A8-The Role of Fossil Fuels in Climate Change &
Sustainable Green Transportation

HOW YOUNG PEOPLE CAN REDUCE THEIR CARBON FOOTPRINTS



Open discussion & good practices towards a healthier planet for future generations.

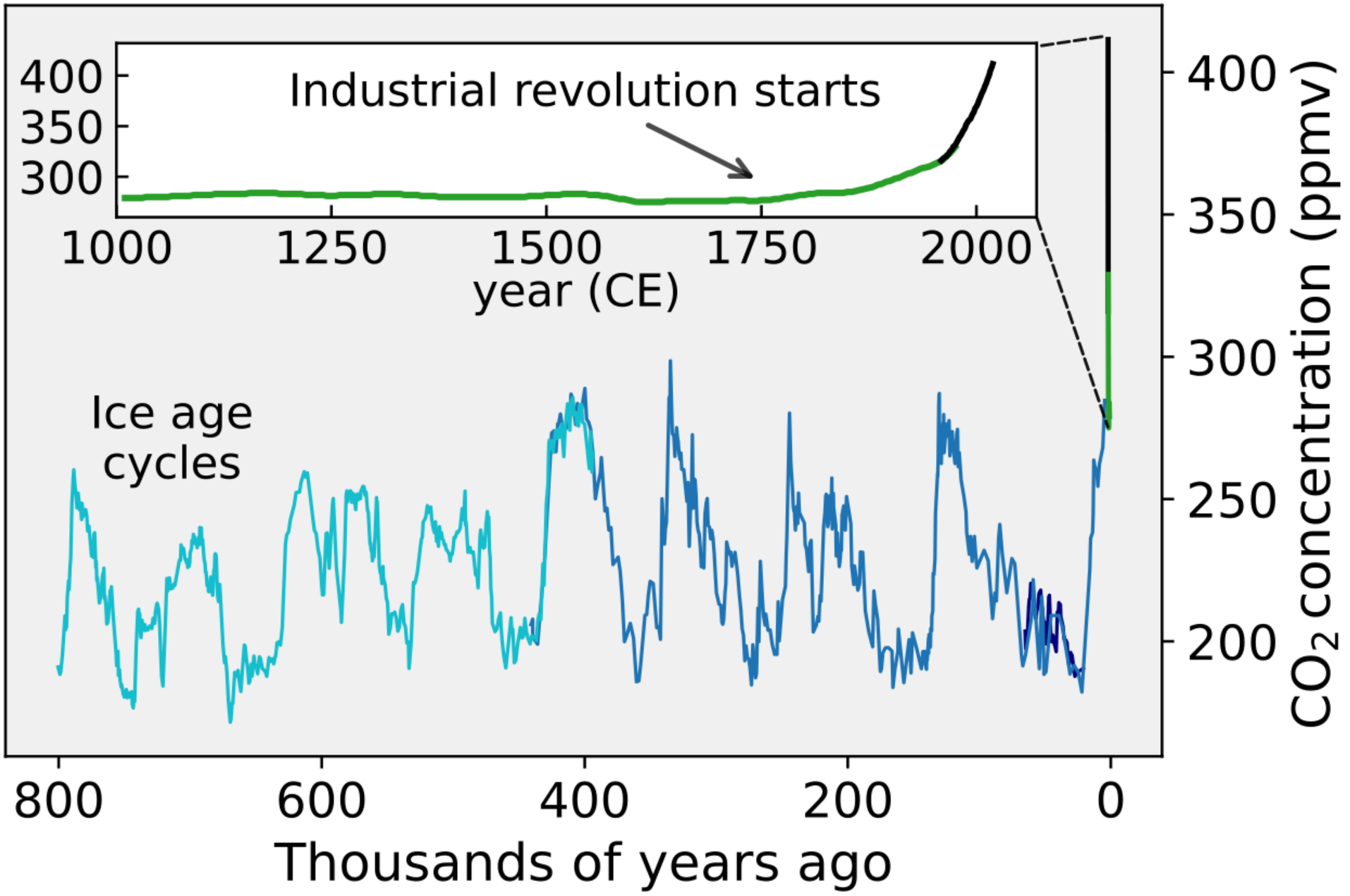
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GREEN PARTICIPATION
GREEN EUROPE


Industrial revolution starts
400
350
300
1000
1250
1500
1750
2000
year (CE)
Ice age
cycles
800
600
400
200
0
Thousands of years ago
400
350
300
250
200
CO_2 concentration (ppmv)

What Is Carbon Footprint?

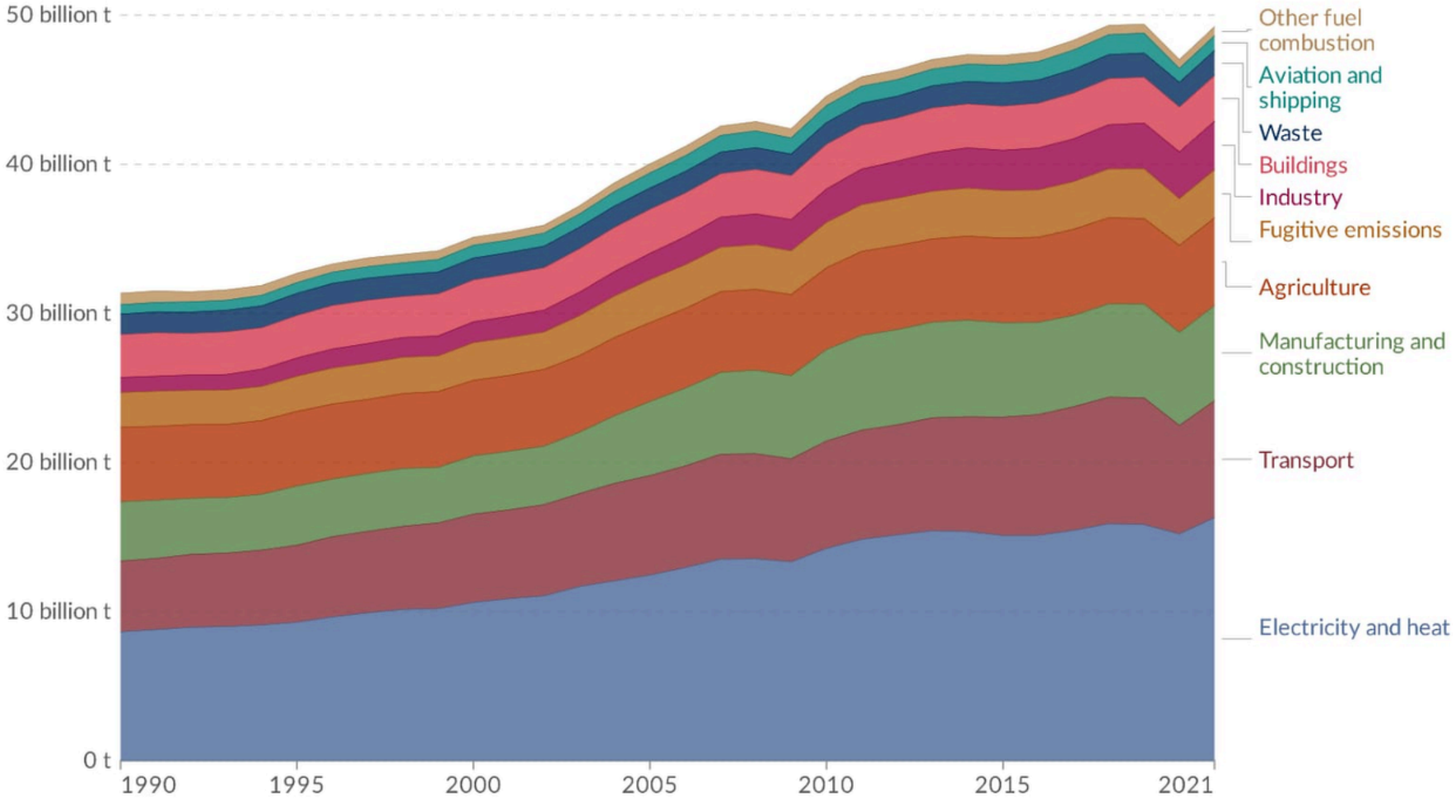
- A carbon footprint is the total amount of greenhouse gases emitted directly or indirectly by individuals, organizations, or products.
- Our daily choices—transportation, food, energy use—have a direct impact.
- Young people have the power to lead change both individually and collectively.



Greenhouse gas emissions by sector, World, 1990 to 2021

Our World in Data

Greenhouse gas emissions[1] are measured in tonnes of carbon dioxide-equivalents[2] over a 100-year timescale. Land-use change emissions are not included.



Data source: Climate Watch (2024)

OurWorldinData.org/co2-and-greenhouse-gas-emissions | CC BY

1. **Greenhouse gas emissions**: A greenhouse gas (GHG) is a gas that causes the atmosphere to warm by absorbing and emitting radiant energy. Greenhouse gases absorb radiation that is radiated by Earth, preventing this heat from escaping to space. Carbon dioxide (CO_2) is the most well-known greenhouse gas, but there are others including methane, nitrous oxide, and in fact, water vapor. Human-made emissions of greenhouse gases from fossil fuels, industry, and agriculture are the leading cause of global climate change. Greenhouse gas emissions measure the total amount of all greenhouse gases that are emitted. These are often quantified in carbon dioxide equivalents (CO_2eq) which take account of the amount of warming that each molecule of different gases creates.

2. **Carbon dioxide equivalents (CO_2eq)**: Carbon dioxide is the most important greenhouse gas, but not the only one. To capture all greenhouse gas emissions, researchers express them in "carbon dioxide equivalents" (CO_2eq). This takes all greenhouse gases into account, not just CO_2. To express all greenhouse gases in carbon dioxide equivalents (CO_2eq), each one is weighted by its global warming potential (GWP) value. GWP measures the amount of warming a gas creates compared to CO_2. CO_2 is given a GWP value of one. If a gas had a GWP of 10 then one kilogram of that gas would generate ten times the warming effect as one kilogram of CO_2. Carbon dioxide equivalents are calculated for each gas by multiplying the mass of emissions of a specific greenhouse gas by its GWP factor. This warming can be stated over different timescales. To calculate CO_2eq over 100 years, we'd multiply each gas by its GWP over a 100-year timescale (GWP100). Total greenhouse gas emissions – measured in CO_2eq – are then calculated by summing each gas' CO_2eq value.

Source of the visual: Climate Watch (2024) – with major processing by Our World in Data. "Other fuel combustion" [dataset]. Climate Watch, "Greenhouse gas emissions by sector" [original data].

What Can Young People Do?



- Do you think young people are aware enough about climate issues?
- What habits have you changed (or plan to change) to reduce your carbon footprint?
- Can social media be a powerful tool to raise environmental awareness?

Good Practices:

Inspiring Individual Actions

Cycling & Public Transport

- Reducing emissions by choosing eco-friendly transportation over private cars.



Plant-Based Diets

- Cutting down on meat and dairy can significantly lower your carbon footprint.



Energy Saving

- Using LED lights, unplugging devices, saving water—small actions with big effects.



Zero Waste & Recycling

- Avoiding single-use plastics, reusing materials, supporting circular economy habits.



Social Media Activism

- Using platforms to spread awareness, organize campaigns, and inspire others.



Footprint Test

https://pslifestyle-app.net/test

Group Involvement: Your Examples

- What actions have you personally adopted?
- How do you influence your surroundings and peers?



Conclusion: Change Starts With Youth

- Tackling the climate crisis requires action at every level.
- Small daily choices make a big difference over time.
- Remember: “If you are not part of the solution, you are part of the problem.”









THANK YOU

