

Emission trends & pathways

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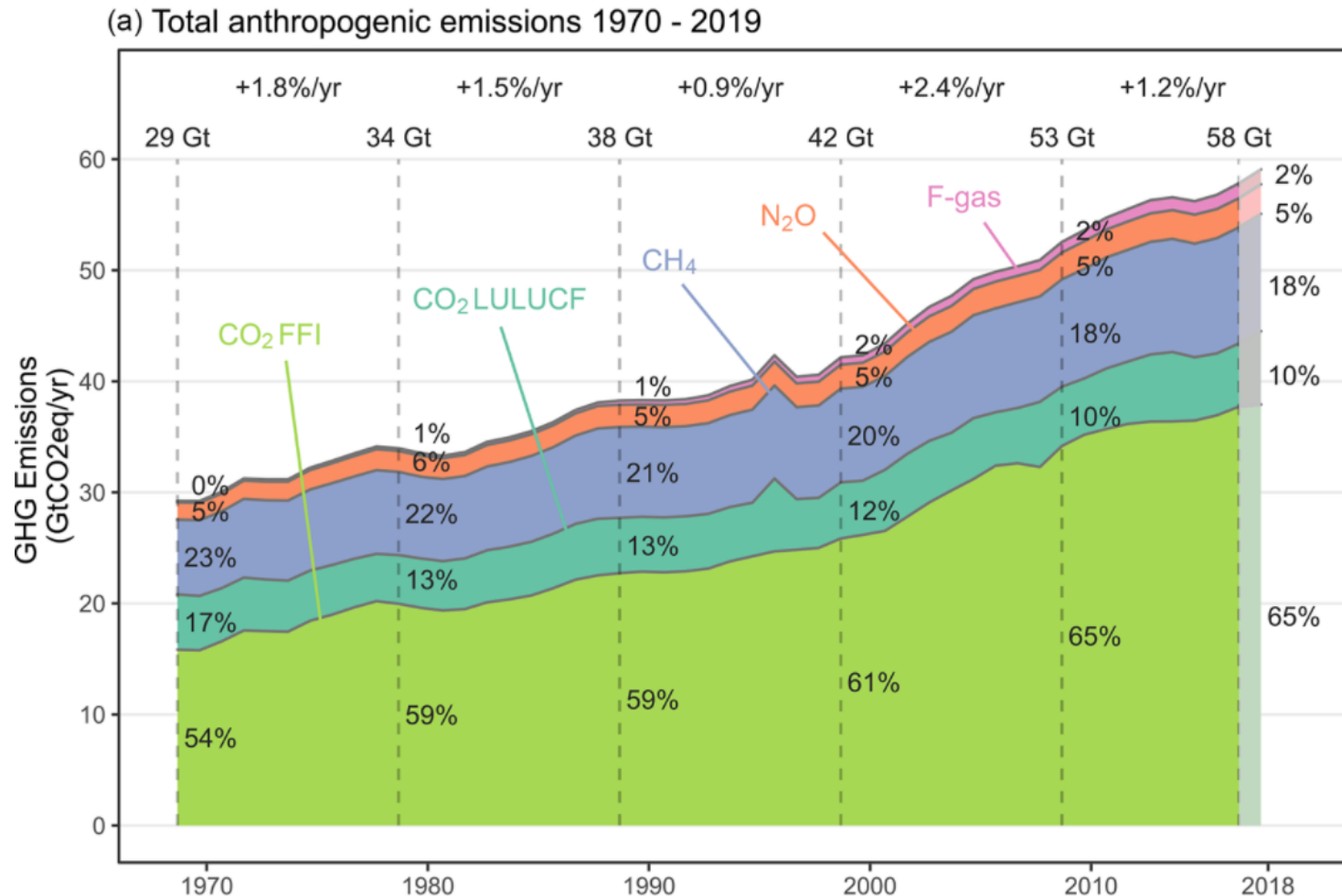
IPCC Forhåndsbrief (Online, 10 February 2022)

Context

- IPCC AR6 is the accumulated wealth of knowledge on climate, not a blow-by-blow analysis of last weeks news
 - AR6 assesses the literature since AR5 (~2014)
 - Must be published *before* 11 Oct 2021
 - Framing has changed (Paris, 'net zero', cost declines, ...)
 - Special Reports on 1.5°C, land, ocean & cryosphere
 - Conservative and no real secrets (articles are in the literature)!

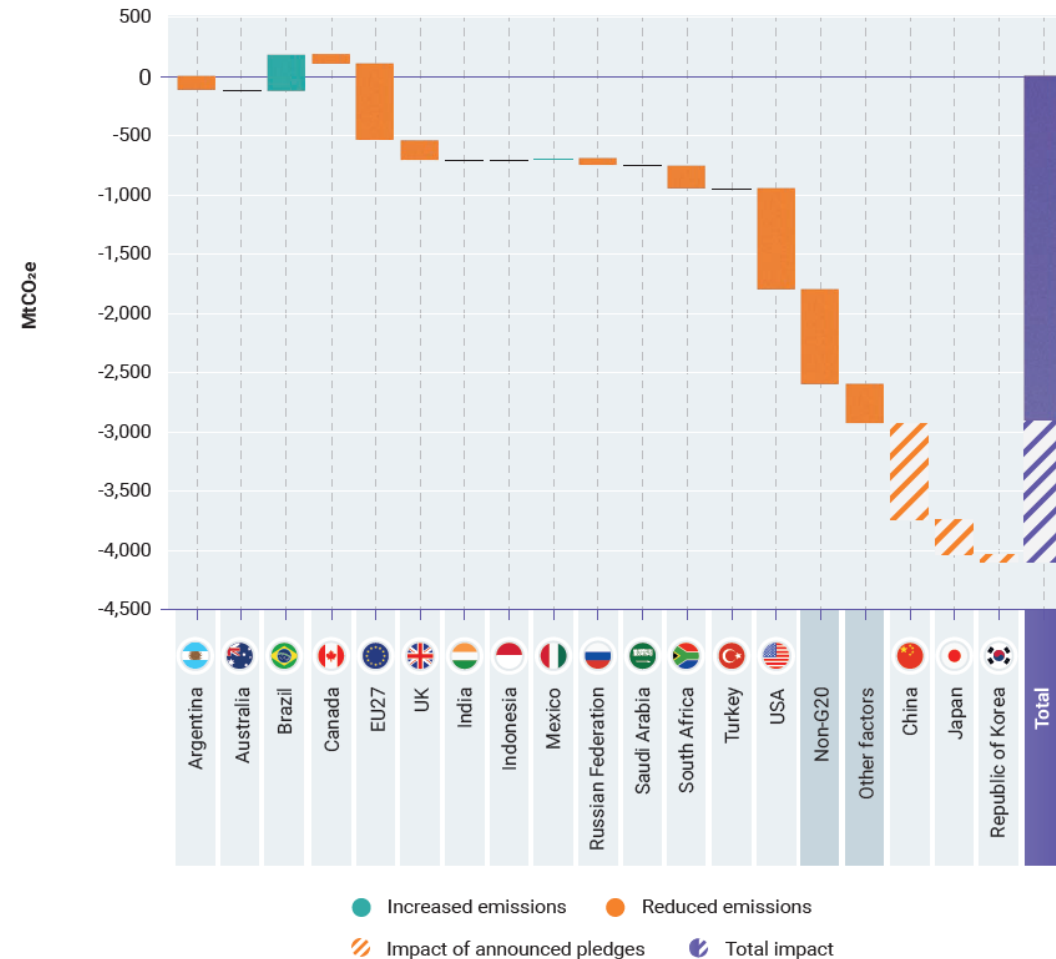
Global GHG Emissions Trends

Global GHG emissions continue to grow. In the last decade, some positive developments in fossil CO₂ emissions. A significant revision in estimates of land-use change, but these happened **after** literature cut-off!



Emissions Gap Report

There is a large gap between pledges (NDC) and ambition (Paris). Many updated NDCs at Glasgow COP26 (Nov 2021). Glasgow COP26 was **after** the literature cut-off, but the 'emissions gap' is just as big as before...



Where are we heading?

Socioeconomic developments and policy has made high-end pathways (e.g., RCP8.5) less likely, but...
...the world is doing no where near enough for 1.5°C. Current pathway is middle-of-the-road.

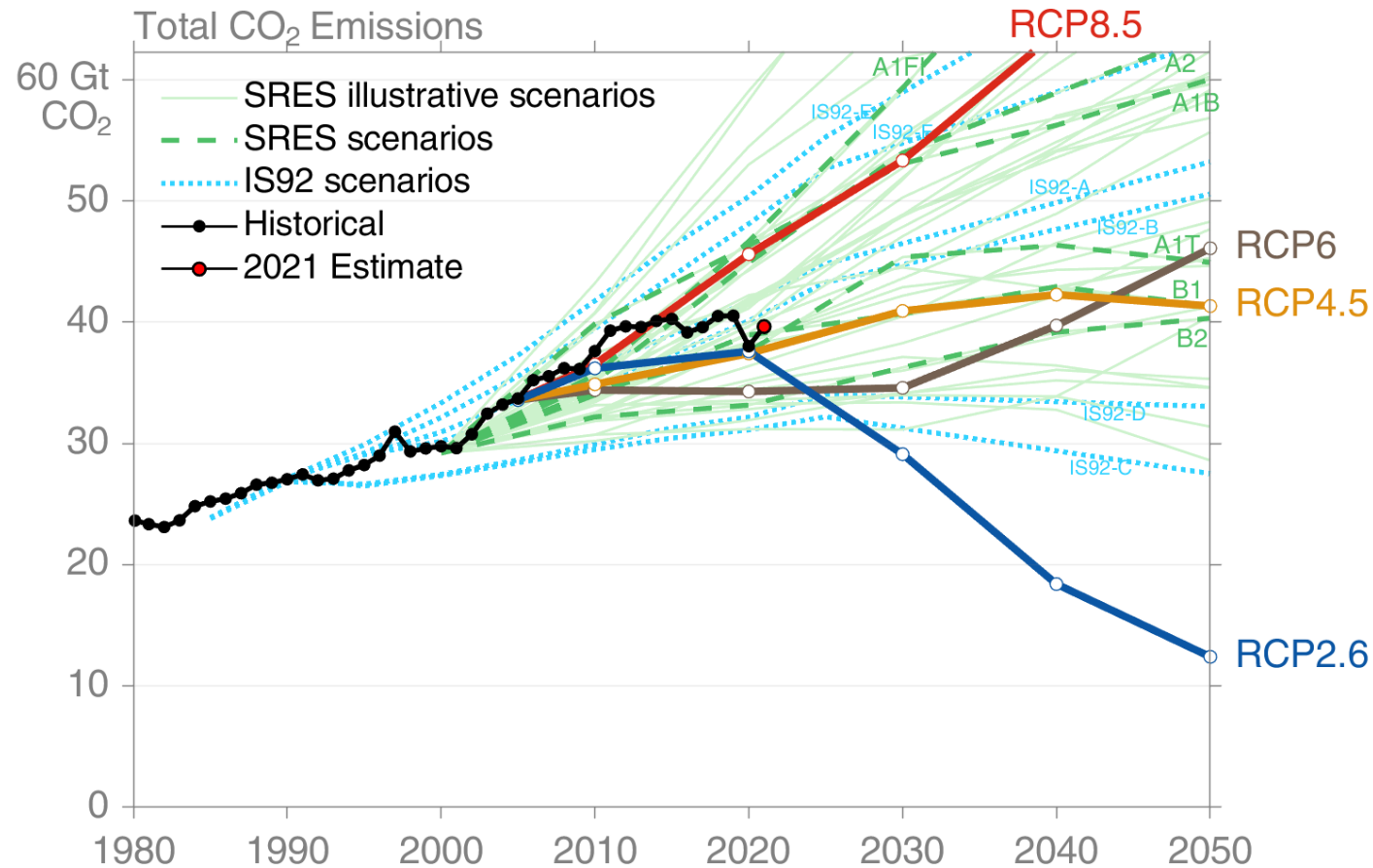
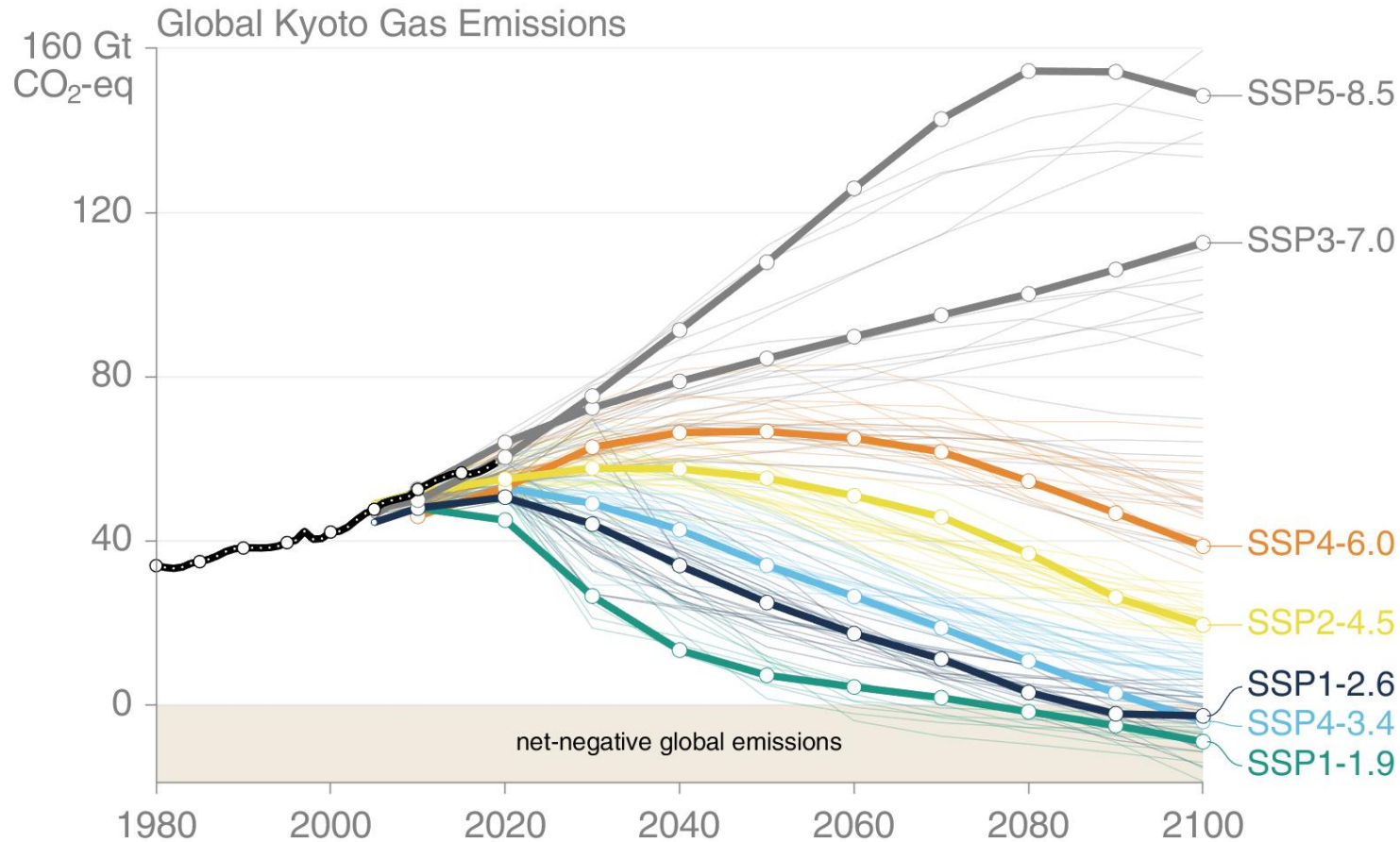


Figure: @robbie_andrew, @Peters_Glen

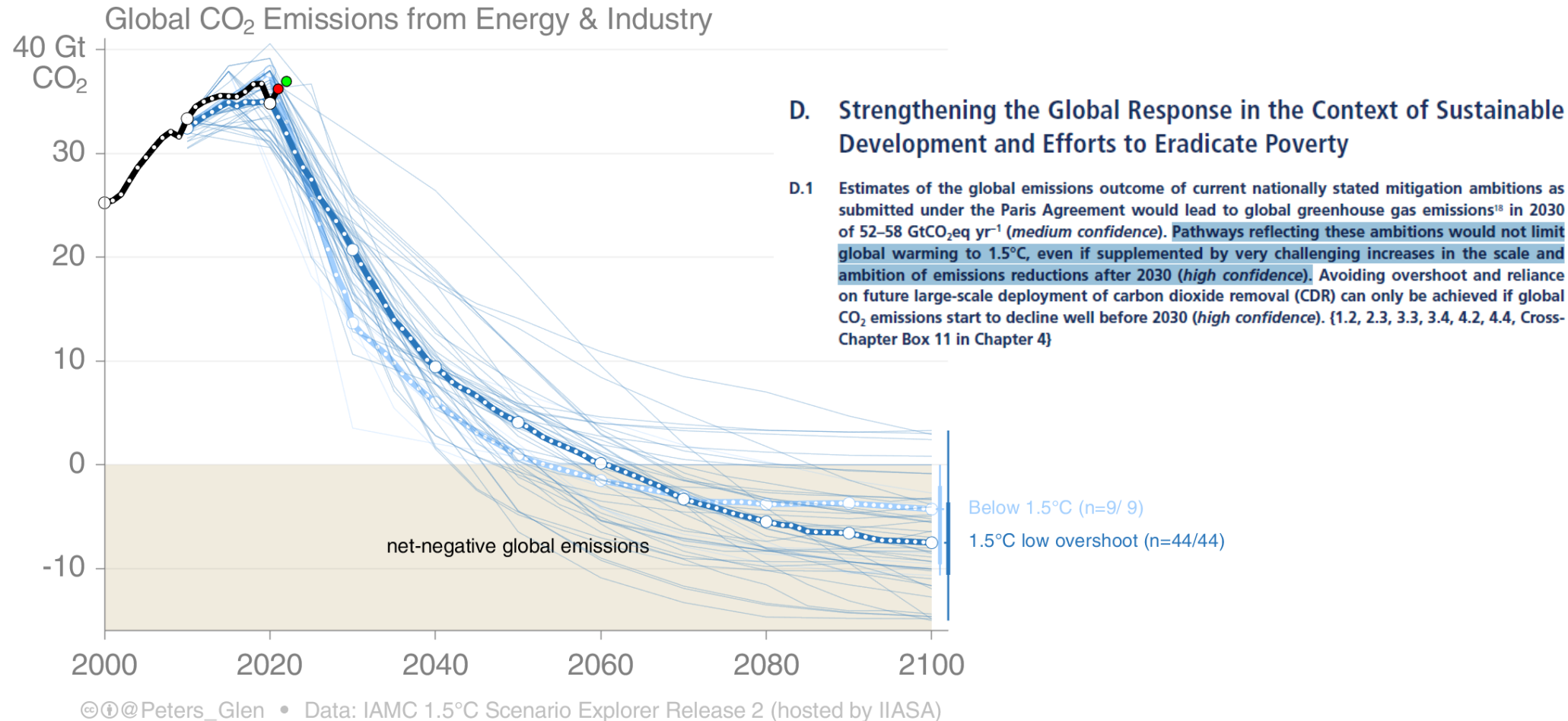
Different scenario families

IPCC AR6 WG1 uses a selection of scenarios (bold) from a particularly scenario intercomparison (SSPs)
These 'marker' scenarios are unlikely to be a core part of WG3 as the focus is different & time is passing.



Already strong messages on 1.5°C...

The IPCC Special Report on Global Warming of 1.5°C assessed >400 scenarios, IEA now has a net zero scenario. There are many new scenarios, in addition to those from SR15, so AR6 will likely assess >1000 scenarios.



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