

An aerial photograph of a high-speed train, possibly a TGV, traveling through a dense green forest. The train is white with blue accents and is positioned on a set of tracks that cut through the trees. The perspective is from above, looking down at the train as it moves.

How to best achieve Europe's 2040 climate target and path to climate neutrality by 2050

EESC public hearing to feed into the opinion on Europe's 2040 climate target
18 March 2024

Professor Ottmar Edenhofer
Chair of the European Scientific Advisory Board on Climate Change

The logo consists of a white semi-circle above the text "European Scientific Advisory Board on Climate Change".

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Climate Change

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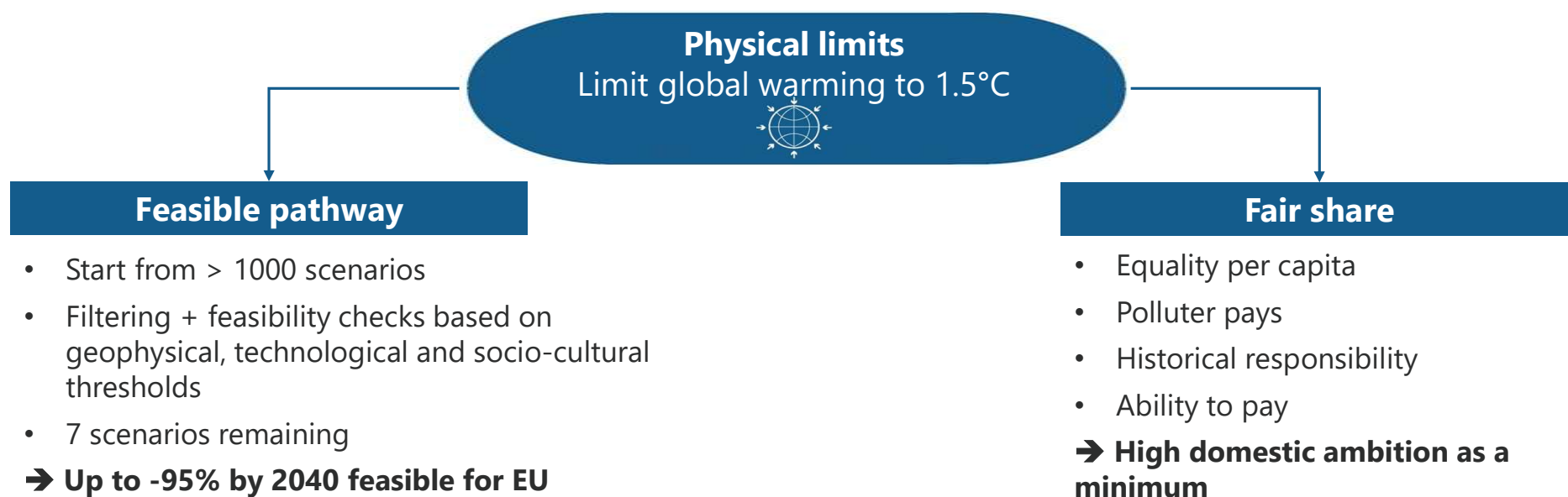
Input based on 2 key reports at the intersection of two policy cycles

2030 policy framework: from legislation to implementation

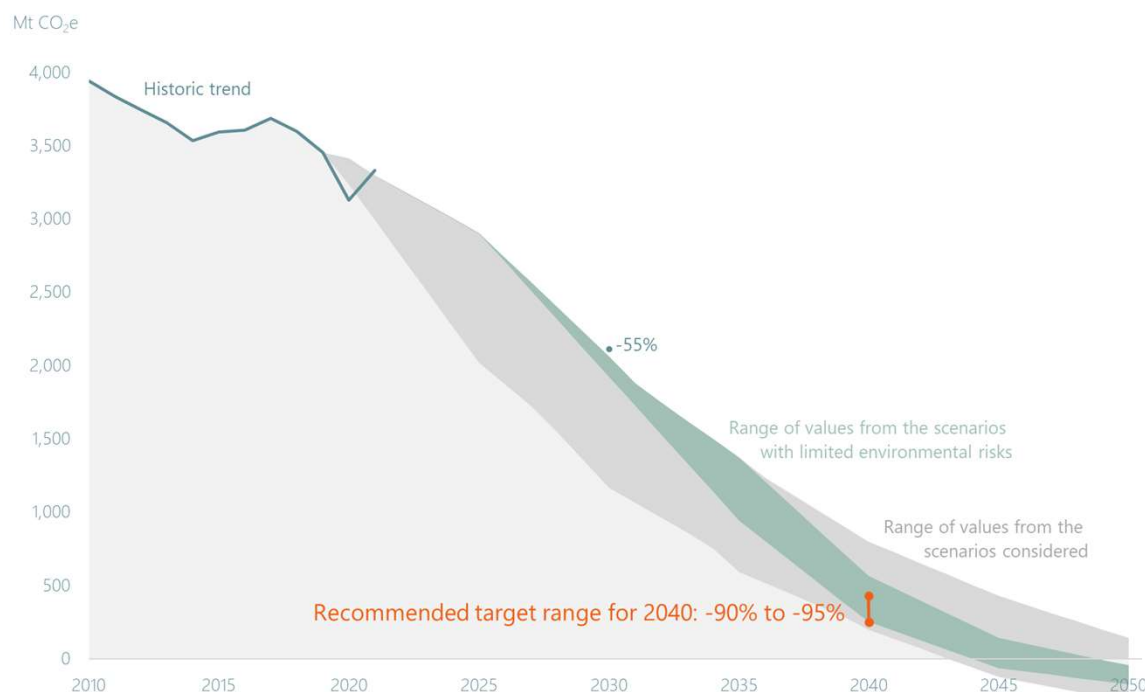


Post-2030 policy framework: discussion on 2040 target ongoing

Our recommendation for a 2040 target considered both feasibility and fairness



Our recommendation: 90-95% reductions by 2040 (vs. 1990) = 11 to 14 Gt CO₂e GHG budget for 2030-2050



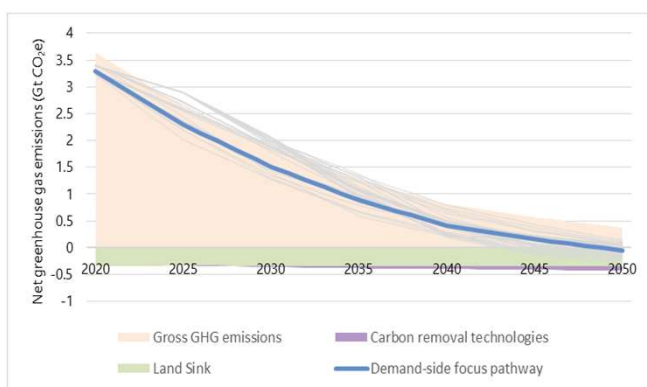
+ Closing the gap to fairness

- Mitigation outside the EU
- Post-2050 net-negative

Source: ESABCC (2023), *Scientific advice for the determination of an EU-wide 2040 climate target and a greenhouse gas budget for 2030-2050*

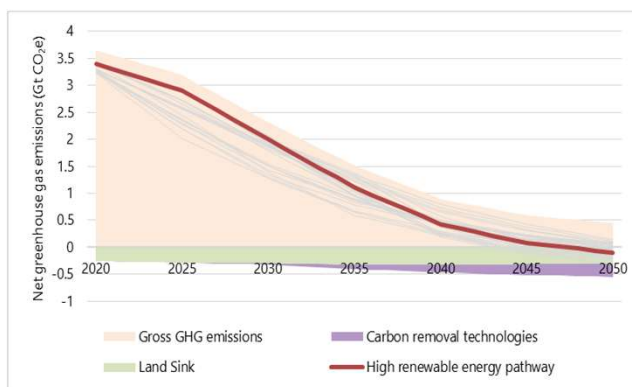
Different possible pathways, as illustrated by three iconic pathways → strategic choices to be made

Demand-side focus pathway



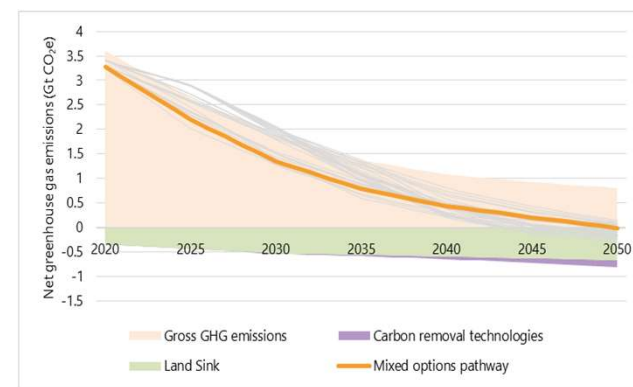
- Less resource-intensive lifestyles
- Lowest final energy demand in 2040
- Lowest reliance on carbon removals (from CCS and the land sink combined) by 2050

High renewable energy pathway



- Largest greenhouse gas budget
- High renewable energy deployment
- Highest deployment of non-biomass renewable energy
- Highest rate of electrification by 2040

Mixed options pathway



- Lowest cumulative emissions in the 2030-2050 period
- Greatest deployment of carbon removals (with specific focus on sustainable land-based removals)
- Increase in the contribution of nuclear power over time (as opposed to the two other iconic pathways)

Source: ESABCC (2023), *Scientific advice for the determination of an EU-wide 2040 climate target and a greenhouse gas budget for 2030-2050*

EC's 2040 communication is closely aligned with ESABCC recommendations



Strasbourg, 6.2.2024
COM(2024) 63 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS

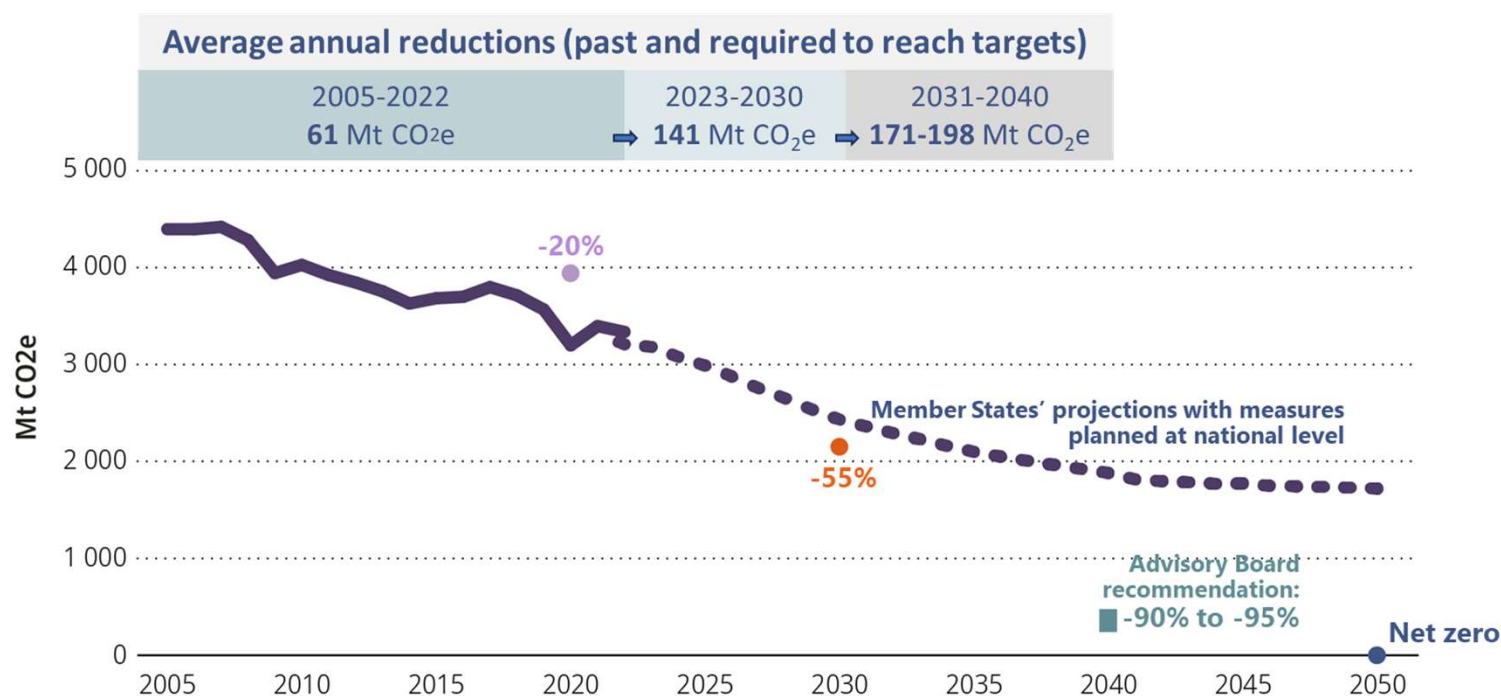
Securing our future

Europe's 2040 climate target and path to climate neutrality by 2050 building a
sustainable, just and prosperous society

{SEC(2024) 64 final} - {SWD(2024) 63 final} - {SWD(2024) 64 final}

- European Commission has recommended a -90% net emission reductions target for 2040
- This is aligned with our recommended -90% to -95% target range
- Formal legislative proposal for a 2040 target and policy framework will be for the next Commission

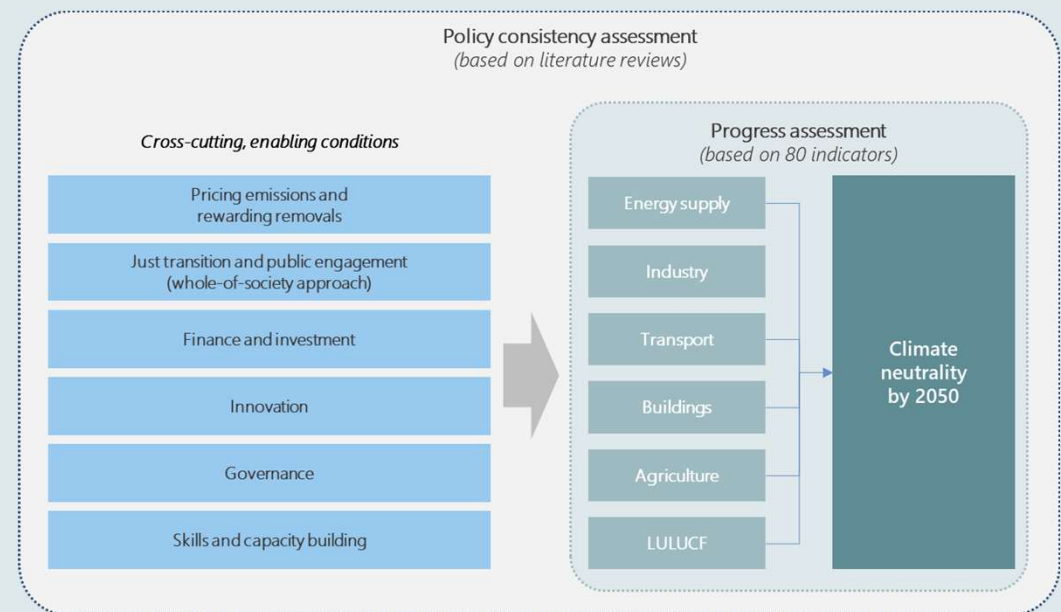
Pace of reductions needs to double up to 2030, and increase further post-2030



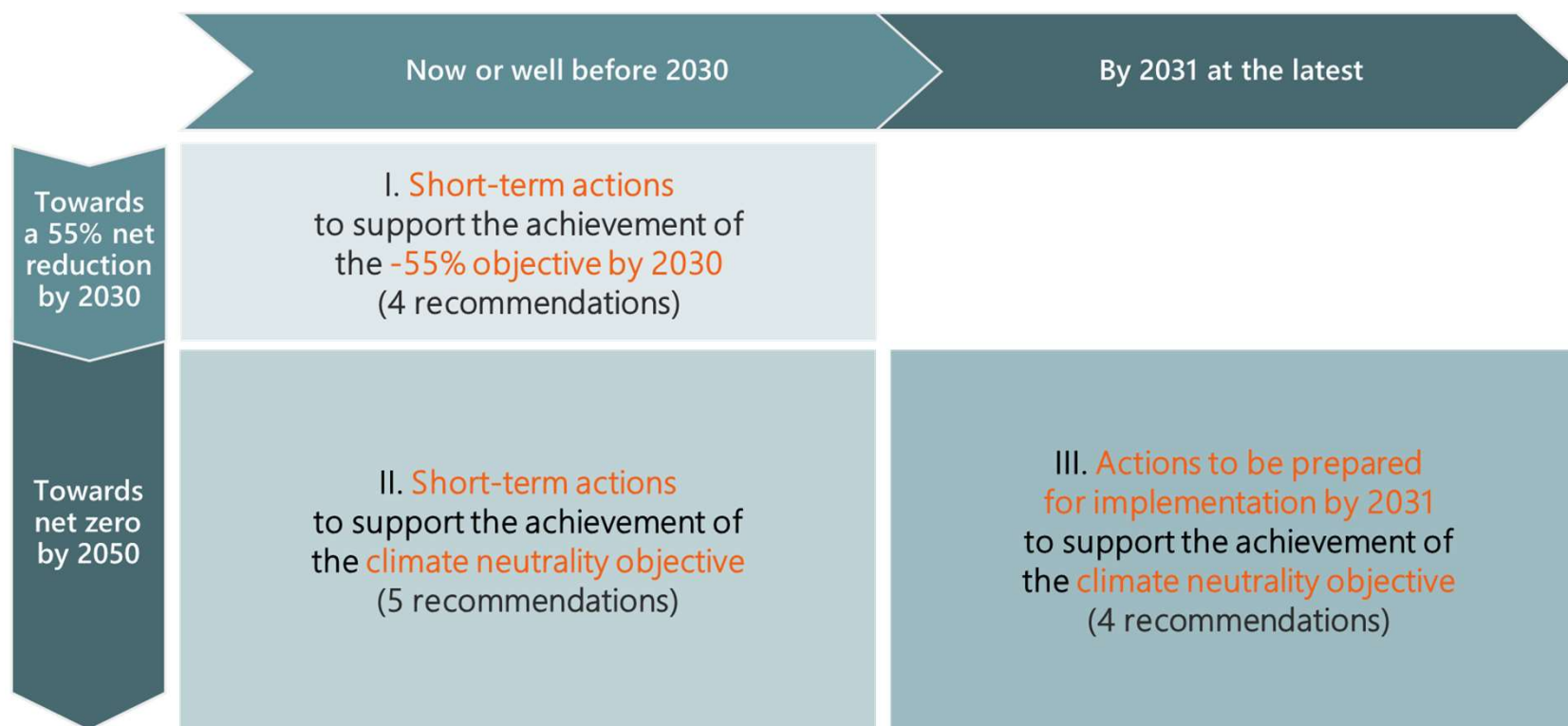
Source: ESABCC (2024), *Towards EU climate neutrality: progress, policy gaps and opportunities*

Policy recommendations based on an assessment of needs and gaps

1. **needs**: what are needs to remain on track to climate targets?
2. **gaps**: any gaps in the policy framework?
 - policy gap
 - ambition gap
 - implementation gap
 - policy inconsistency
3. **recommendations** to address these gaps



Recommendations stress the importance of immediate implementation and continued climate action



I. Short term actions to support -55%

I.a Urgently **implement Fit for 55**, including at the national level

I.b **Adopt pending legislation**, including an ambitious revision of the Energy Taxation Directive

I.c Provide **stable investment outlooks for renewable energy**

I.d Urgently and fully **phase out fossil fuel subsidies**

II. Short term actions to support the achievement of the climate neutrality objective

- II.a Make EU policies **fully consistent** with climate neutrality objective and the **phase-out of fossil fuels**
- II.b Systematically **assess socio-economic impacts** of climate policies to ensure a **just and fair transition**
- II.c Provide **stronger incentives** for climate action in the **agri-food sector**, including through the CAP
- II.d Better **target** the deployment of **CCU/CCS, hydrogen** and **bioenergy**
- II.e Increase **public and private investments** in climate mitigation

III. Actions to be prepared for implementation by 2031

- III.a **Strengthen** the EU frameworks on **climate governance** and **compliance**
- III.b Make the two **emission trading systems** fit for net zero
- III.c Pursue more ambitious **reductions in energy and material demand** through new and strengthened policies
- III.d **Expand GHG pricing** to all major sectors and provide **incentives for carbon removals**



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<https://climate-advisory-board.europa.eu>