Press release: Embargoed until 01:00 GMT on Tuesday 10 November 2026

Fossil CO_2 emissions decrease in 2026

Global carbon emissions from fossil fuels are projected to decrease by 0.4% in 2026 – driven by expansion of solar and wind power and the Iran conflict – according to new research by the Global Carbon Project.

The 2026 Global Carbon Budget projects 38.2 billion tonnes of fossil carbon dioxide (CO_2) emissions this year.

Emissions from oil are projected to decrease by 1.9% – likely a short-term response to the energy shock triggered by the Iran conflict.

While global energy demand continues to rise, two thirds of the increase is being met by increased solar and wind power and electric vehicles.

However, the report finds that clean energy growth is not yet fast enough for a durable decline in global fossil CO_2 emissions.

With emissions from land-use change (such as deforestation) projected to increase slightly this year, total CO_2 emissions are projected to be 43.3 billion tonnes in 2026 – up from 42.8 billion tonnes last year.

The remaining carbon budget (the amount of CO_2 that can be emitted before warming reaches 1.5°C above pre-industrial levels) is now 150 billion tonnes – equivalent to less than four years of emissions at the current rate.

With CO_2 still rapidly accumulating in the atmosphere, the dangerous impacts of climate change continue to increase.

The report also assesses natural "sinks" (absorption of CO_2 by land and ocean). It finds that the land sink returned to former levels after a severe weakening during the 2023-24 El Niño weather pattern.

However, the powerful 2026 El Niño is expected to have a significant impact in the coming year.

The research team included the University of Exeter, the University of East Anglia (UEA), CICERO Center for International Climate Research, Ludwig-Maximilian-University Munich (LMU), Alfred-Wegener-Institut and more than 90 other institutions around the world.

"A decline in fossil CO_2 emissions is encouraging, but a reduction driven partly by geopolitical shocks is not a sustainable climate solution." said Professor Pierre Friedlingstein, director of the Global Carbon Budget Office at the University of Exeter's, who led the study. "The long-term answer remains the rapid deployment of clean

energy technologies. While renewables and electric vehicles are increasingly offsetting growth in energy demand, further acceleration is needed if global emissions are to peak and enter a sustained decline."

Professor Corinne Le Quéré, Royal Society Research Professor at UEA's School of Environmental Sciences, said: "Clean technologies are making a real difference in reducing global emissions. Solar and wind power and electric vehicles are expanding rapidly, led by China. Countries on every continent are decreasing their emissions while growing their economies. A further acceleration could turn the tide on global emissions within a few years."

Glen Peters, Research Professor at the CICERO Center for International Climate Research, said: "A drop in emissions in one year is not a peak unless it is driven by structural change. Accelerated deployment of solar, wind, batteries, and electric vehicles are pushing emissions down in dozens of countries, and slowing emissions growth in many more, but the changes are not sufficient to lock in a peak in global emissions".

Professor Julia Pongratz, at LMU's Department of Geography, said: "Alongside reducing emissions, we need to scale up CO_2 removal to reach greenhouse gas neutrality. Afforestation and reforestation already remove substantial amounts of CO_2, but these gains are still more than offset by emissions from deforestation, and novel carbon removal remains very limited. We need to act on all these fronts now."

Other key findings from the 2026 Global Carbon Budget include:

- **China's** emissions in 2026 are projected to decrease by 0.9%, following two years of low emissions growth. In addition to a strong decrease in oil emissions, coal emissions rose slightly (0.3%) and electricity generation from renewables continues to grow strongly.
- While China produces **32% of global fossil emissions**, it is also the country **most active in deploying clean technologies and increasing carbon sinks** through reforestation. Half of the global emissions avoided due to renewable energy and electric vehicles are in China, which also has the largest carbon uptake through reforestation and afforestation (new forests).
- The **USA's** emissions are projected to decrease by 1.3%, mainly due to a decrease in coal emissions (which spiked last year due to high natural gas prices and cold weather).
- **India's** emissions are projected to increase by 4.4% – higher than the 3.5% average annual growth over the last decade.
- **European Union** emissions are projected to decrease by 1.5%.
- **Japan**'s emissions are projected to decrease by 1%.

- Emissions for the **rest of the world** are projected to decrease by 0.7%. The largest component of the decline is in oil, likely driven by increased prices and global supply constraints.
- Projected 2026 emissions for the different fossil fuels are: **oil** down 1.9%, **natural gas** down 0.3%, **coal** up 0.6%.
- Emissions from **international aviation** and **international shipping** are both projected to decrease by 1%. Aviation's decline is partly due to reduced activity in the Middle East.
- Global CO_2 emissions from **land-use change** have decreased in the past decade but are projected to rise this year to 5.1 billion tonnes. This is driven by an increase in emissions from peat fires (almost entirely ignited by human activities) and forest degradation in Southeast Asia, associated with drier conditions linked to the onset of El Niño conditions.
- **Total CO_2 emissions** – the sum of fossil and land-use change emissions – have grown more slowly in the past decade (0.3% per year), compared to the previous decade (1.7% per year).
- Emissions from permanent **deforestation** remain high at around 3.8 billion tonnes of CO_2 per year over 2016-25. Permanent removals through **reforestation and afforestation** offset around half of the permanent deforestation emissions.
- The largest carbon uptake through re/afforestations occurs in **China, the EU27 and the USA**, with combined removals 0.8 billion tonnes CO_2 per year. Substantial uptake through re/afforestation also occurs in other regions such as **Brazil, Russia and Indonesia** – but here it is outweighed by emissions from deforestation.
- Current levels of novel **Carbon Dioxide Removal** (excluding conventional means such as reforestation) currently offset less than 30 minutes of annual fossil CO_2 emissions.
- The **concentration of CO_2 in the atmosphere** is set to reach 427.7 ppm in 2026, 54% above pre-industrial levels.

An accompanying analysis by the authors, which is in press in a separate peer-reviewed journal, found that:

- With global energy demand growing, new emissions can be prevented (or "offset") by simultaneous growth in clean energy. The paper makes a projection from now to the end of 2028, finding that 64-79% of emissions from new demand will be offset by new solar and wind power and electric vehicles.
- The number of countries reducing their emissions while growing their economies is clearly increasing: 59 countries emitted less in 2025 than before the COVID-19 pandemic in 2019, while their economies grew.

- Even in countries where total emissions increased over the 2019-25 period, growth in emissions has slowed in all regions including in China, India and other emerging economies.
- The effect of electric vehicles is growing rapidly but remains small because the vehicle stock takes time to be replaced, with only about 10% of the car fleet electrified in 2025 (or 6% excluding hybrids).
- Emissions avoided by solar and wind power rose from 0.28 billion tonnes in 2010 to 4.1 billion tonnes in 2025, and a projected 4.6 billion tonnes in 2026.
- The authors conclude that: "If further acceleration of clean technology deployment can be supported through time, a sustained peak and decline in global CO_2 emissions could be a few years away."

The Global Carbon Budget report, produced by an international team of more than 140 scientists, provides an annual, peer-reviewed update, building on established methodologies in a fully transparent manner.

The 2026 edition (the 21st annual report) is published in the journal *Earth System Science Data* on November 10 as a pre-print, and later as a peer-reviewed paper.

Ends

Interviews

The following speakers are available for interview (names in italic will be at COP31): *Pierre Friedlingstein, Corinne Le Quéré, Mike O'Sullivan*, Julia Pongratz, Glen Peters, Stephen Sitch, Thais Rosan, Matt Jones, Judith Hauck, Philippe Ciais.

To request interviews or further information, please contact Alex Morrison in the University of Exeter press office: pressoffice@exeter.ac.uk or +44 7825 770679.

Data Availability:

All material, including a more detailed key messages document, publications, data and figures, are available under embargo on the following link: https://drive.google.com/drive/folders/18Y7QmmfngixnlD1kttBCX8JtuvWMbTOC?usp=sharing

Events at COP31:

- Monday 9 November, 18:30-20:00 Turkey time (15:30-17:00 GMT), Side Event Room 9 – SAFRANBOLU, UN Side Event. Climate action: Where are we? Earth Observation, Global Carbon Budget (GCB) & Global Goal on Adaptation Indicators (GGA). Speakers include Corinne Le Quéré.
- Tuesday 10 November, 10:00-10:30 Turkey time (07:00-7.30 GMT), Press Conference Room 2, Area D4. University of Exeter press conference: Launch of the Global Carbon Budget 2026 Report. Speakers: Corinne Le Quéré, Pierre

Friedlingstein and Mike O'Sullivan. Watch online at: https://unfccc.int/event/university-of-exeter-uoe-launch-of-the-global-carbon-budget-2026-report

- Thursday 12 November, 09:30-10:30 Turkey time (06:30-07:30 GMT). Global Futures Pavilion. The Global Carbon Budget 2026: We Choose the Future They Inherit. Speakers: Pierre Friedlingstein, Corinne Le Quéré, Mike O'Sullivan. Chair: Amanda Ellis.
- Thursday 12 November, 14:00-15:00 Turkey time (11:00-12:00 GMT). Coalition for Rainforest Nations (CfRN) Pavilion. The Global Carbon Budget 2026. Speakers: Pierre Friedlingstein; Mike O'Sullivan; Corinne Le Quéré.

Online media briefings:

- Friday 6 November, 09:30 CET (08.30 GMT): French press briefing. Contact florence.bardin@agencef.com
- Friday 6 November, 10:00 CET (09:00 GMT): Spanish Science Media Centre briefing. Contact: laura.chaparro@fecyt.es
- Friday 6 November, 10.30 GMT: UK Science Media Centre briefing. Contact: smc@sciencemediacentre.org
- Friday 6 November 13:30 CET (12:30 GMT): German Science Media Centre briefing. Contact: Silvio.Wenzel@sciencemediacenter.de

Link to paper:

Once published, the *ESSD* paper will be available at: https://essd.copernicus.org/preprints/essd-2026-895