NAVIGATING RESIDUAL EMISSIONS IN NATIONAL NET ZERO PLANS

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BACKGROUND

- National net zero targets imply the deployment of carbon dioxide removal (CDR) to compensate for residual hard-to-abate emissions, emissions that continue to be emitted at the point of net zero, owing to barriers to their decarbonisation.

- Little is known about the extent and nature of residual emissions at the national level.

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WHAT WE ANALYSED

- We analysed 70 national net zero plans, officially known as ‘long-term low emission development strategies’ [LT-LEDS], submitted to the UNFCCC or the European Commission.

- We examined and screened 136 scenarios detailed across the strategies, comparing residuals to peak emissions and analysing residual emissions by sector.

WHAT WE FOUND

- Only 26 of the 70 strategies include an estimate of residual emissions.

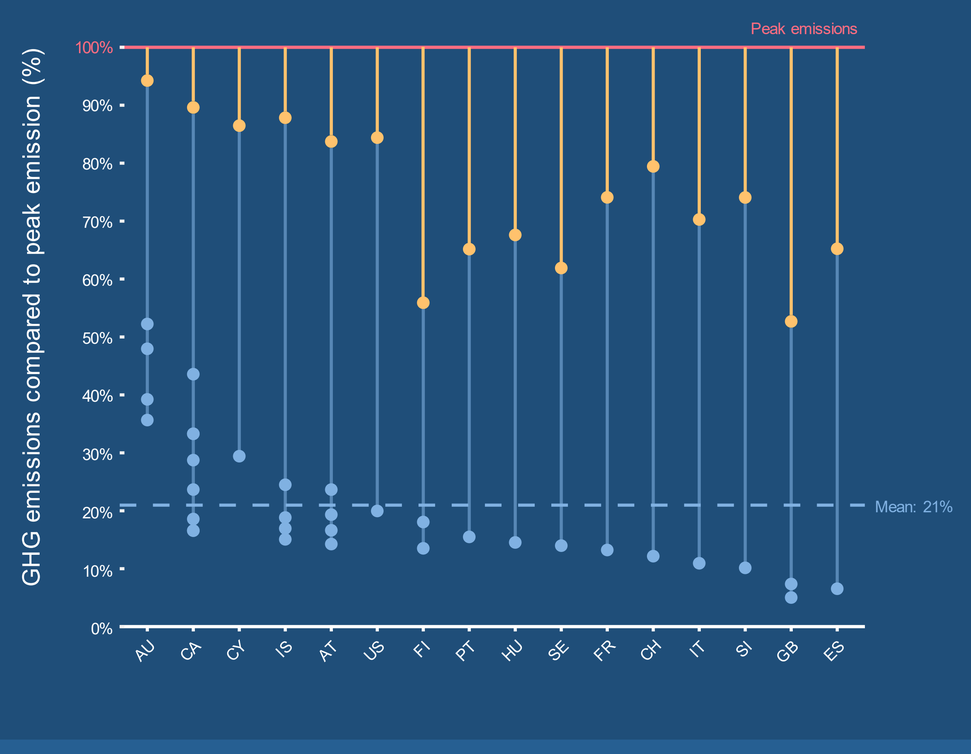
- Residual emissions are on average 21% of peak emissions [excluding land-use] for developed countries, with a range of 5-52%.

- By sector, agriculture represents the largest contributor to total residual emissions, contributing, on average, 36% for developed countries and 35% for developing.

- Agriculture also represents the sector in which the least progress is anticipated, with an average reduction of only 37% upon 2021 emissions for developed countries.

- We find that many strategies treat residual emissions as a foregone conclusion, offering a range of supporting rationales from the techno-economic to the politically orientated.

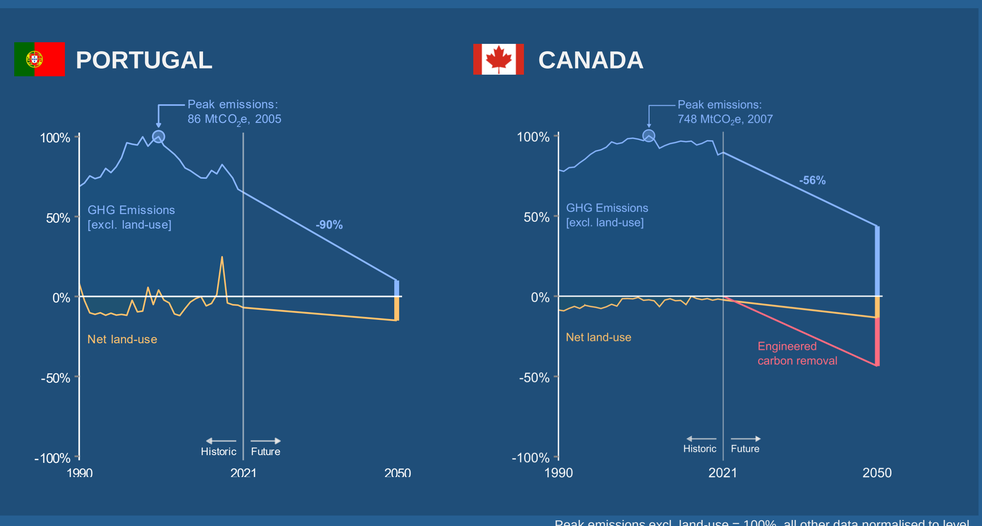
RESIDUAL EMISSIONS COMPARED TO PEAK EMISSIONS, DEVELOPED COUNTRIES



WHATS THE WAY FORWARD?

- Some scenarios use greater carbon removal to minimise emission reductions and retain fossil fuel use (see Portugal versus Canada).

- We propose split targets for removals and emission reductions for national net zero targets, and ‘phase-in’ norms, prescribing what are legitimate uses of CDR.



Peak emissions excl. land-use = 100%, all other data normalised to level.

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