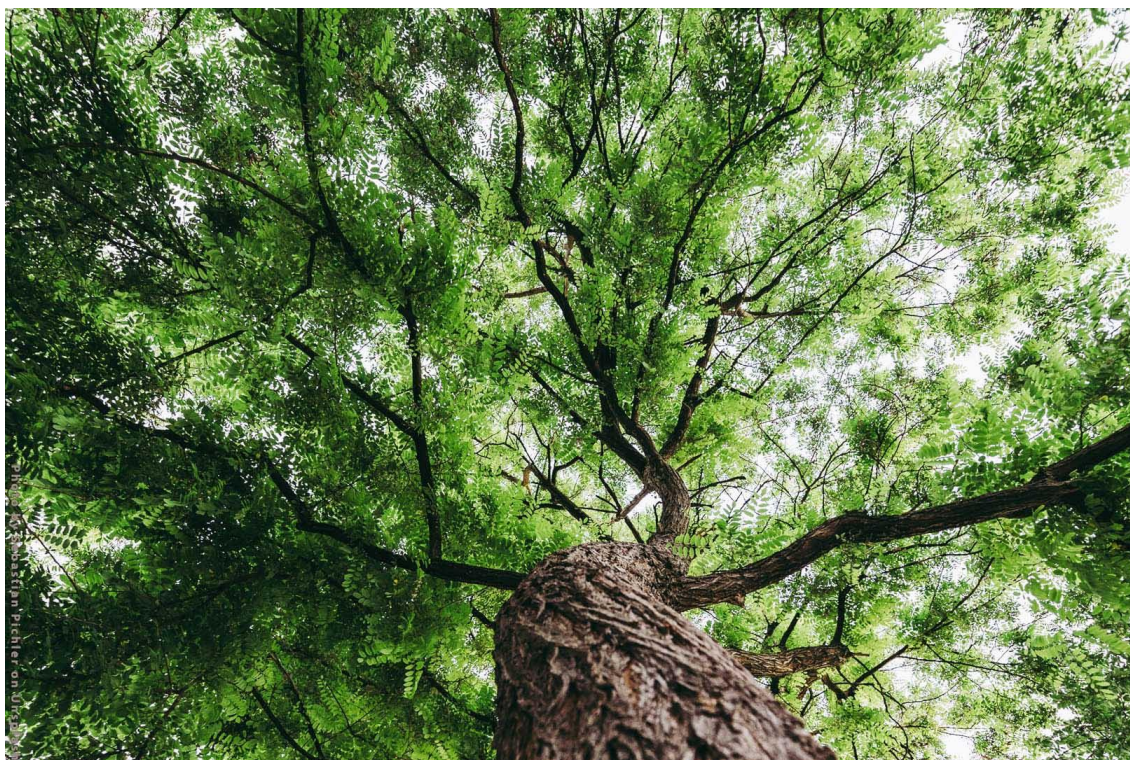


What is carbon neutrality and how can it be achieved by 2050?



Forests help to absorb carbon from the atmosphere. Photo by Sebastian Pichler on Unsplash

Under the Paris agreement, the EU has committed to carbon neutrality by the second half of the 21st century. What does it mean in practice?

[Climate change is already affecting the entire world](#), with extreme weather conditions such as drought, heat waves, [heavy rain, floods](#) and landslides becoming more frequent, including in Europe. Other consequences of the rapidly changing climate include rising sea levels, ocean acidification and loss of biodiversity.

In order to limit global warming to 1.5 degrees Celsius – a threshold the Intergovernmental Panel for Climate Change (IPCC) suggests is safe – **carbon neutrality by mid-21st century** is

essential. This target is also laid down in the [Paris agreement](#) signed by 195 countries, including the EU.

Paris agreement aims

- Reach global peaking of greenhouse gas emissions as soon as possible
- Undertake rapid reductions

What is carbon neutrality?

Carbon neutrality means having a balance between emitting carbon and absorbing carbon from the atmosphere in **carbon sinks**. Removing carbon oxide from the atmosphere and then storing it is known as carbon sequestration. In order to achieve net zero emissions, all worldwide greenhouse gas emissions will have to be counterbalanced by carbon sequestration.

Carbon sink is any system that absorbs more carbon than it emits. The main natural carbon sinks are soil, [forests](#) and oceans. According to estimates, natural sinks remove [between 9.5 and 11 Gt of CO₂ per year](#). Annual global CO₂ emissions reached [37.1 Gt](#) in 2017.

To date, no artificial carbon sinks are able to remove carbon from the atmosphere on the necessary scale to fight global warming.

The carbon stored in natural sinks such as forests is released into the atmosphere through forest fires, changes in land use or logging. This is why it is essential to [reduce carbon emissions](#) in order to reach climate neutrality.

Carbon offsetting

Another way to reduce emissions and to pursue carbon neutrality is to offset emissions made in one sector by reducing them somewhere else. This can be done through investment in [renewable energy](#), [energy efficiency](#) or other clean, low-carbon technologies. The EU's [emissions trading system \(ETS\)](#) is an example of a carbon offsetting system.

EU goals

The EU is committed to an ambitious climate policy. Its current target is to **reduce greenhouse gas emissions 40% by 2030** compared to 1990 levels.

In November 2018, the European Commission presented a [long-term strategy for the EU to achieve a climate-neutral economy](#) by 2050 and in June 2019, EU leaders [called](#) on EU countries and the Commission “to advance work [...] so as to ensure a transition to a climate-neutral EU in line with the Paris Agreement”.

In a [resolution](#) from March 2019, the European Parliament asked for more ambitious emission reduction target for 2030 in order to reach the goal of carbon neutrality by 2050.

Currently **three EU countries** have set the target of climate neutrality in law: Sweden aims to reach net-zero emissions by 2045, and France and the UK by 2050.

Find out more about how the EU helps to reduce CO2 emissions

[National targets for 2030](#)

[CO2 targets for cars](#)

[CO2 emissions from cars: facts and figures \(infographic\)](#)

[Infographic: timeline of climate change negotiations](#)

Find out more

[European Council press release: A new strategic agenda 2019-2024](#)

[The European Commission calls for a climate neutral Europe by 2050](#)

[Press release: Parliament's blueprint for long-term CO2 cuts](#)