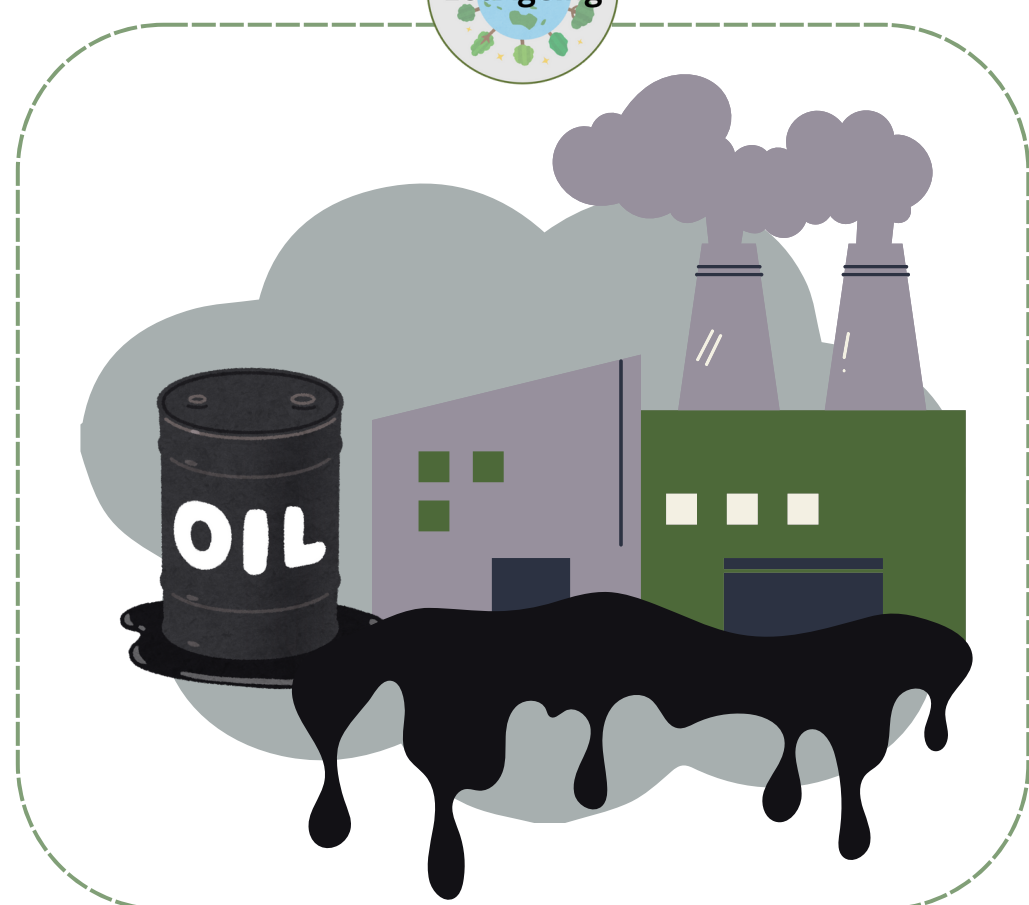


Earth is heated by the absorbed sunlight

By absorbing the sun rays into its atmosphere, the planet keeps warm and stays heated. The warmth depends on the amount of reflection of the sunlight and how much solar radiation and sunrays it absorbs.



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Greenhouse gases: Carbon dioxide

These gases are essential to trap sunlight in the atmosphere and keep Earth warm. Carbon dioxide:

- produced through coal, natural gas, oil
- released through human activities such as coal and oil burning, natural gasses, fossil fuels, and deforestation



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Greenhouse gases: Methane

These gases are essential to trap sunlight in the atmosphere and keep Earth warm. Methane:

- produced through transport, livestock, agriculture
- found in small quantities in the atmosphere
- concentration has risen 150% since 1750, due to human and natural sources



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Greenhouse gases: Nitrous oxide

These gases are essential to trap sunlight in the atmosphere and keep Earth warm. Nitrous oxide:

- through agriculture, industrial use, fossil fuels, waste
- also known as "laughing gas" and sometimes used as anesthesia
- about 300 times more powerful than carbon dioxide



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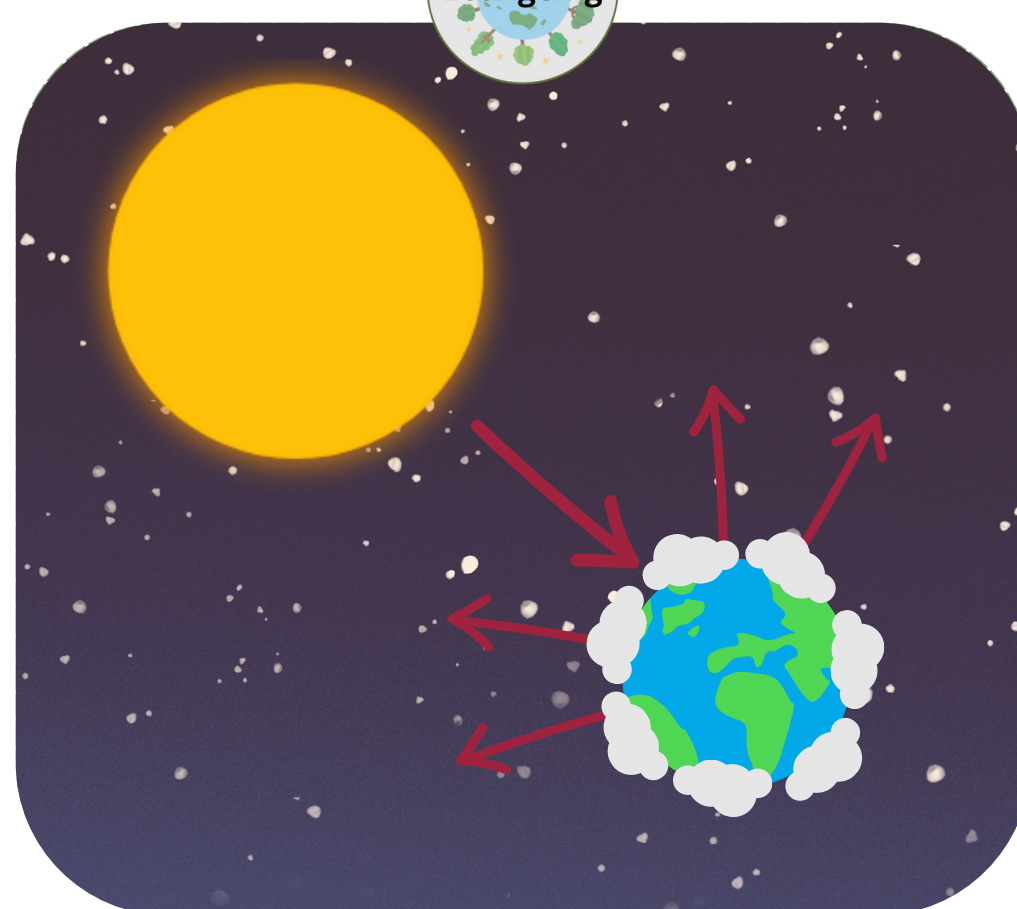
Greenhouse gases: Fluorinated gases

These gases are essential to trap sunlight in the atmosphere and keep Earth warm. Fluorinated gases:

- produced through synthetic gases from industrial use
- more powerful than naturally occurring greenhouse gases
- occur due to refrigeration, air conditioning, heating, cleaning components, sometimes fire extinguishers,...



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Heat radiates from Earth back into space

Due to Earth being a colder planet, it radiates energy and heat much longer than the sun. This is then partly absorbed by greenhouse gases which radiate the energy into all directions, while another part is radiated back into space.



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Earth stays warm enough to sustain life

As the absorbed sunrays are making the Earth habitable, the planet would be about 33°C colder without them. Life on Earth would be impossible. Due to the heat of the sun, it stays warm to sustain life: plants, animal, and humans.



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Greenhouse gases grow exponentially

While the effects so far were naturally occurring, when human industry, agriculture, transport, etc. grows, greenhouse gases grow exponentially as well, keeping more sunlight and heat trapped in the atmosphere, instead of reflecting it back into space. Thus, Earth is forced to absorb more of it.



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More heat is trapped in the atmosphere

Not being able to reflect the sunlight back, Earth is forced to absorb more heat. Thus, continually increasing the temperature of the planet and the environment we live in.



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Earth grows warmer and becomes more heated

Being forced to absorb more heat, planet Earth grows warmer and keeps collecting more heat. Thus, creating the effect of global warming, resulting in:

- hotter summers, floods,
- melting of the glaciers and ice caps,
- extinction of species; and more...



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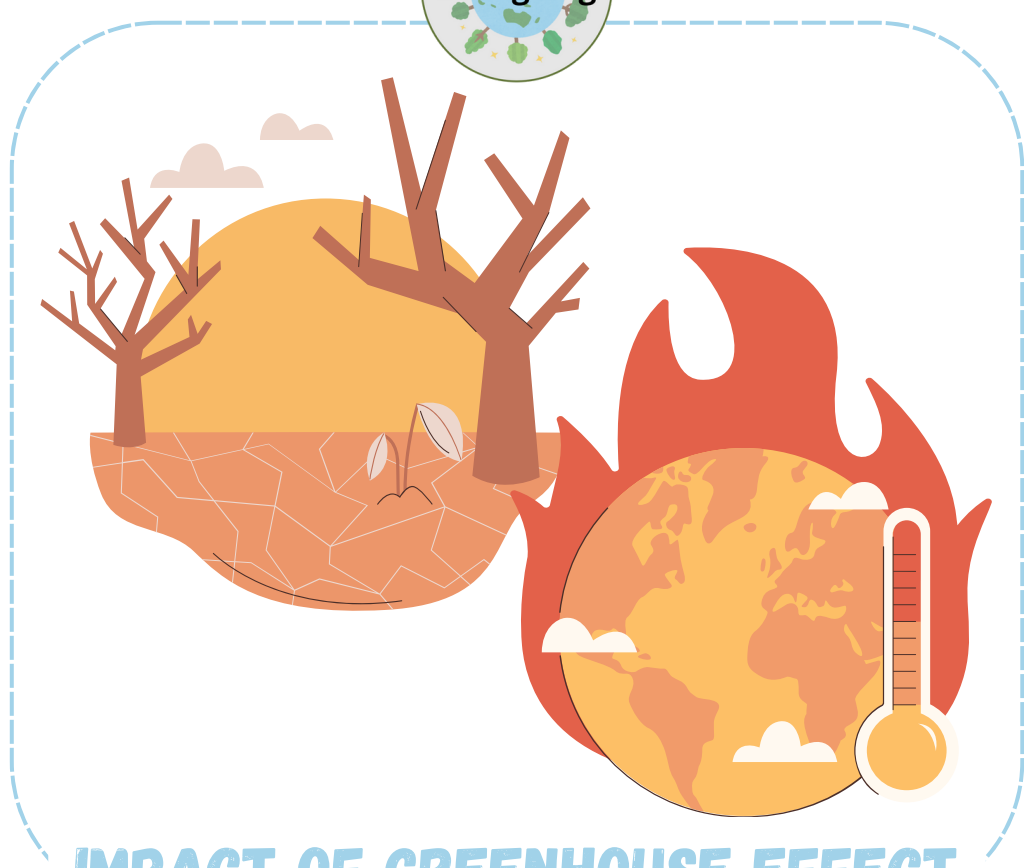


IMPACT OF GREENHOUSE EFFECT

Negative impact on environment



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IMPACT OF GREENHOUSE EFFECT

Extreme weather conditions: record breaking heatwaves, floods and droughts

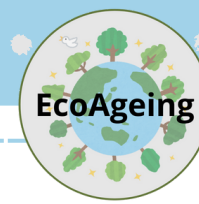


IMPACT OF GREENHOUSE EFFECT

Increased migration due to home regions becoming inhospitable due to extreme weather conditions



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IMPACT OF GREENHOUSE EFFECT

Biodiversity loss



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IMPACT OF GREENHOUSE EFFECT

Effects on human's physical and mental health



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IMPACT OF GREENHOUSE EFFECT

Climate injustice:

Countries in global south who are minor contributors to emissions and global warming bear the most consequences



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SOLUTION APPROACHES

Natural disaster insurances

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SOLUTION APPROACHES

Carbon taxing

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SOLUTION APPROACHES

Climate justice

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Responsibilities of producers for supply chain emissions

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SOLUTION APPROACHES

*Collective action starting with
individuals raising awareness
and driving change*



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