GHG Emissions

Recent developments and Outlook

38.1 $GtCO_2$ IN 2025: FOSSIL EMISSIONS HIT ANOTHER RECORD HIGH

38.1

$GtCO_2$

Fossil emissions

+1.1% vs 2024

42.2

$GtCO_2$

Total anthropogenic

incl. LULUCF

425.7

ppm

Atmospheric CO_2

+53% vs pre-industrial

170

$GtCO_2$

1.5°C budget remaining

≈ 4 years at current rate

Temperatures

2025: +1.47°C (3rd warmest year on record)
2023–2025 average: 1.52°C (exceeds 1.5°C for the 1st time)
Sustained 1.5°C breach projected by 2029

Carbon sinks

Ocean: 29% absorbed (revised upward)
Land: 21% absorbed (revised downward)
Efficiency reduced by ~20% due to warming

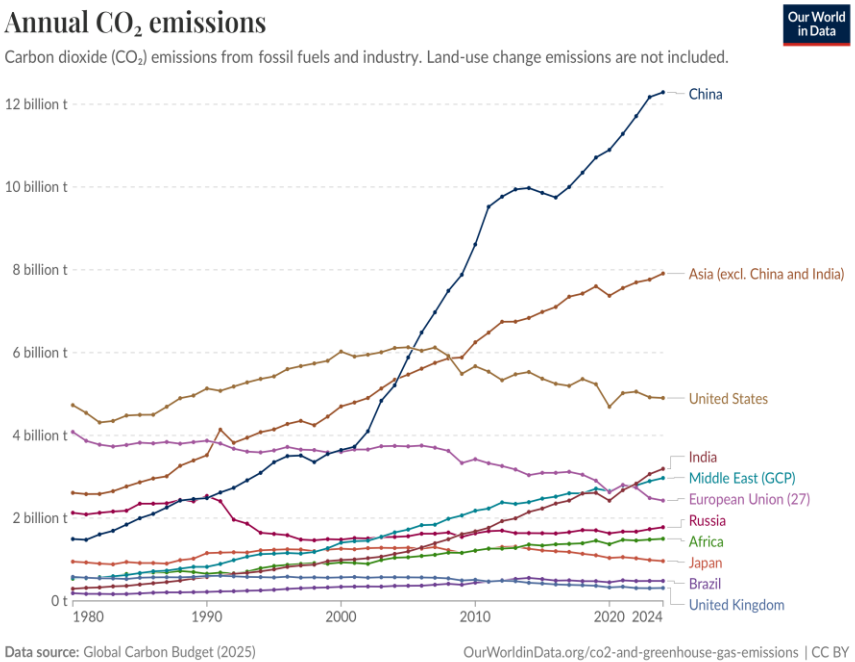
DIVERGING TRAJECTORIES: CHINA SLOWS, THE US REBOUNDS

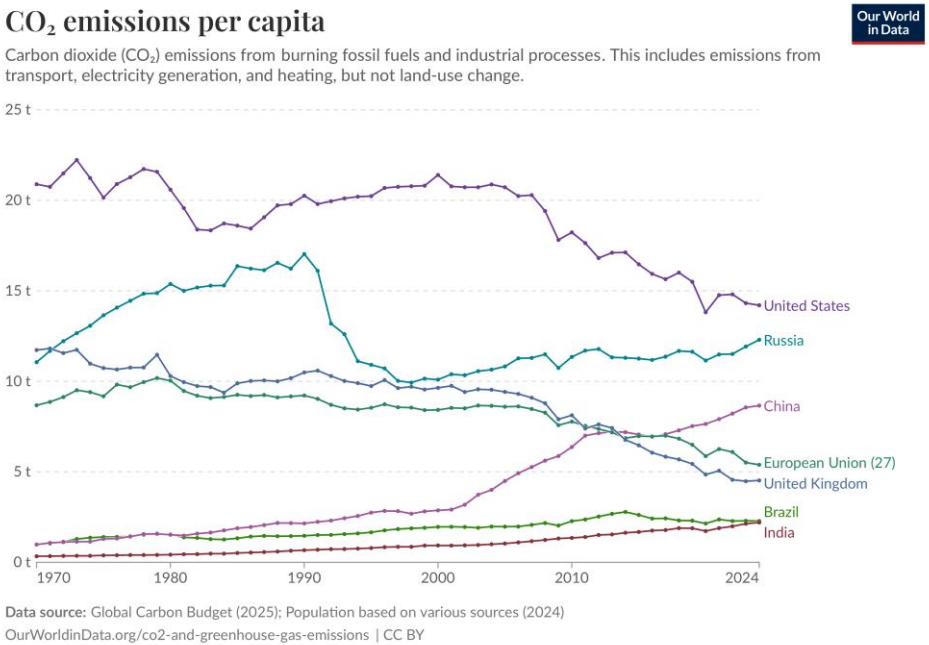
Region	$GtCO_2$	Share (%)	Δ 2025	Prior trend	tCO_2/cap.
China	12.3	32%	+0.4%	+2.5%/yr	8.6
United States	4.9	13%	+1.9%	Declining	14.2
India	3.2	8%	+1.4%	+3.6%/yr	2.2
EU-27	2.4	6%	+0.4%	−2.5%/yr	5.4
Japan	~1.0	2.5%	−2.2%	Declining	7.8
Rest of world	~14.3	38%	+1.1%	Growing	Var.
Int. aviation	—	—	+6.8%	Post-COVID recovery	—
World	38.1	100%	+1.1%	Record high	4.8

Source: Global Carbon Budget 2025 (Friedlingstein et al.) — 2025 projections

35 countries decoupled emissions from GDP (2015–2024), up from 18 in 2005–2014 → 27% of global emissions

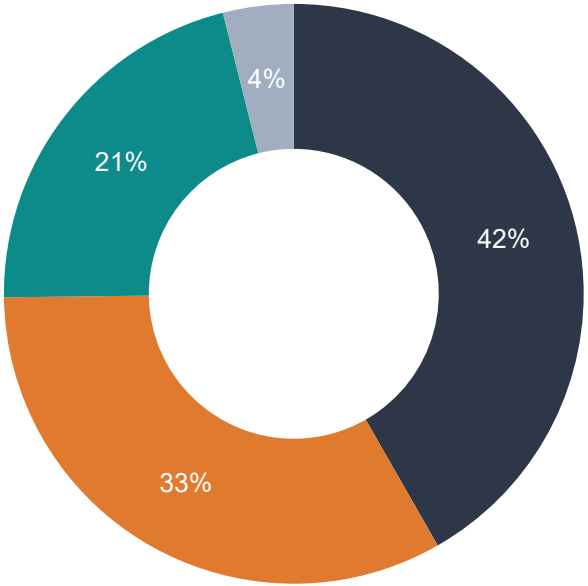
DEVELOPED COUNTRIES DECARBONIZING TOO SLOWLY TO COUNTERBALANCE GLOBAL DEVELOPMENT





LES ATELIERS DU FUTUR

ALL FOSSIL FUELS STILL GROWING — GAS LEADS THE RISE



Coal — **15.9 $GtCO_2$** — **+0.8%**

USA +7.5% · India +1.7% · China stagnant · EU declining

Oil — **12.6 $GtCO_2$** — **+1.0%**

Aviation recovery (+6.8% int.) · All regions increasing

Natural gas — **8.1 $GtCO_2$** — **+1.3%**

Fastest relative growth · Up in China, USA, EU · Down in India

Cement — **1.5 $GtCO_2$** — **+0.5%**

India +9.9% · China −2.8% · USA −8.0% · EU −4.1%

NATURE ABSORBS HALF, BUT THE SINKS ARE STALLING

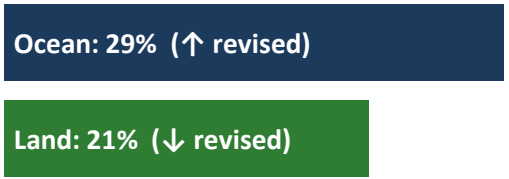
Land-use change emissions

5.0 $GtCO_2$/yr

average 2015–2024

2025 (prelim.): 4.1 $GtCO_2$
Permanent deforestation: ~3.9 $GtCO_2$/yr
Reforestation/regrowth: −2.2 $GtCO_2$/yr
Brazil + Indonesia + DRC = 57%
China + USA + EU = net sink (0.9 $GtCO_2$/yr)

Major carbon sink revision



Total absorbed ≈ 50% of anthropic emissions

Both sinks are stalling:
Ocean since 2016, land since 2000

Efficiency reduced ~20% by climate change
Tropical forests (SE Asia, S. America): shifting from sinks to net sources

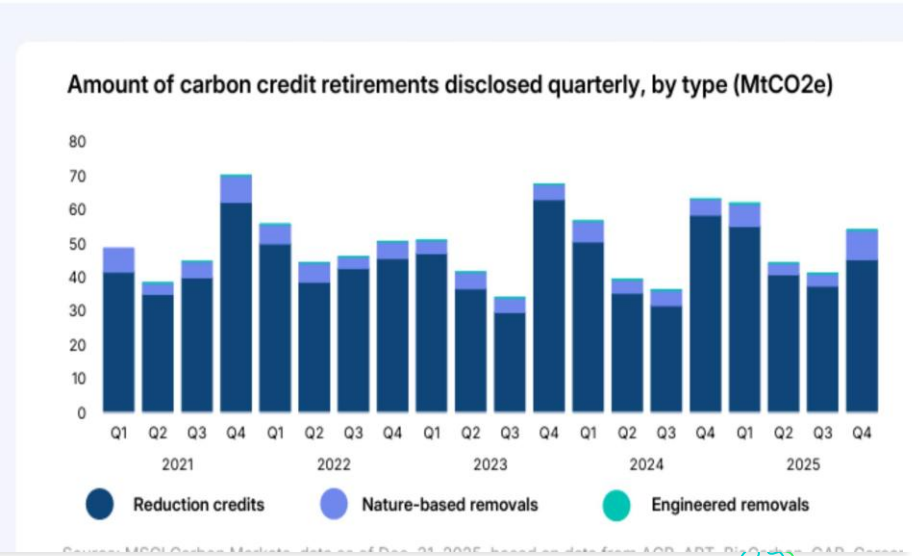
Source: Global Carbon Budget 2025 — Revised historical estimates

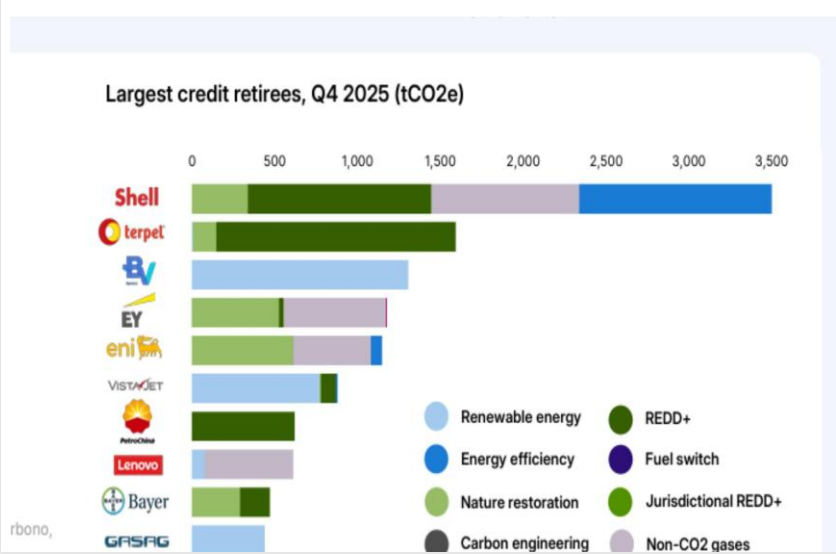
CARBON CREDITS: 202 $MtCO_2e$ RETIRED IN 2025 — LESS THAN 0.5% OF EMISSIONS

202 $MtCO_2e$

Highest total since 2021 | 4th consecutive year of growth

But only 0.5% of the 42.2 $GtCO_2$ emitted annually





Source: MSCI Carbon Markets, data as of Dec. 31, 2025 (ACR, ART, BioCarbon, CAR, Cercarbono, Climate Forward, CDM, GCC, Gold Standard, Plan Vivo, Puro Earth, Verra)

FOUR YEARS OF CARBON BUDGET LEFT AT CURRENT PACE

1.5°C carbon budget

170 $GtCO_2$ remaining ≈ 4 years at current rate. Could be exhausted by 2029.

Natural sinks

Stalling ocean (since 2016) and land (since 2000) sinks. Combined efficiency reduced by 20%.

1.5°C threshold

Sustained breach projected by 2029 if current warming rate (0.25°C/decade) persists.

Radically more ambitious NDCs required

Emissions reduction is technically feasible — the scale and speed must be unprecedented. 35 countries already decoupling prove it's feasible.