

Introduction

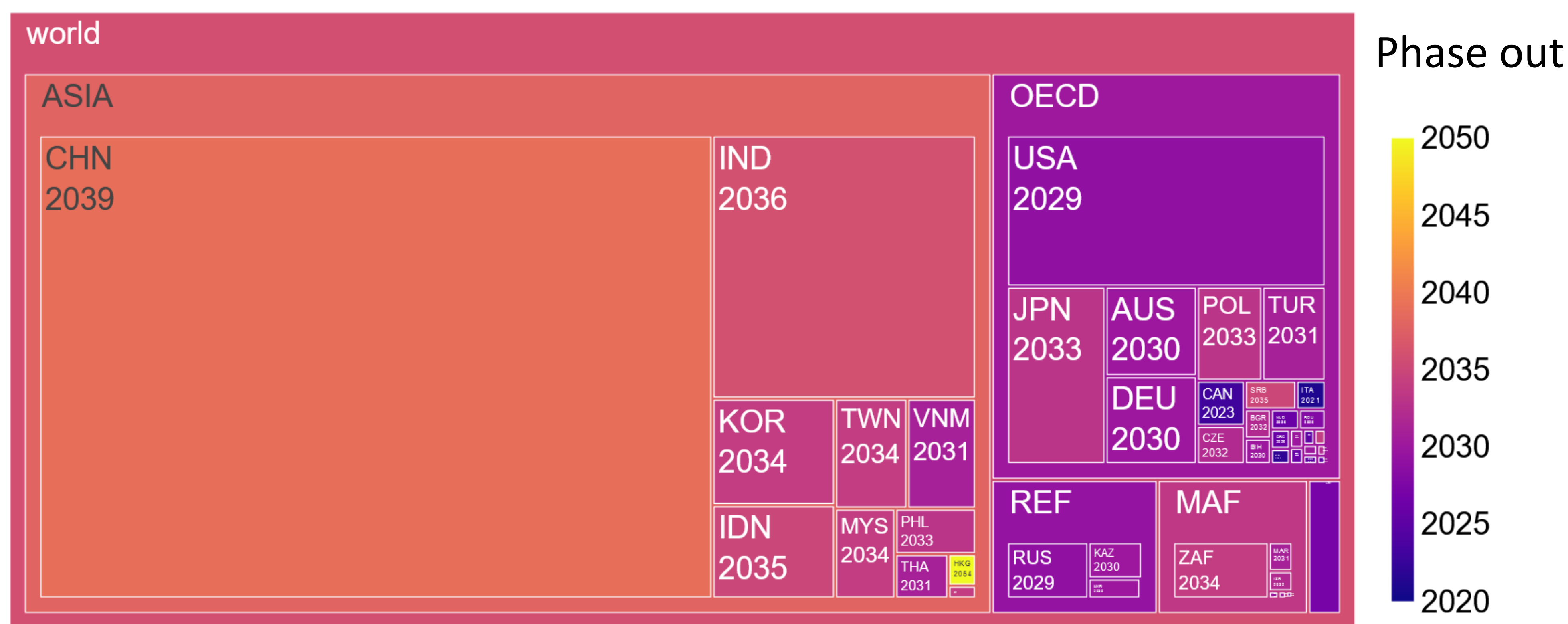
The COP28 in Dubai concluded the first global stocktake, highlighting the need for accelerated decarbonization efforts through a just, orderly, and equitable transition away from fossil fuels.

Integrated Assessment Models (IAMs) provide insights on how to decarbonize economies in line with the Paris Agreement while minimizing costs

We downscale IAMs results to provide guidance on how to align their Nationally Determined Contributions and Long-Term Strategies with the 1.5C pathway.

Results

Electricity generation from Coal



Data

- We rely on IAMs results from the NGFS project
- New release coming soon!



Methods

- We assess the downscaled IAMs results from the NGFS 2024 project, which provides 1.5c scenarios from 3 models (MESSAGE, GCAM and REMIND).
- The downscaling methodology is described in Sferra et al 2021, aiming at replicating historical trends in the short term, while keeping consistency with regional IAMs results.

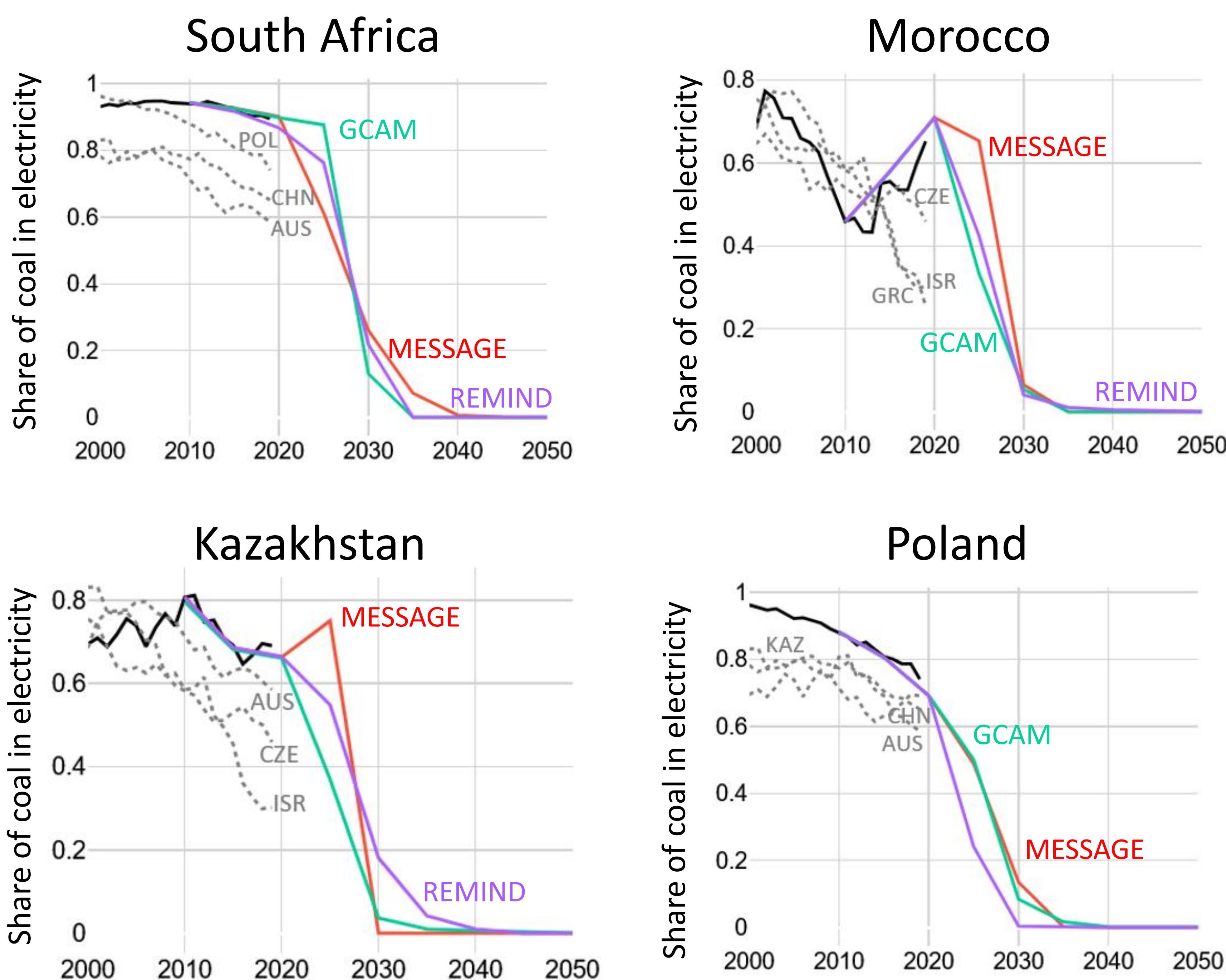
Conclusion

This paper sheds light on how to transition away from fossil fuels, based on the downscaled IAMs results from the NGFS project.

We highlight challenging transition pathways to inform the debate on climate finance.

Spotlight

1.5°C Pathways



Next

- Sensitivity analysis from IAMs results and downscaling parameters
- Feasibility assessment

Caveats

- No equity considerations! Only NDCs and LTS targets are included
- International funding is key to achieve decarbonization in developing countries.

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Reference

Sferra, F., van Ruijven, B., & Riahi, K. (2021). Downscaling IAMs results to the country level – a new algorithm. IIASA Report IIASA, Laxenburg, Austria - <https://data.ene.iiasa.ac.at/ngfs>