

# Carbon neutrality

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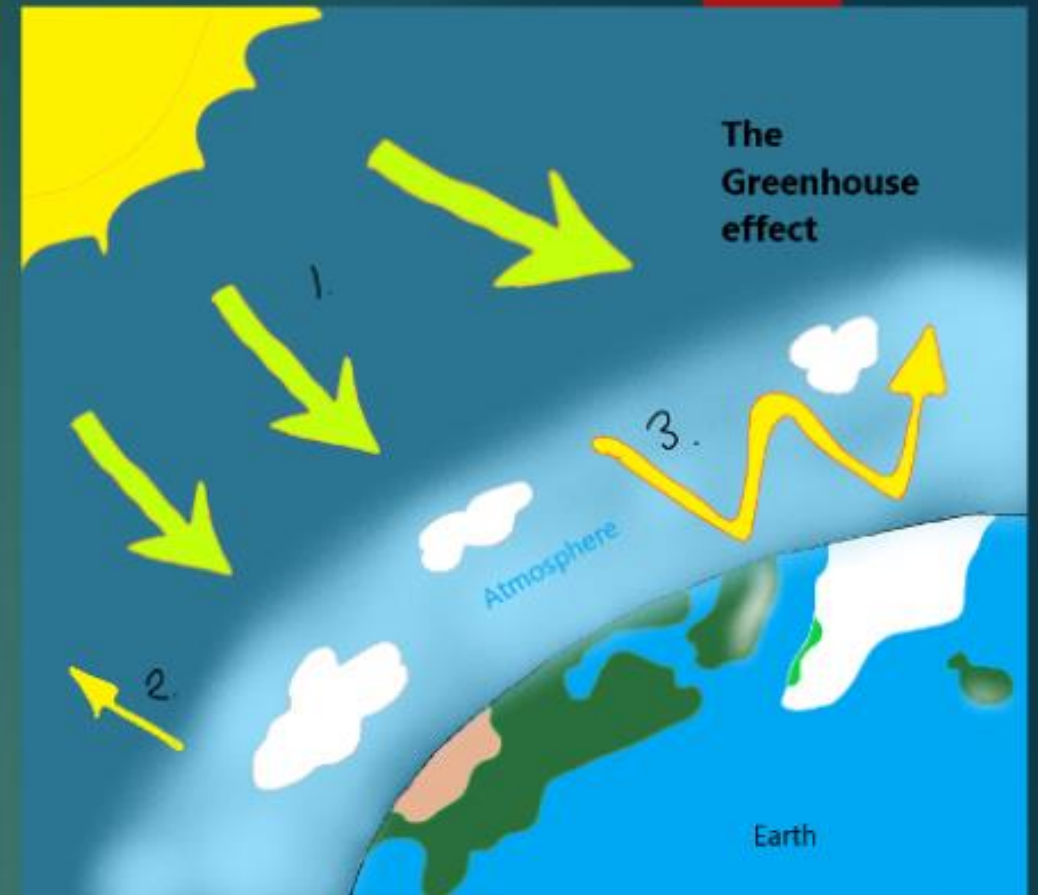


# Carbon dioxide and the greenhouse effect



-Carbon dioxide emissions causes that the heat from sun stays in earths atmosphere.

-Global warming is a consiquence of a too strong greenhouse effect.



Anselmi Ojanen

1. Solar radiation reaches earths atmosphere
2. About half of radiation escapes
3. Another half stays and warms the earth

## United Nations , Agenda 2030

-17 goals

-Many of them are connected with sustainability and climate actions

### Paris agreement

-175 countries have signed it.

-Target is keeping global warming below 2 celcius degrees.

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Some of United Nations' Agenda 2030 goals



PARIS2015  
UN CLIMATE CHANGE CONFERENCE  
COP21-CMP11

# sustainability

Carbon footprint can be reduced with sustainable choices.

Examples:

- Avoid "fast fashion"
- Prefer public transportation
- Eat less meat
- Think what you order

-Transportation, meat production, fashion and packages are some of the most biggest emission sources.



## New innovations lead us closer to carbon neutral future



Airbus reveals plans for hydrogen fuel cell aircraft

Electric regulating force



## Synthetic eFuels Are Coming as Porsche Invests \$75 Million in Maker of the Carbon-Neutral Product



## Pumped-storage plant works at mountains or under ground

Water is pumped uphill when electricity prices are low

1.

2.

During high demand, water runs down the hill and turbine generates electricity

Dam

Storage pool

1.

2.

Turbine also works  
As a pump

Lower pool



How electric regulating force works?

-Pumped-storage plant can be used with carbon neutral energy sources like water- or wind energy.

# Sources



Synthetic eFuels Are Coming as Porsche Invests \$75 Million in Maker of the Carbon-Neutral Product

([caranddriver.com](https://www.caranddriver.com) , read 15.1.2024)

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Suomi tarvitsisi kipeästi sähkön säätövoimaa – professori perää valtiota apuun (Helsingin Sanomat/[hs.fi](https://www.hs.fi) , read 17.1.2024)

The Paris agreement- What is the paris agreement? ([Unfccc.int](https://unfccc.int), read 17.1.2024)