



Revisiting Copenhagen climate mitigation targets

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Background

1) Emission reduction targets issued by countries

- With the need for international action paramount, countries across the world are supposed to take action based on the principle of “**common but differentiated responsibilities**”. It is thus critical to analyze countries’ specific climate change targets, measure their implementation of commitments in a timely manner and work together to mitigate climate change.

2) Copenhagen climate mitigation targets

- Many economies set climate mitigation targets for 2020 at the 2009 COP15 conference of the United Nations Framework Convention on Climate Change in Copenhagen.
- Yet no retrospective review of the implementation and actual mitigation associated with these targets has materialised.

3) Spillover of emissions mostly via international trade

- Policies that curtail emissions in one region might increase emissions in another through the transfer of emission-intensive production across borders



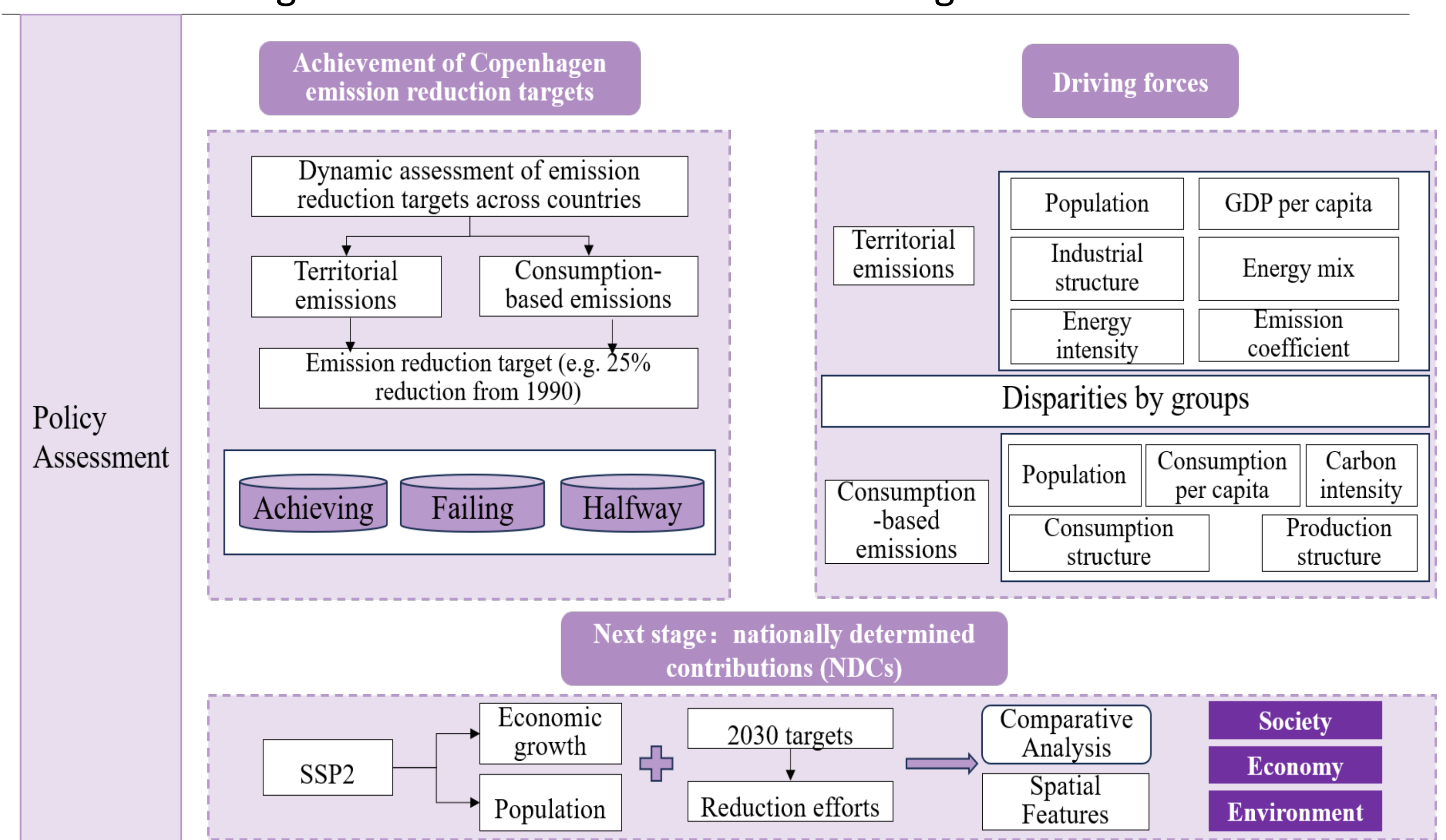
Scientific Questions and Framework

Question1

Question2

Question3

- Have countries achieved the COP15 targets? Territorial or consumption-based?
- What drives the changes in their carbon emissions behind the achievement of targets? What are the differences across the groups?
- What challenges will countries face in the next stage?



The gap between actual emissions patterns and COP15 targets

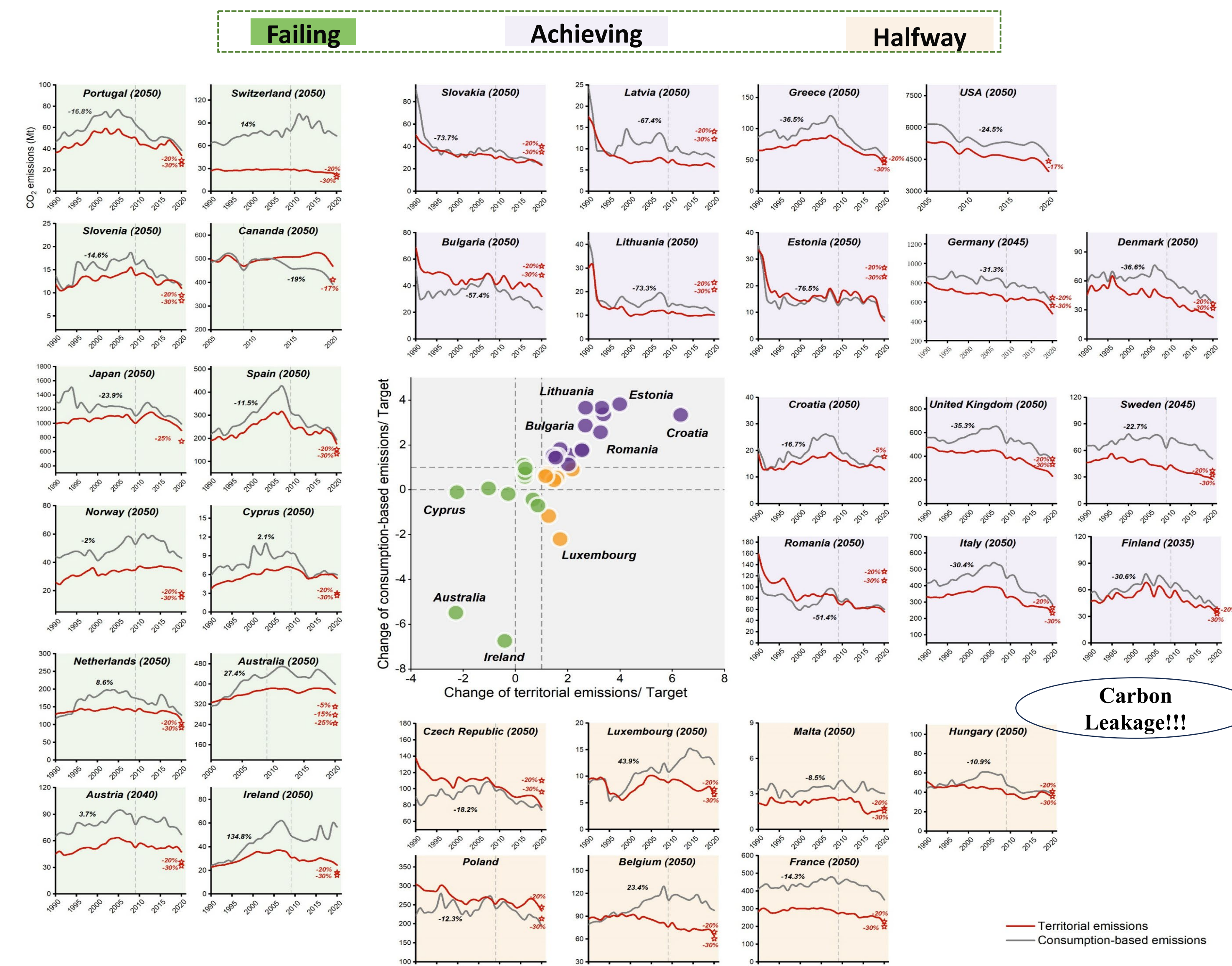


Figure 1 CO₂ emission trends and emissions-mitigation target range of COP15.

A series of emission reduction targets, such as the goals established at COP15, have focused primarily on territorial emissions and thus to some extents have ignored the global trading system and “carbon leakage” among countries.

Factors behind the changes in emissions

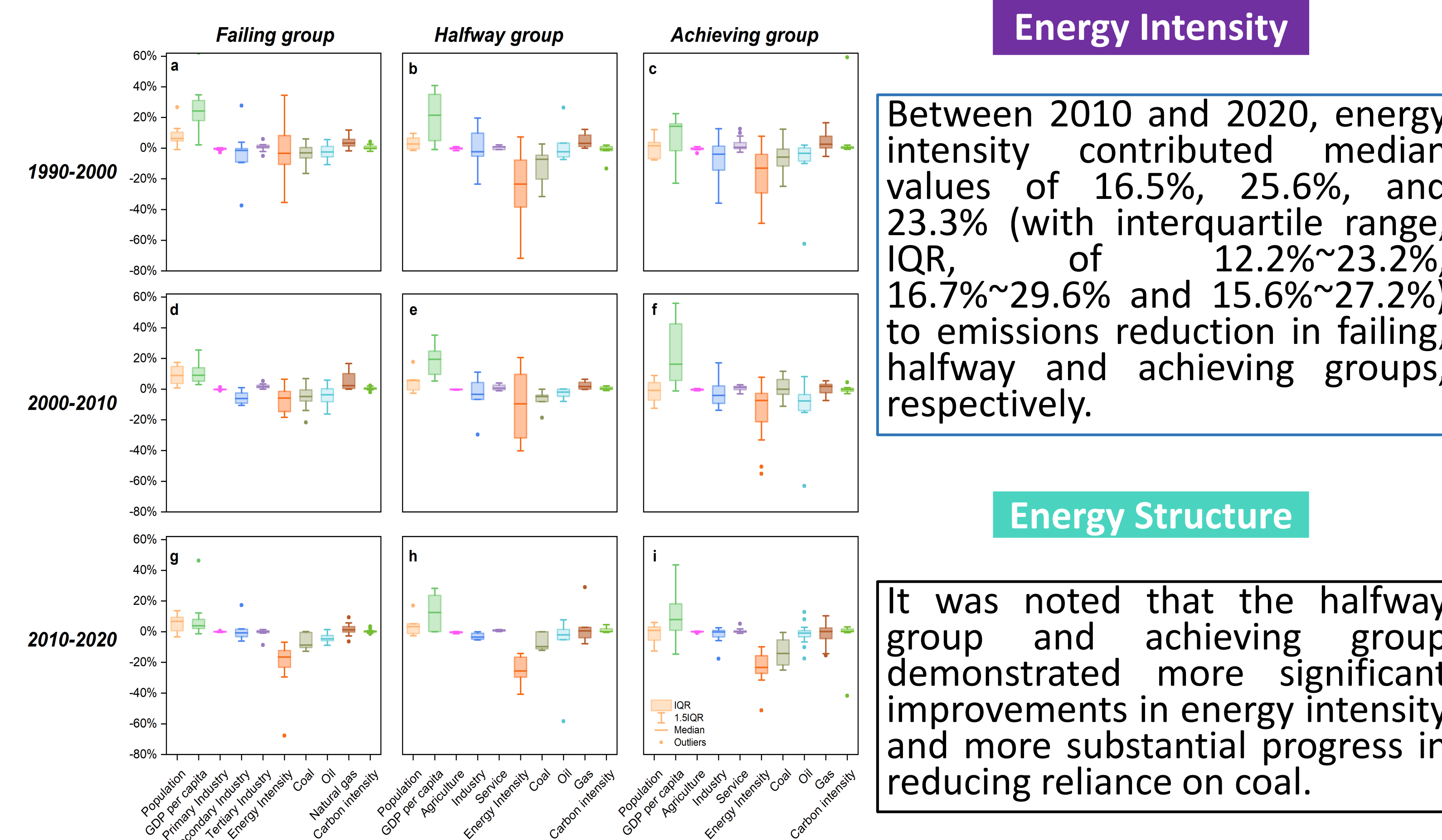


Figure 2 Contributions of different factors to changes in CO₂ emissions in various groups.

More efforts are needed for NDCs and economic growth

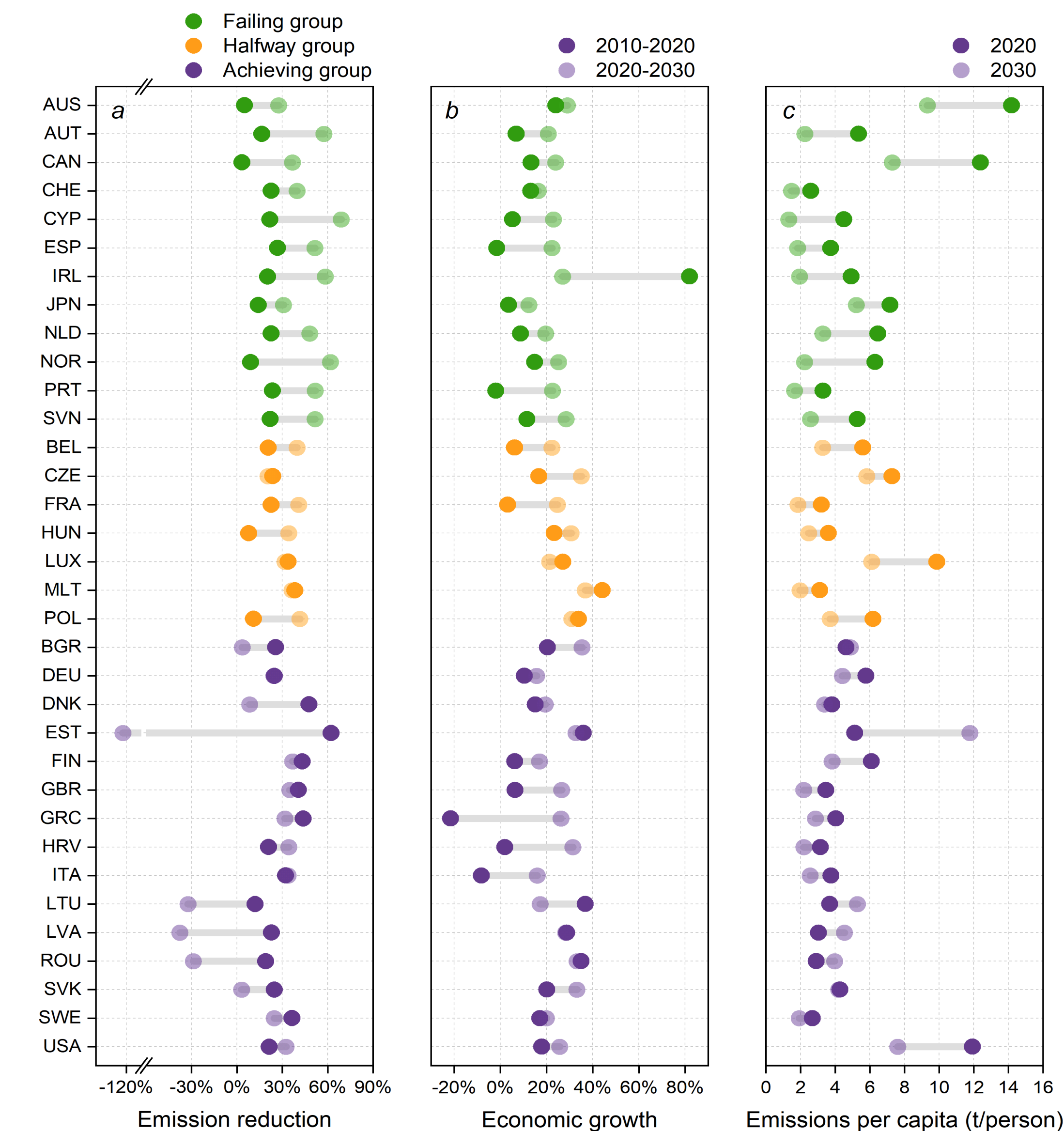


Figure 3 Progresses and challenges in meeting emission targets of NDCs alongside economic development.

◆ The economic growth rates of Norway, Croatia, and Japan in 2010-2020 were 14.8%, 19.5% and 3.6%, and emissions in these countries dropped by 9.1%, 20.9% and 14.2%, respectively. Their economies will grow largely by 25.2%, 31.4% and 12.4% under SSP2 (middle of the road), whereas their emissions will need to fall by a further 61.8%, 34.2% and 30.7% to meet their NDCs for the next stage (2020-2030).

Discussion and Conclusion

Looking back: The study compared the actual net carbon emissions of countries to their 2009 pledged emission reduction targets set during the Copenhagen Climate Summit.

Moving forward: The study mentions that the countries that struggled the most to meet their COP15 targets are likely to encounter even bigger challenges in the future as they face even greater demand for energy as their economies further expand and develop.

It is vital to differentiate between actual territorial emission reductions and potential outsourcing activities by accounting for consumption-based emissions.