

Plastics And Climate

Carbon bombing through and through

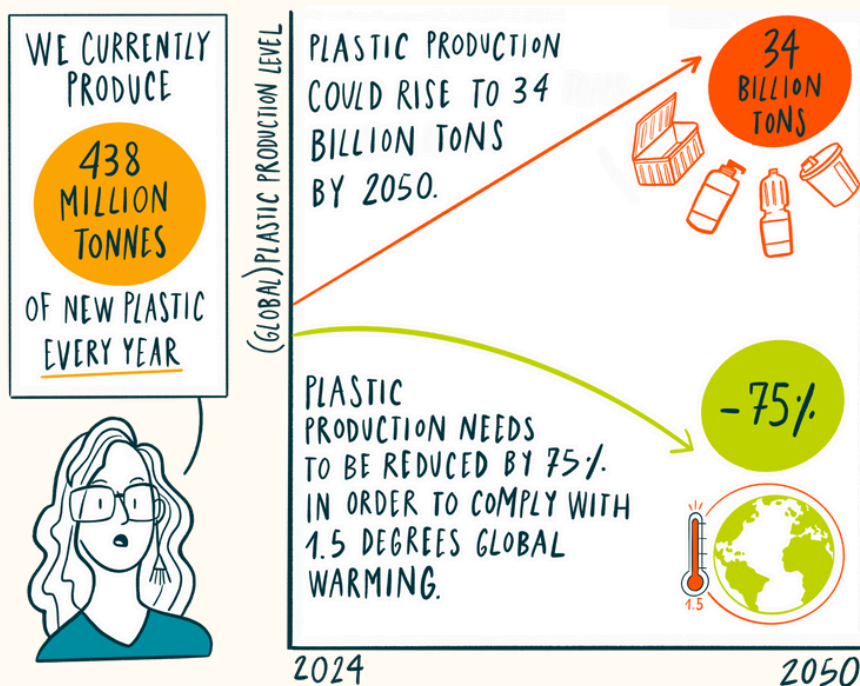


Treating plastic waste is an energy-intensive process, creating 193 Mt CO₂e (carbon dioxide equivalent) tonnes of greenhouse gas (GHG) emissions per year. That's more than the annual emissions of two Belgiums! These emissions are projected to increase despite improvements in waste management. But plastics don't only create emissions at the end of their life. Plastic is created from oil and gas and 90% of GHG emissions actually occur at the production stage.

Plastic and climate

Plastics production, use, and disposal releases significant amounts of GHG emissions which contribute to climate change. Ever since the plastics boom in the 1960s, plastic has replaced glass in packaging, the metal in cars, and the cotton in our clothes. In 2019, plastic production and incineration resulted in GHG emissions equal to the emissions of 189 five hundred-megawatt coal power plants!

Today, we manufacture around 438 million tonnes of new plastic every year. With no slowdown in sight, this number is projected to increase to 34 billion tons by 2050. This is equivalent to the emissions that would be caused by more than 42.000 coal fired power plants over one single year.



Petrochemicals, which are the building blocks for making plastics, are the largest contributor to the rise in oil and gas demand. According to recent estimates, plastic production needs to be reduced by 75% in order to fit a Paris compliant/ carbon budget with a 1.5° warming trajectory. The UN Environment Programme estimates that the greenhouse gas emissions from plastic production, use and disposal could account for 19% of the total global carbon budget by 2040.

From the extraction of fossil resources such as coal, oil and gas and the refinement and conversion of these resources into petrochemicals, through to the manufacturing of plastics and their use and disposal, plastics emit greenhouse gas emissions from cradle to grave. Therefore, tackling plastics production and consumption is as important to address climate change as it is to halt fossil fuel use.

What does it mean for Europeans?

Extreme weather events such as the regular droughts in Southern Europe and the resulting worsening of water stress in these regions are one of the symptoms of devastating effects of climate change Europeans are already experiencing today. Spain's droughts in 2023 ranked among the 10 most costly climate disasters in the world (see Christian Aid report). With 3°C global warming in 2100, 90,000 Europeans could die from extreme heat annually. Recent floodings in Belgium, France, Germany and the Netherlands are also a direct result of changes in weather patterns as a result of climate change. If the climate emergency is not stabilised, these events will only worsen and affect Europeans' homes and livelihoods. Further impacts related to climate change affecting future generations of Europeans include alterations to water and food systems, as well as changes in the environmental suitability for infectious diseases - the French panic during the summer around the presence of bedbugs in the Paris metro could become less than anecdotal in the coming years.

The 2022 Eurobarometer survey highlighted that more than one in four European Union citizens think climate change is the most important issue facing the EU. Tackling plastics production is the most effective way to mitigate the effects of current and future climate change.

“To mitigate the climate, environmental and health impacts of plastic pollution, we must turn off the tap and eliminate plastic pollution at its source, not only cutting down its use at an individual level but cutting down its overall production.” (UNDP)



Resources to go further

[Plastic and Climate: the hidden costs of a plastic planet](#) - CIEL (2019)

[Plastics and the Environment](#) - Geneva Environment Network

[Once Seen as Industry Savior, Petrochemicals Losing Financial Appeal](#) - IEEFA (2024)

[Climate Change Impacts of Plastics](#) - Scientists coalition for an effective plastics treaty

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Find out more at www.breakfreefromplastic.org/plastics-and-EU

