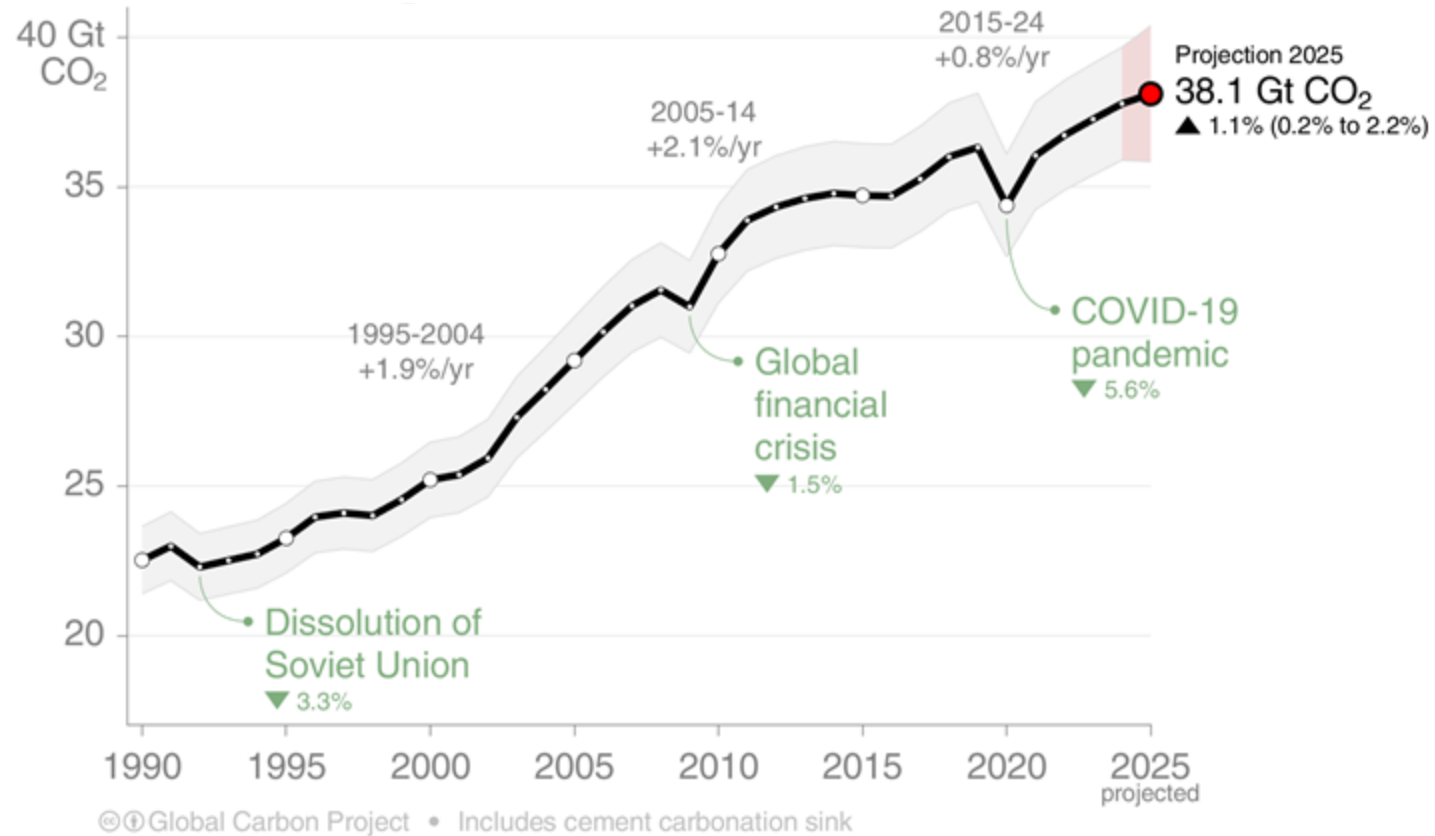


Progress in reducing CO₂ emissions

Corinne Le Quéré
University of East Anglia

Recent trends in CO₂ emissions

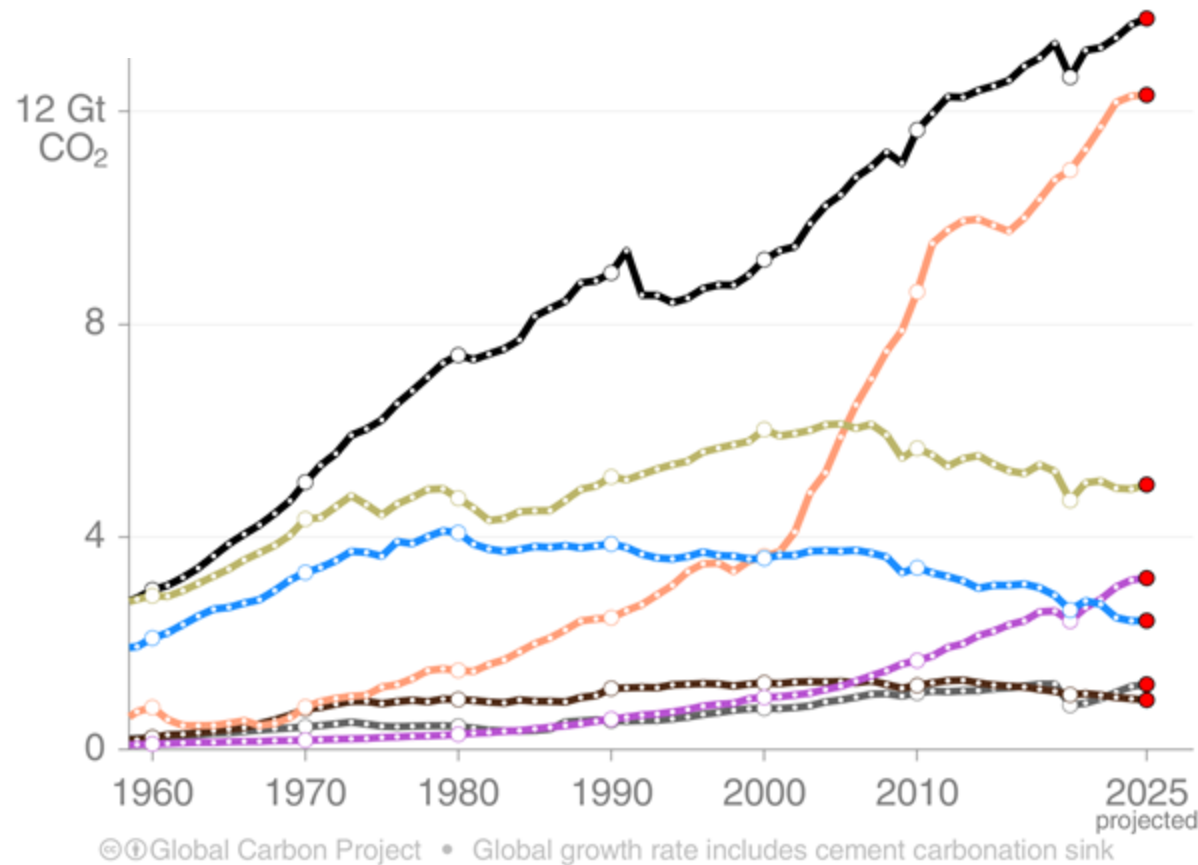
Global fossil CO₂ emissions



Fossil fuel CO₂ emissions continued to grow in 2025, partly due to cold winters in the US and Europe

Recent trends in CO₂ emissions

Regional fossil CO₂ emissions

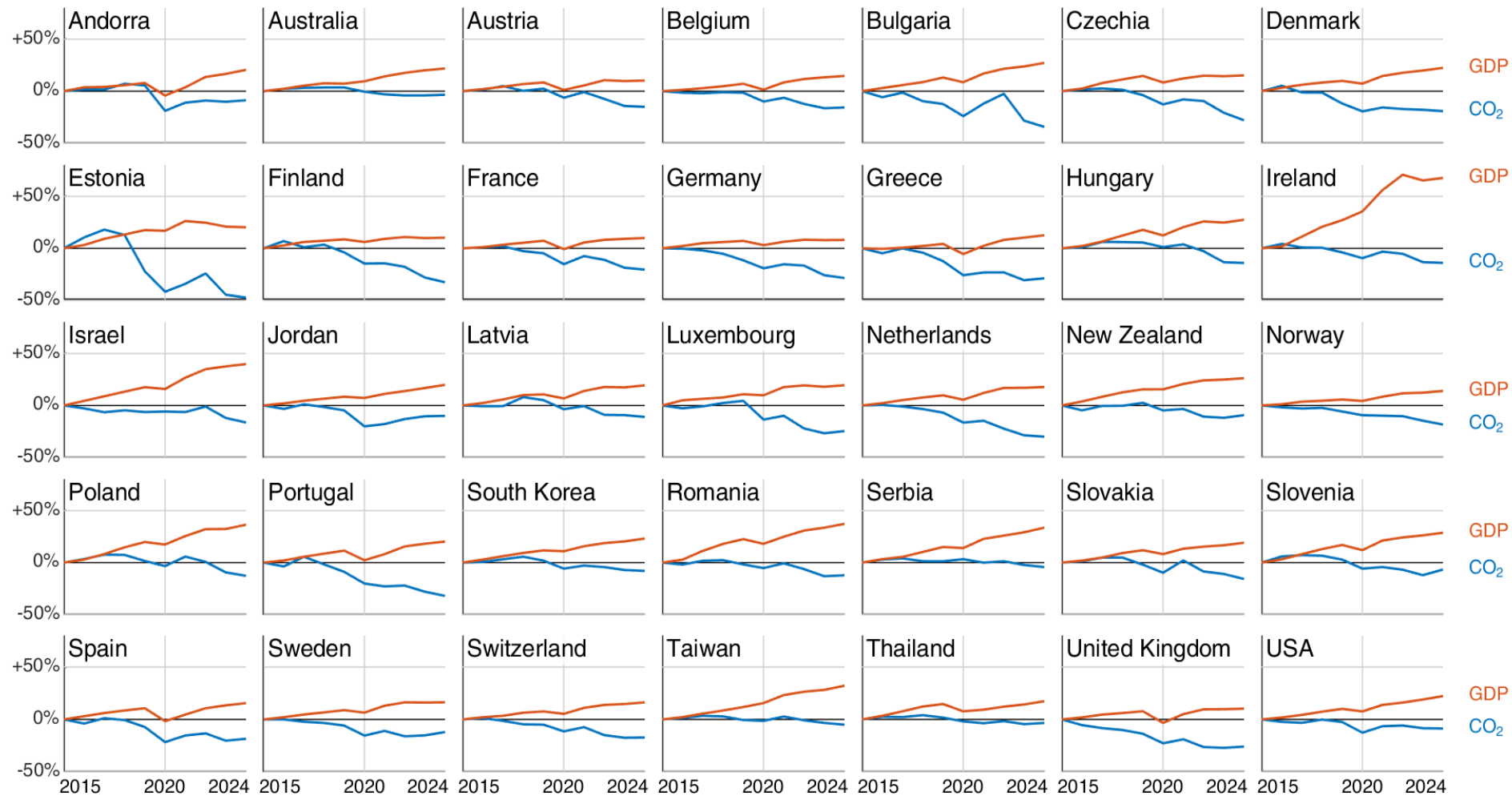


Big emitters are changing:

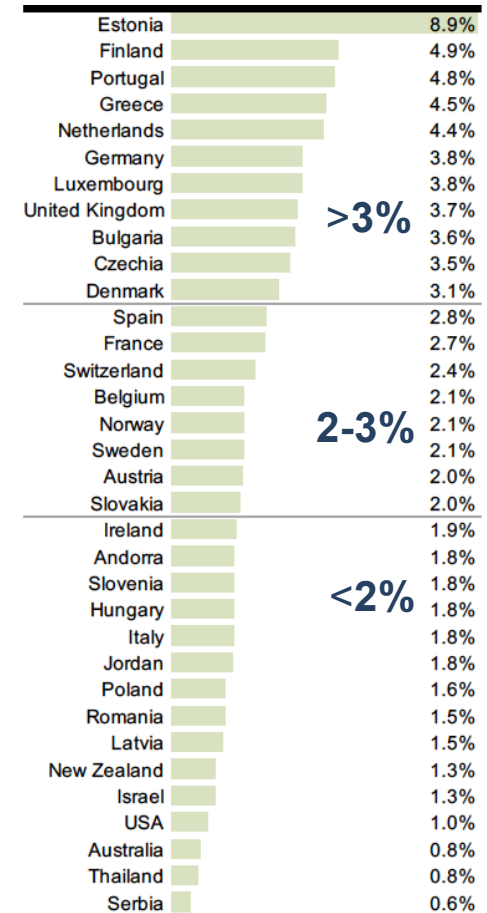
- **China** emissions have plateaued, thanks to extraordinary growth in renewables
- **USA** emissions decrease as aging coal power plants get superseded by renewable energy and gas
- **India** emissions rise as renewable energy does not yet meet growing energy demand
- **EU27** emissions decrease steadily supported by a strong policy framework

Recent trends in CO₂ emissions

35 countries decreased their CO₂ emissions while growing their GDP during 2014 – 2025



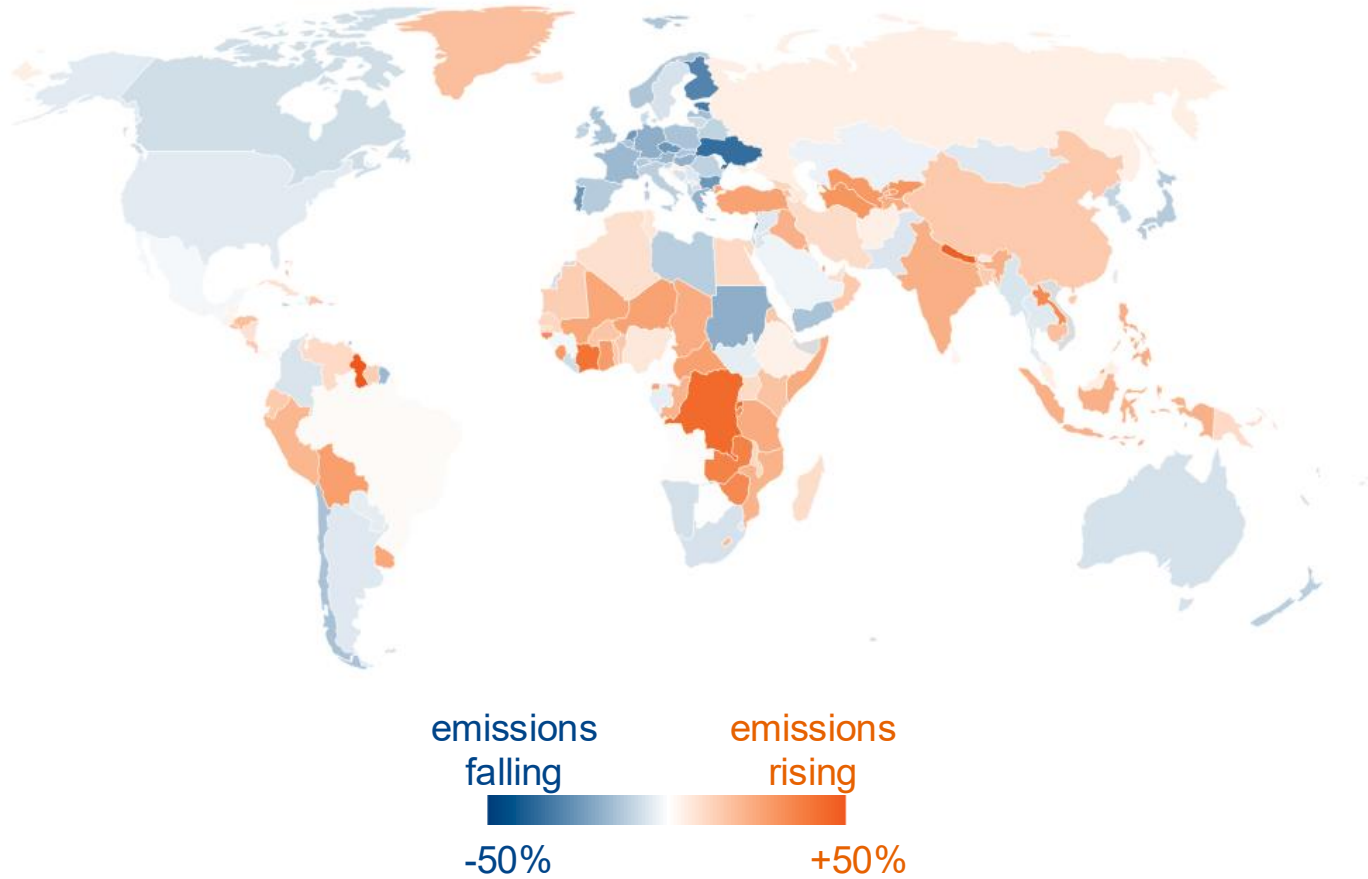
Annual decrease (%)



© Global Carbon Project • Trends are statistically significant at $p=0.05$

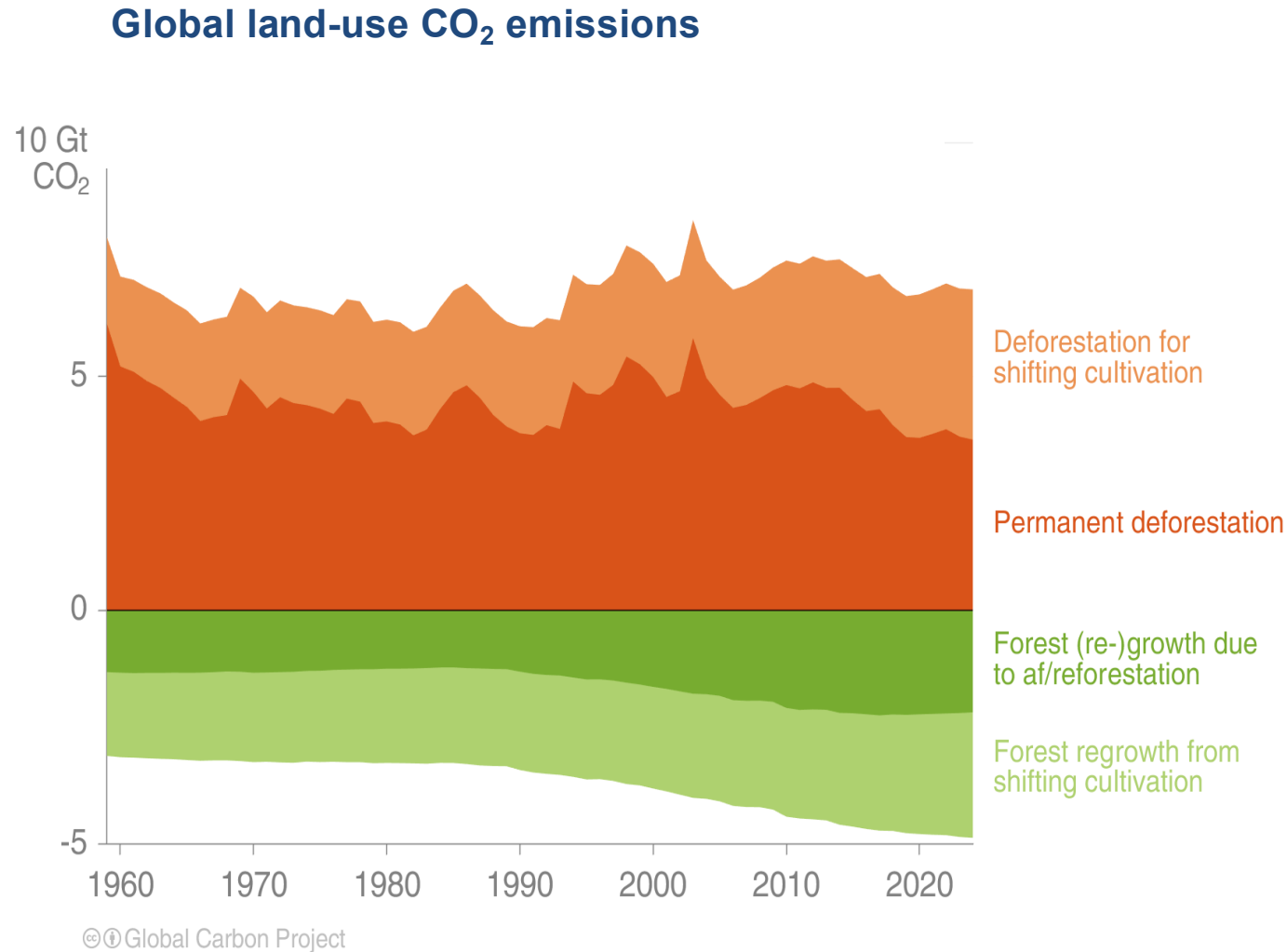
Recent trends in CO₂ emissions

Change in fossil CO₂ emissions (%)
2019 – 2024



**95 countries decreased
their emissions during
2019 – 2024**

Recent trends in CO₂ emissions

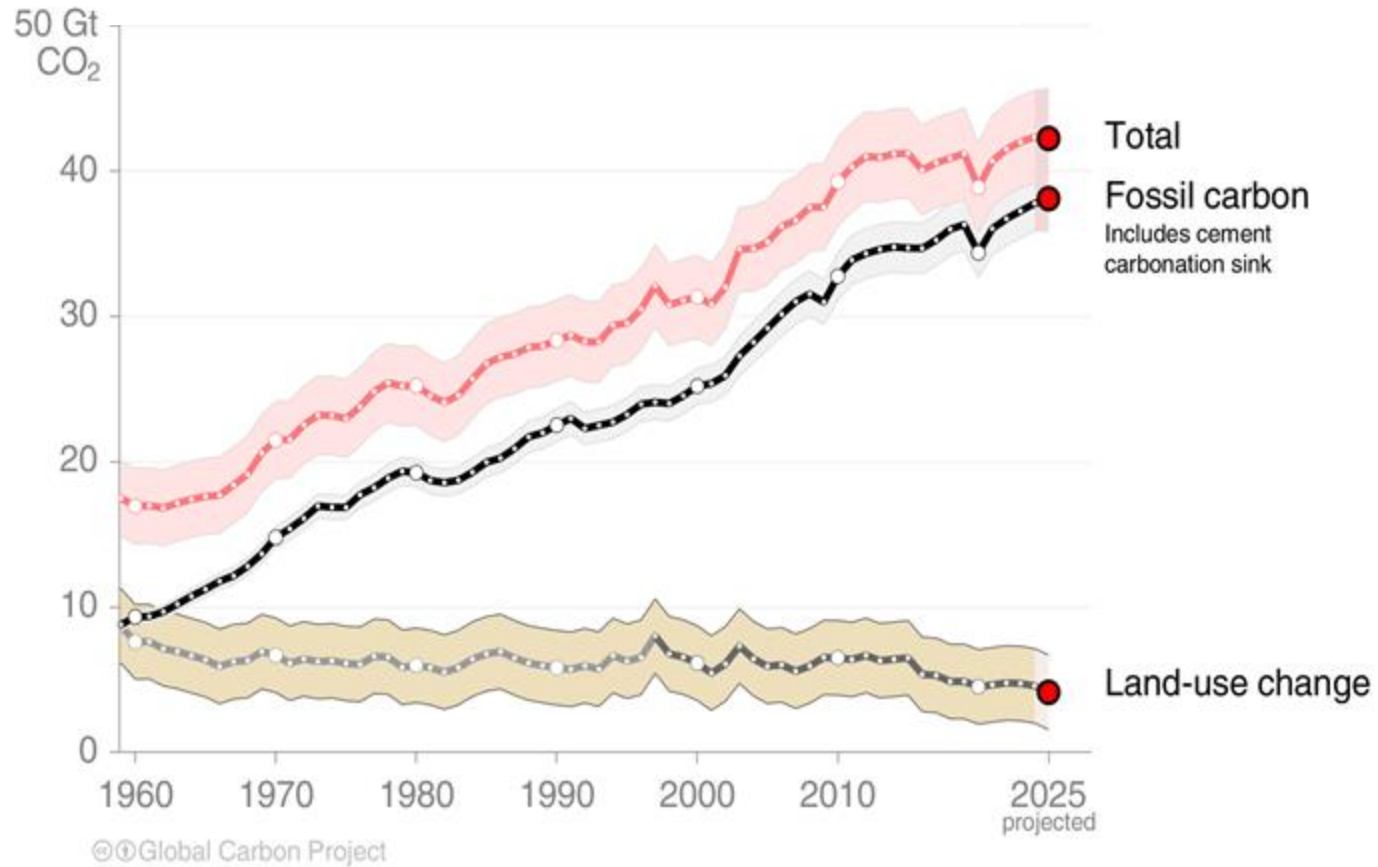


Emissions from land-use are still high but they are decreasing:

- Deforestation emissions are decreasing
- Forests regrow in many places, with China, USA, and EU27 the most important regions for afforestation

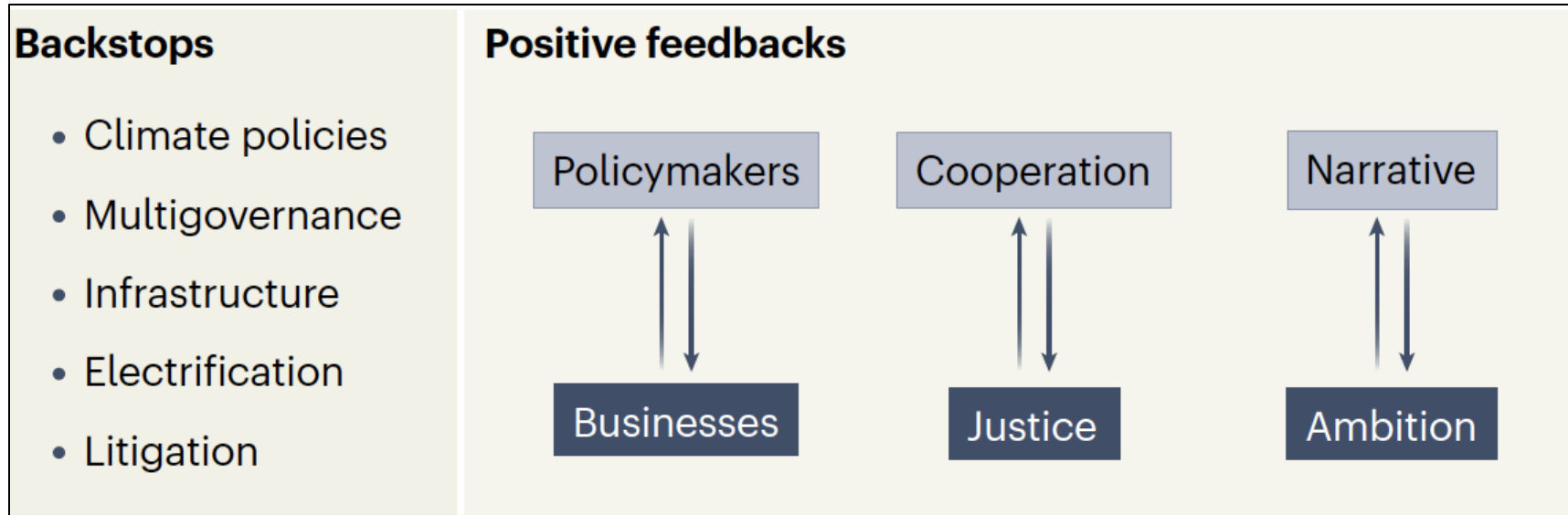
Recent trends in CO₂ emissions

Global total CO₂ emissions



CO₂ emissions from fossil fuels and land-use change combined are near their peak

Climate actions so far are largely irreversible



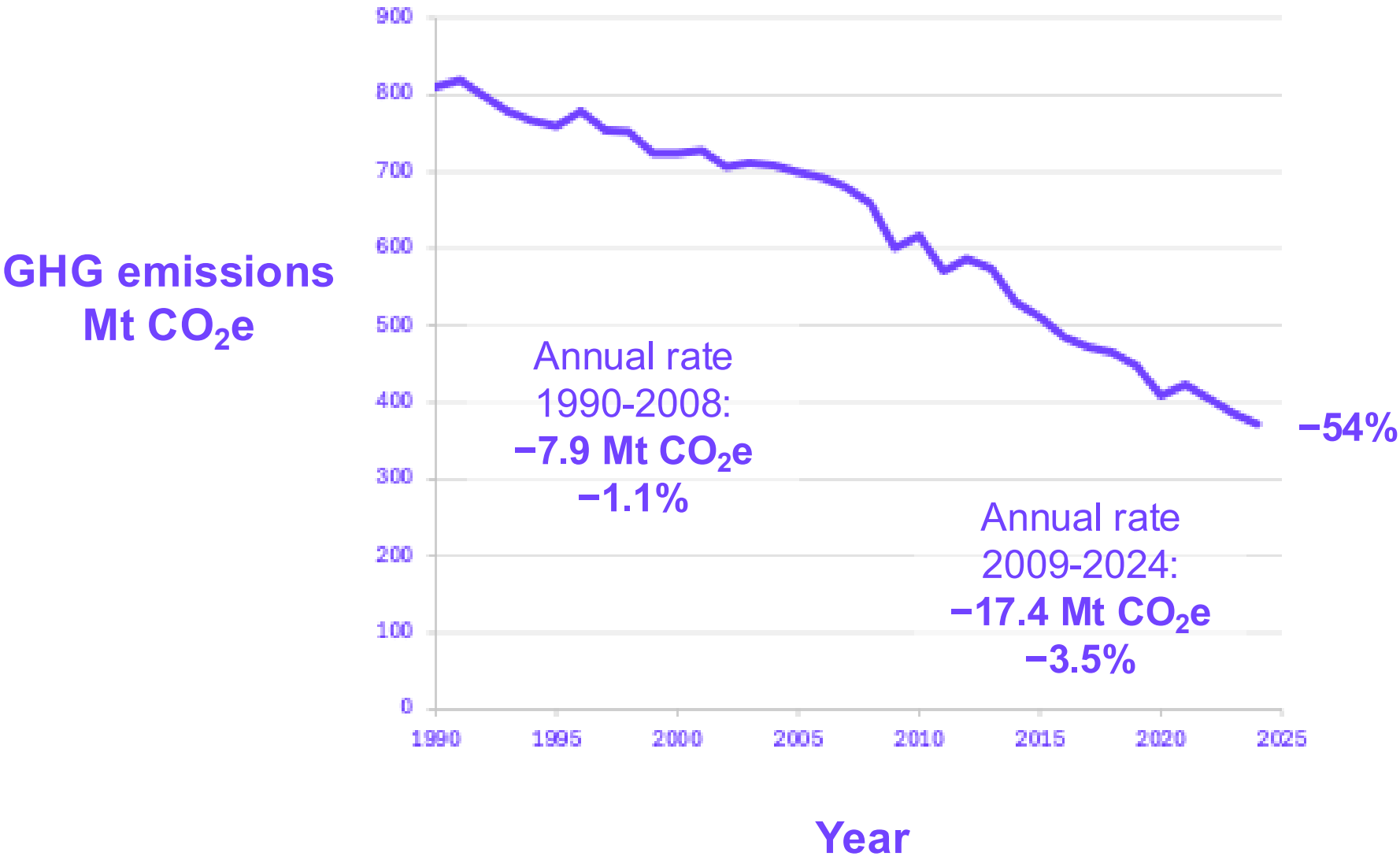
Backstops prevent backsliding while positive feedbacks reinforce progress despite opposing forces

But major issues are preventing acceleration

These include US government energy policy, stop and go investments, institutional inertia

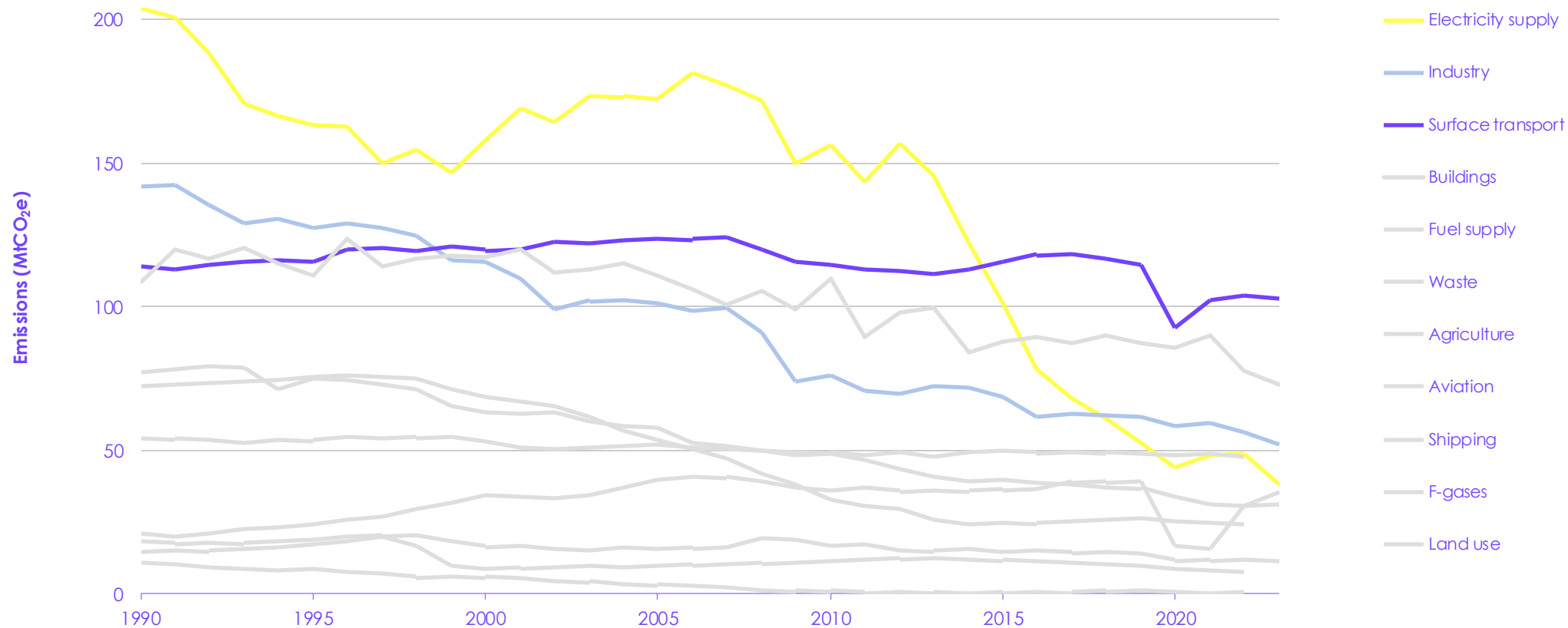
UK GHG emissions since 1990

Accelerated decrease since the 2008 Climate Change Act



UK emissions have more than halved since 1990

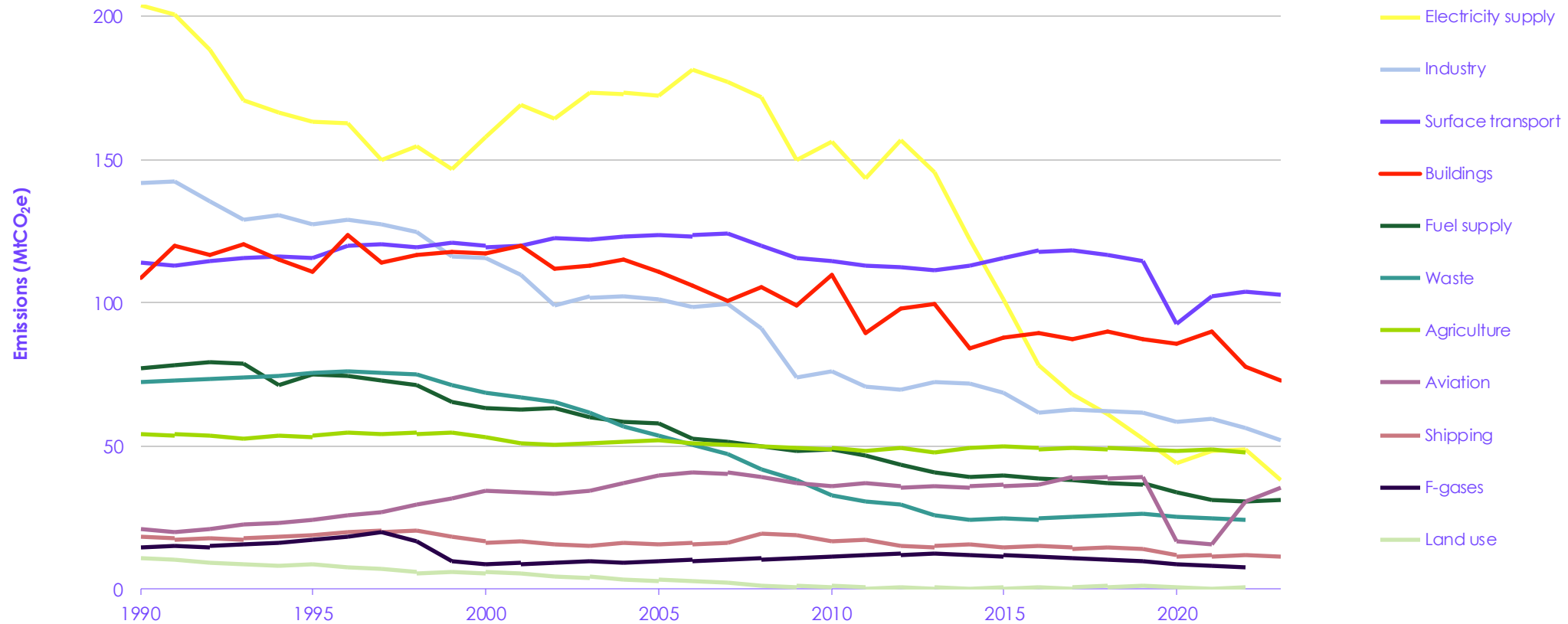
Driven primarily by reductions in electricity supply



Source: CCC analysis.

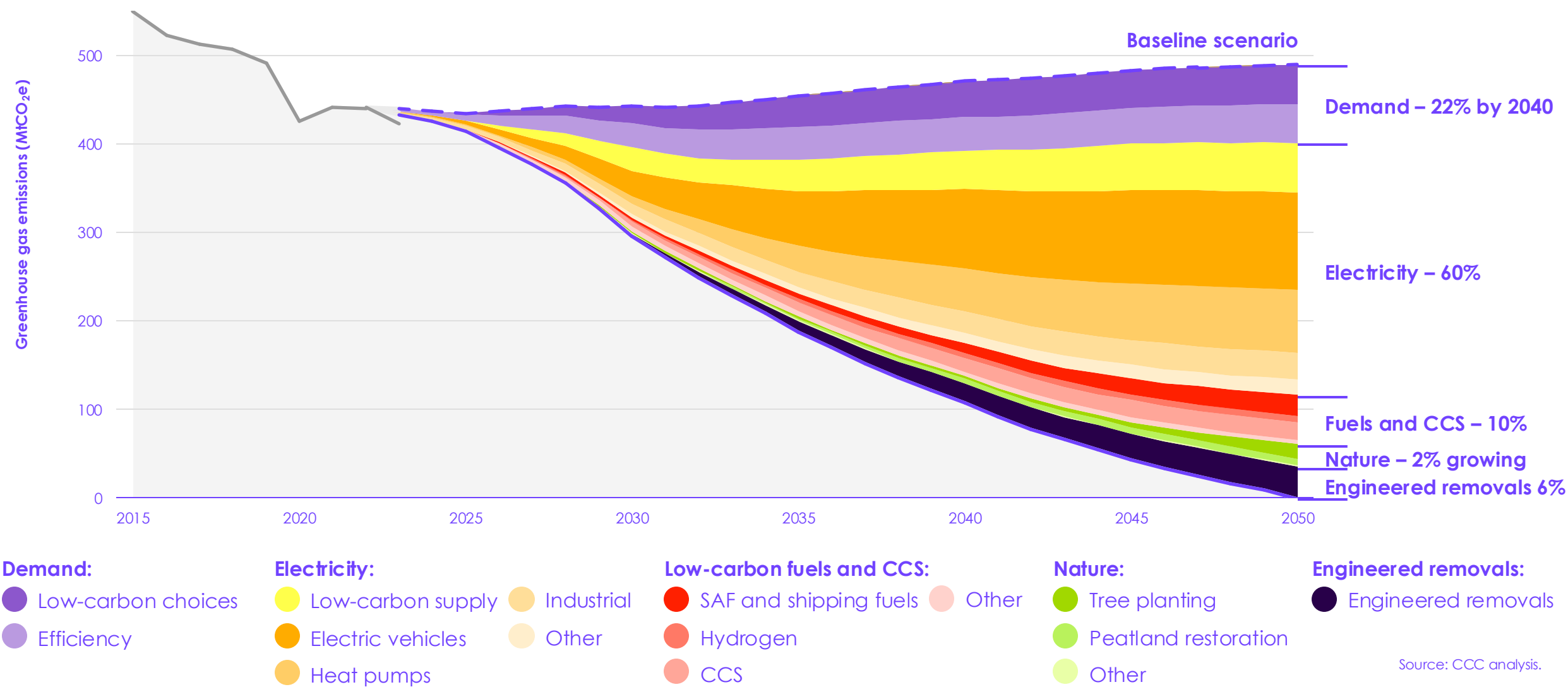
UK emissions have more than halved since 1990

Surface transport and **buildings** are now the biggest emitting sectors



Source: CCC analysis.

CCC pathway to Net Zero in the UK

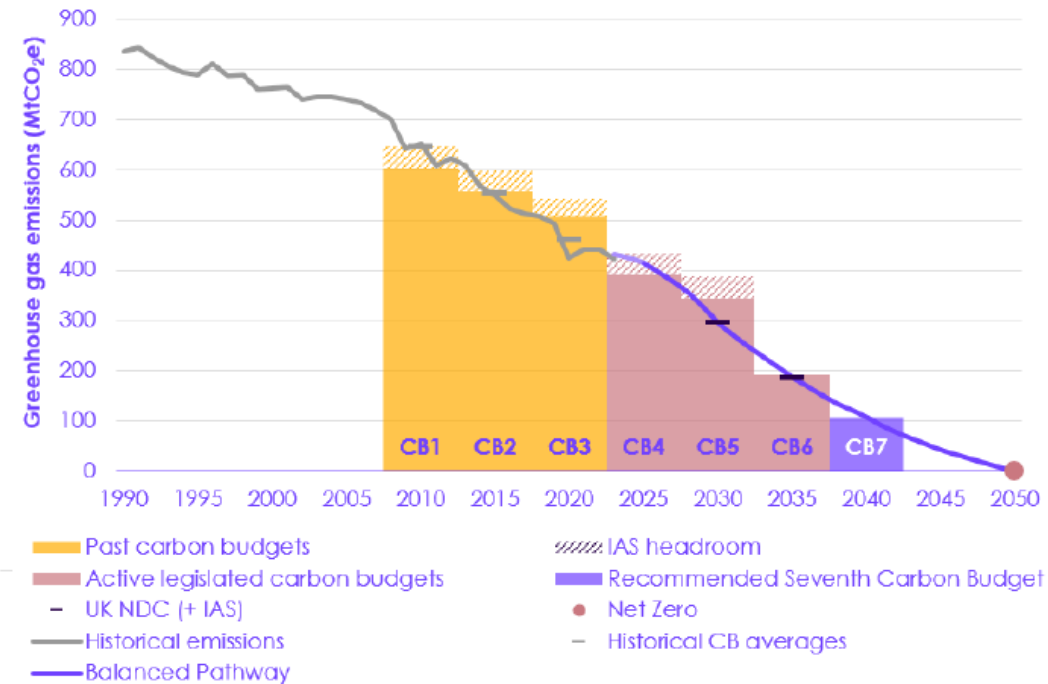


Source: CCC analysis.

CCC pathway to Net Zero in the UK

The Balanced Pathway meets all legislated carbon budgets and Net Zero by 2050

The recommended Seventh Carbon Budget



By 2040, UK emissions are 87% lower than 1990 level
(-90% excluding International aviation and shipping)

Sources of emissions and negative emissions in 2050

