

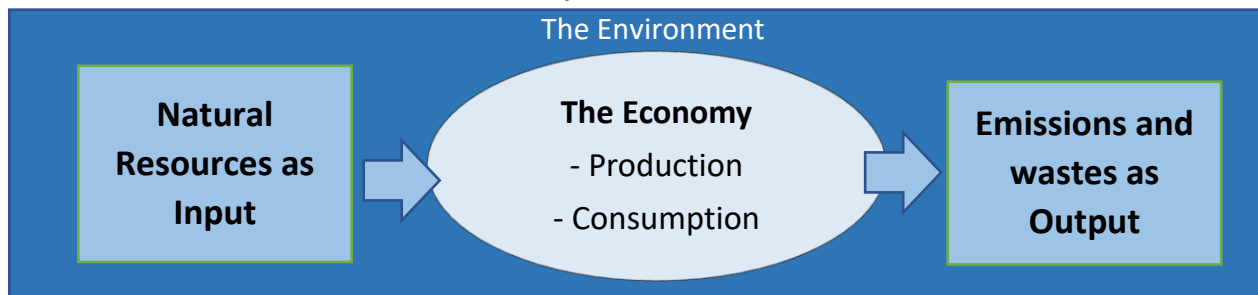
Global Warming Case: The causes and effects

This document collects resources from the website: <https://solarimpulse.com/global-warming-solutions#>

What is the meaning of global warming?

Global warming is a phenomenon of climate change characterized by a general increase in average temperatures of the Earth. It is directly linked to the increase of greenhouse gases in our atmosphere, worsening the greenhouse effect. The Earth is warming up at a steady pace. The reason for this is the increase in human-caused greenhouse gases, which has led to health, ecological and humanitarian crises.

The Economy-Environment interactions



What are the causes of global warming?

The greenhouse effect is a natural phenomenon. However, the increase in greenhouse gases is linked to human activities. It is thus no surprise that the world's leading climate scientists believe that human activities are very likely the main cause of global warming mostly because of:



FOSSIL FUELS

The massive use of fossil fuels is obviously the first source of global warming, as burning coal, oil and gas produces carbon dioxide - the most important greenhouse gas in the atmosphere - as well as nitrous oxide.



DEFORESTATION

The exploitation of forests has a major role in climate change. Trees help regulate the climate by absorbing CO₂ from the atmosphere. When they are cut down, this positive effect is lost and the carbon stored in the trees is released into the atmosphere.



INTENSIVE FARMING

Another cause of global warming is intensive farming, not only with the ever-increasing livestock, but also with plant protection products and fertilizers. In fact, cattle and sheep produce large amounts of methane when digesting their food, while fertilizers produce nitrous oxide emissions.



WASTE DISPOSAL

Waste management methods like landfills and incineration emit greenhouse and toxic gases – including methane – that are released into the atmosphere, soil and waterways, contributing to the increase of the greenhouse effect.



MINING

Modern life is highly dependent on the mining and metallurgical industry. Metals and minerals are the raw materials used in the construction, transportation and manufacturing of goods. From extraction to delivery, this market accounts for 5% of all greenhouse gas emissions.



OVERCONSUMPTION

Finally, overconsumption also plays a major role in climate change. In fact, it is responsible for the overexploitation of natural resources and emissions from international freight transport, which both contribute to global warming.

What are the effects of global warming?

1. On biodiversity

The increase of temperatures and the climate upheavals disturb the ecosystems, modify the conditions and cycles of plant reproduction. The scarcity of resources and climate change are changing life habits and migratory cycles of animals. We are already witnessing the disappearance of many species – including endemic species – or, conversely, the intrusion of invasive species that threaten crops and other animals.

2. On oceans

Because of global warming, permafrost and ice are melting massively at the poles, increasing the sea level at a rate never known before. In a century, the increase reached 18 cm (including 6 cm in the last 20 years). The worst case scenario is a rise of up to 1m by 2100. The acidification of the oceans is also of great concern. In fact, the large amount of CO₂ captured by the oceans makes them more acidic, arousing serious questions about the adaptability of seashells or coral reefs.

3. On humans

Human beings are not spared by these upheavals. Climate change is affecting the global economy. It is already shaking up social, health and geopolitical balances in many parts of the world. The scarcity of resources like food and energy gives rise to new conflicts. Rising sea levels and floods are causing population migration. Small island states are in the front line. The estimated number of climate refugees by 2050 is 250 million people.

4. On the weather

For decades now, meteorologists and climatologists around the world have been watching the effects of global warming on the weather phenomena. And the impact is huge: more droughts and heatwaves, more precipitations, more natural disasters like floods, hurricanes, storms and wildfires, frost-free season, etc.

Note: Check out effects of global warming here: <https://www.youtube.com/watch?v=z6JGEeDrMs8>

What are the ways to reduce global warming (preventions and solutions)?



1. Renewable energies

The first way to prevent climate change is to move away from fossil fuels. What are the alternatives? Renewable energies like solar, wind, biomass and geothermal.



2. Energy & water efficiency

Producing clean energy is essential, but reducing our consumption of energy and water by using more efficient devices (e.g. LED light bulbs, innovative shower systems) is less costly and equally important.



3. Sustainable transportation

Promoting public transportation, carpooling, but also electric and **hydrogen mobility**, can definitely help reduce CO₂ emissions and thus fight global warming.



4. Sustainable infrastructure

In order to reduce the CO₂ emissions from buildings - caused by heating, air conditioning, hot water or lighting - it is necessary both to build new low energy buildings, and to renovate the existing constructions.



5. Sustainable agriculture & forest management

Encouraging better use of natural resources, stopping massive deforestation as well as **making agriculture greener** and more efficient should also be a priority.



6. Responsible consumption & recycling

Adopting responsible consumption habits is crucial, be it regarding food (particularly meat), clothing, cosmetics or cleaning products. Last but not least, recycling is an absolute necessity for dealing with waste.