

ENGAGE

Exploring National and Global Actions to reduce Greenhouse gas Emissions

Bas van Ruijven, ENGAGE/NAVIGATE Final Event Brussels

10 October 2023

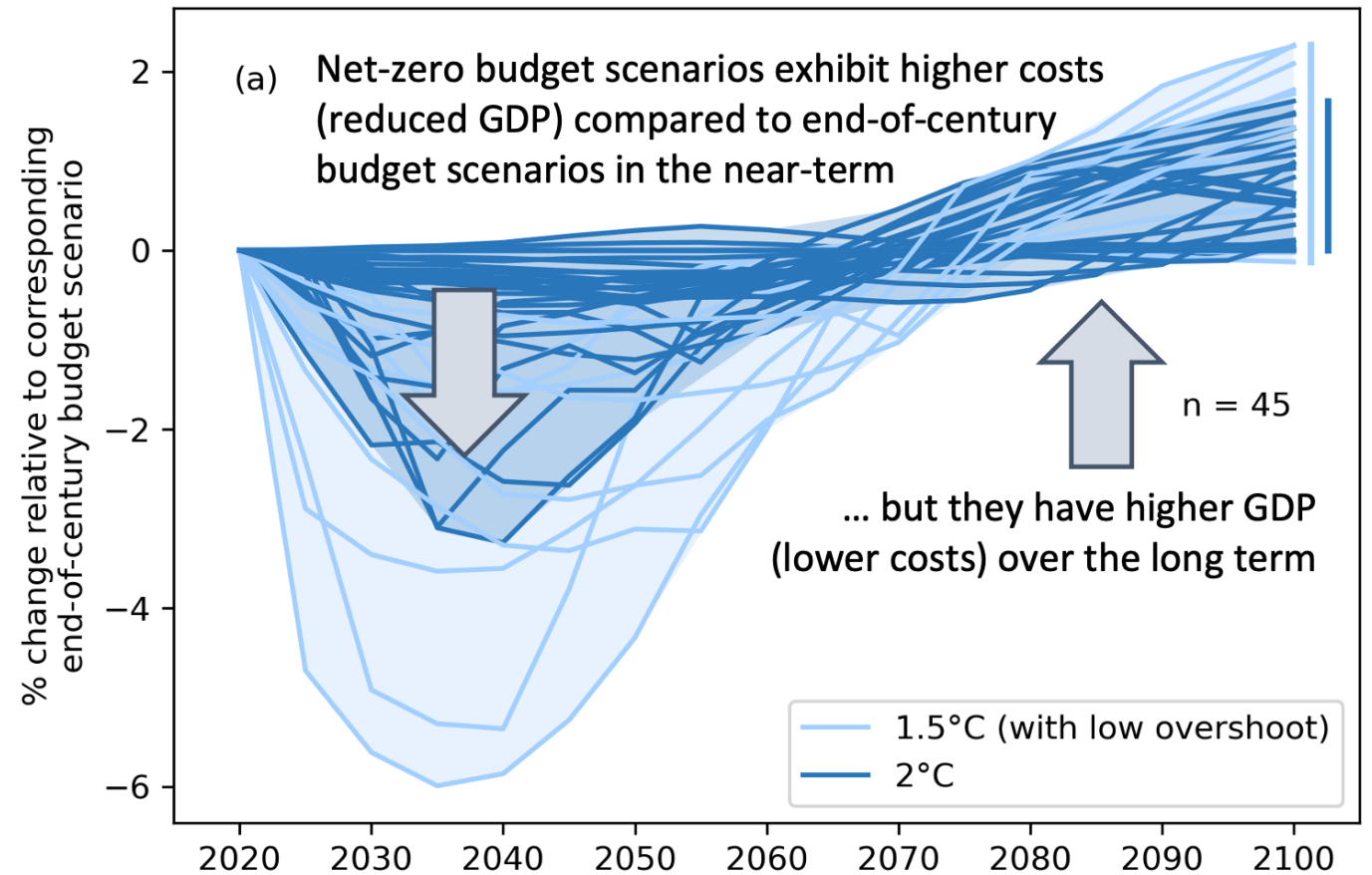
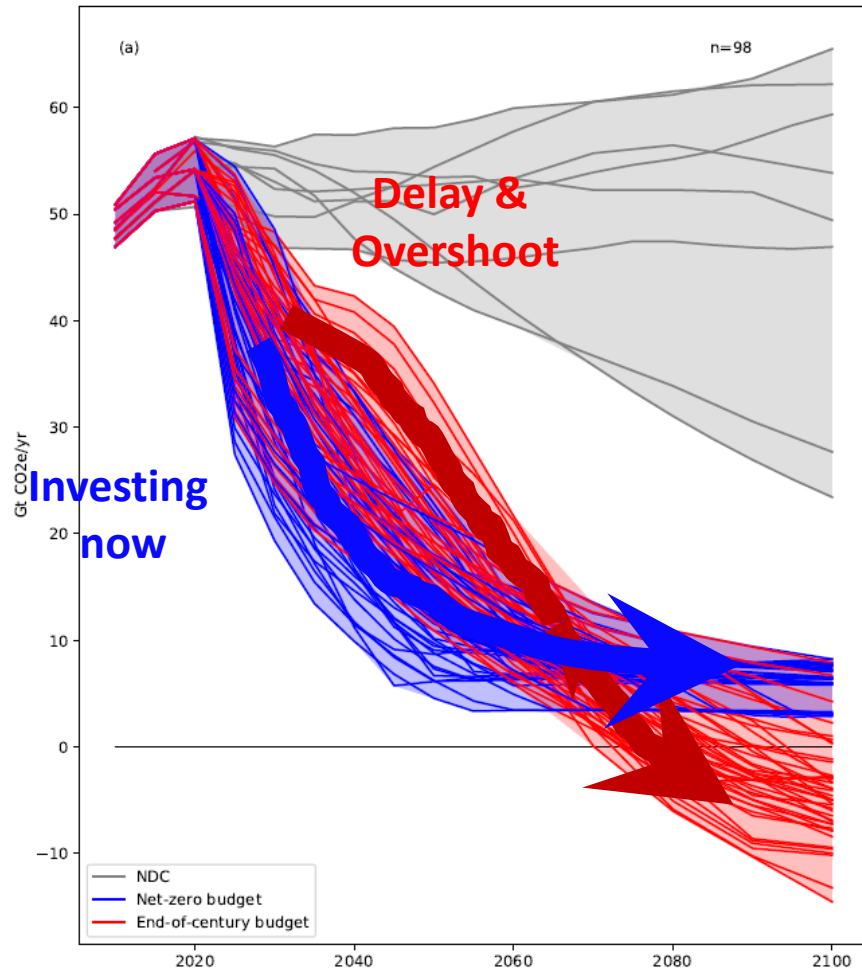
Key policy insights

1. Limiting overshoot creates multiple long-term benefits
2. Support for improving institutional capacity for implementation is key
3. To close the gap to 1.5C: expand net zero targets and bring them forward in time.

Reducing overshoot creates long-term benefits

World GHG Emissions

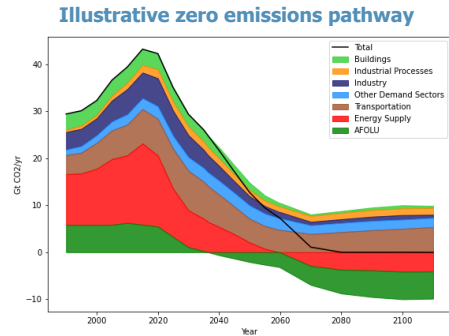
- NDC
- No net negative CO₂ emissions
- With net negative CO₂ emissions



Reducing overshoot creates long-term benefits

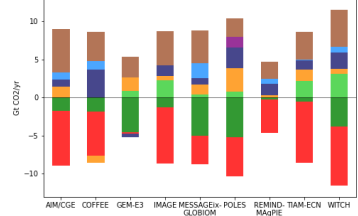
Impacts and Benefits of Mitigation

New Net-Zero CO2 Emissions Pathways

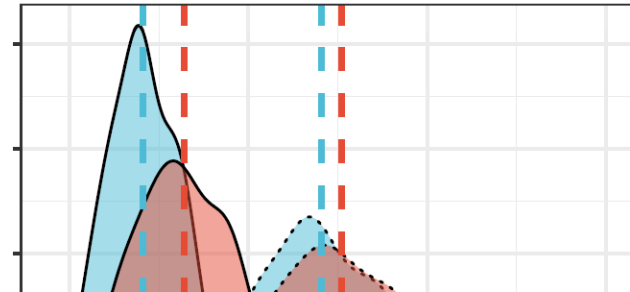


Riahi et al, 2021

Different strategies across models



a) Heatwave duration



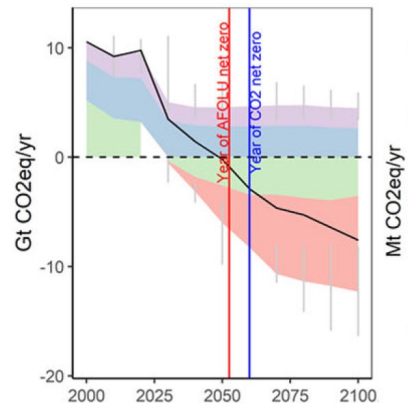
- Scenario design
- End of century
 - Net zero
- cluster
- likely 1.5°C
 - below 2°C

Drouet et al, 2021

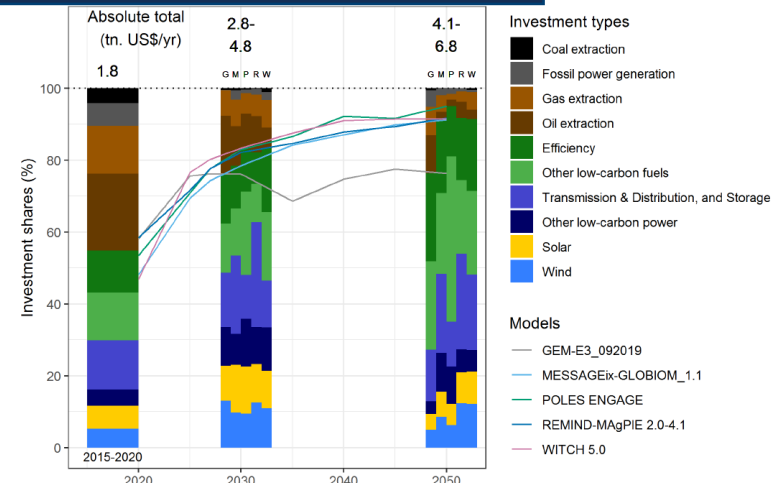
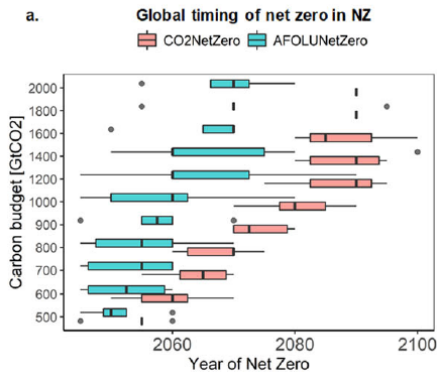
Critical input for the IPCC AR6 (WGIII)

~600 global pathways by 9 teams

AFOLU Sector for Reaching Net-Zero



Hasegawa et al, 2021



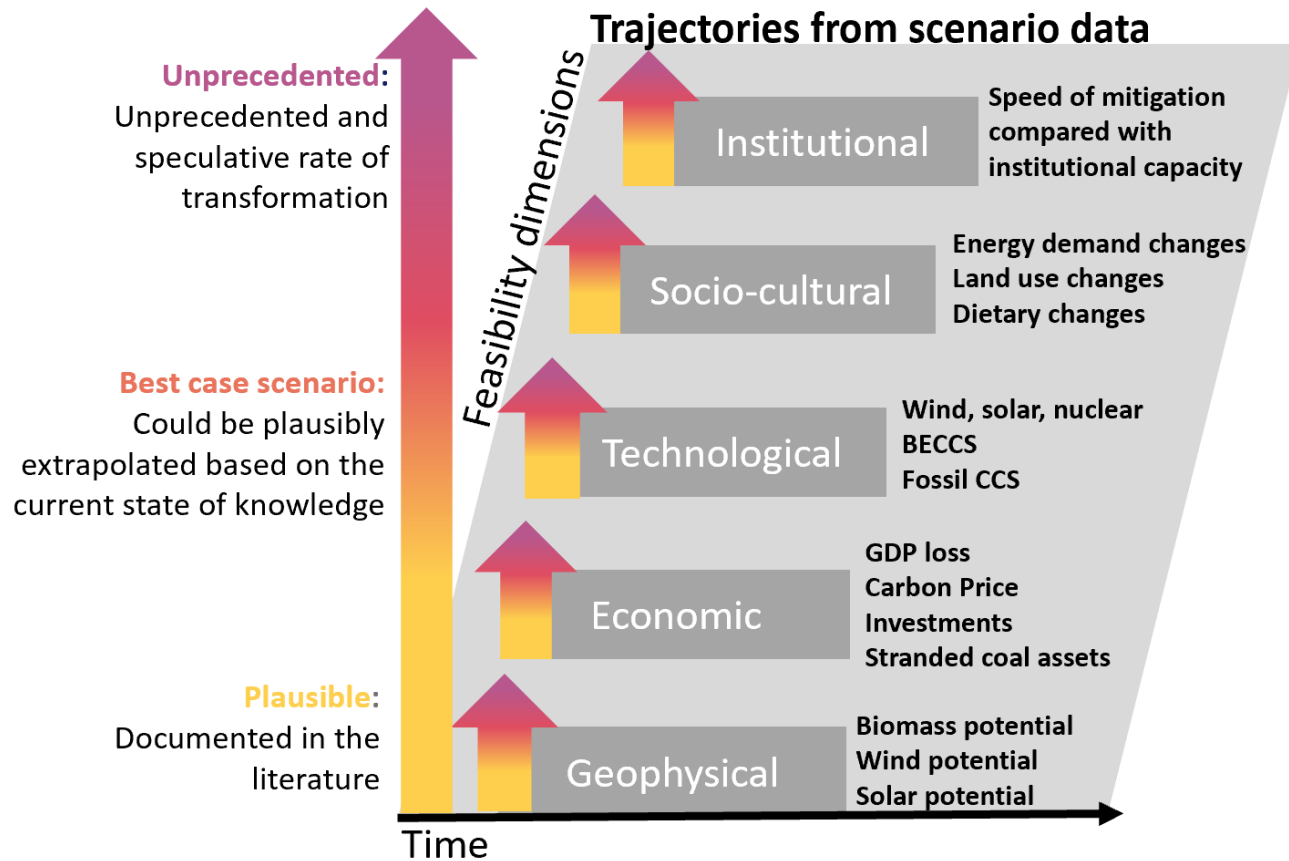
Bertram et al, 2021

ments

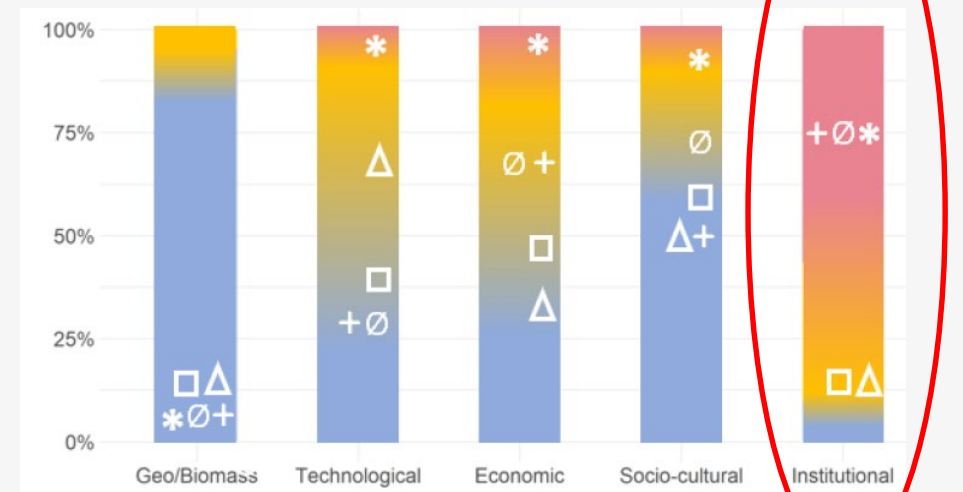
Key challenges comprise governance and institutional dimension in the developing world



Benchmarking to available evidence

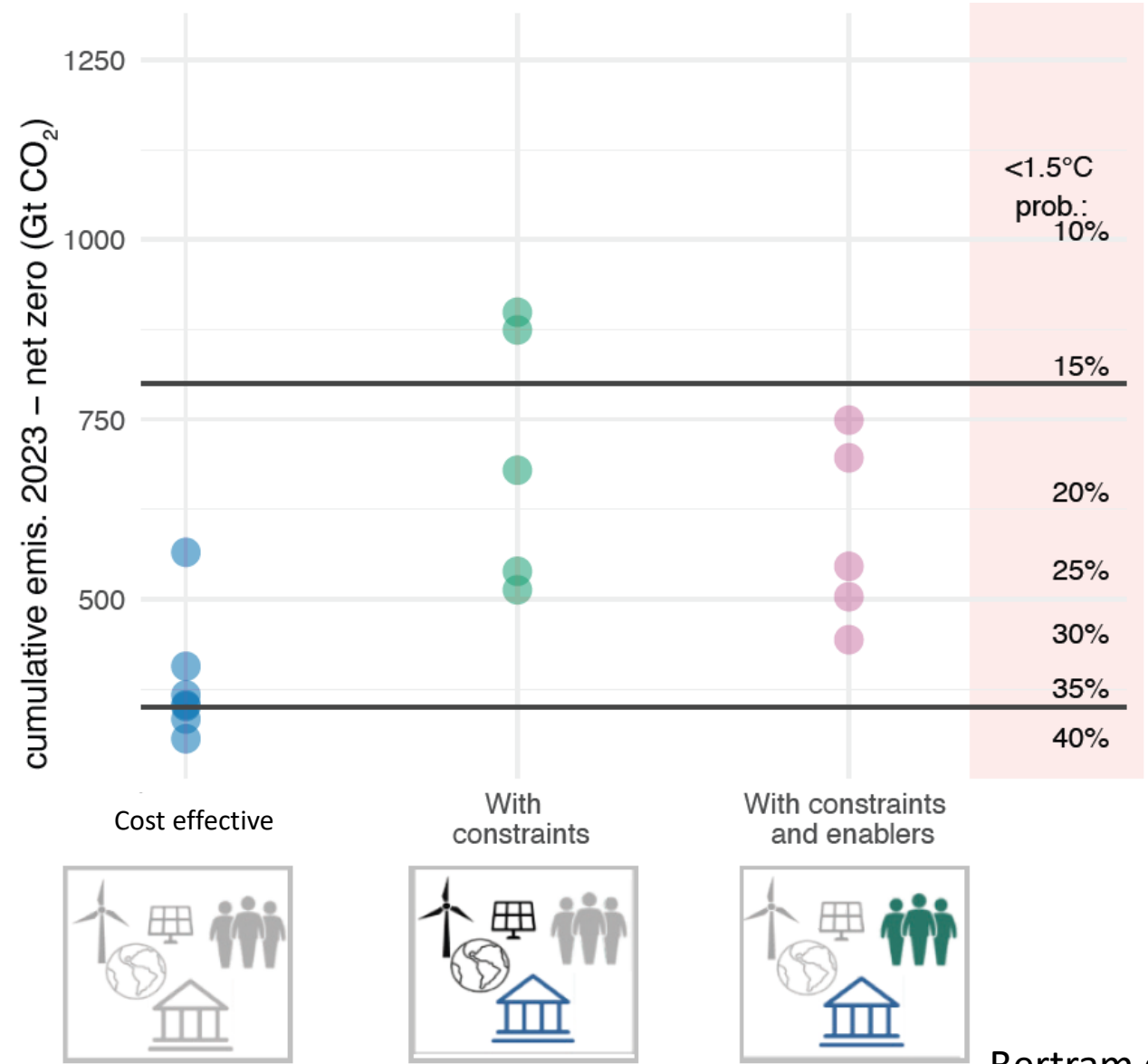


Feasibility evaluation of 1.5C and 2C pathways

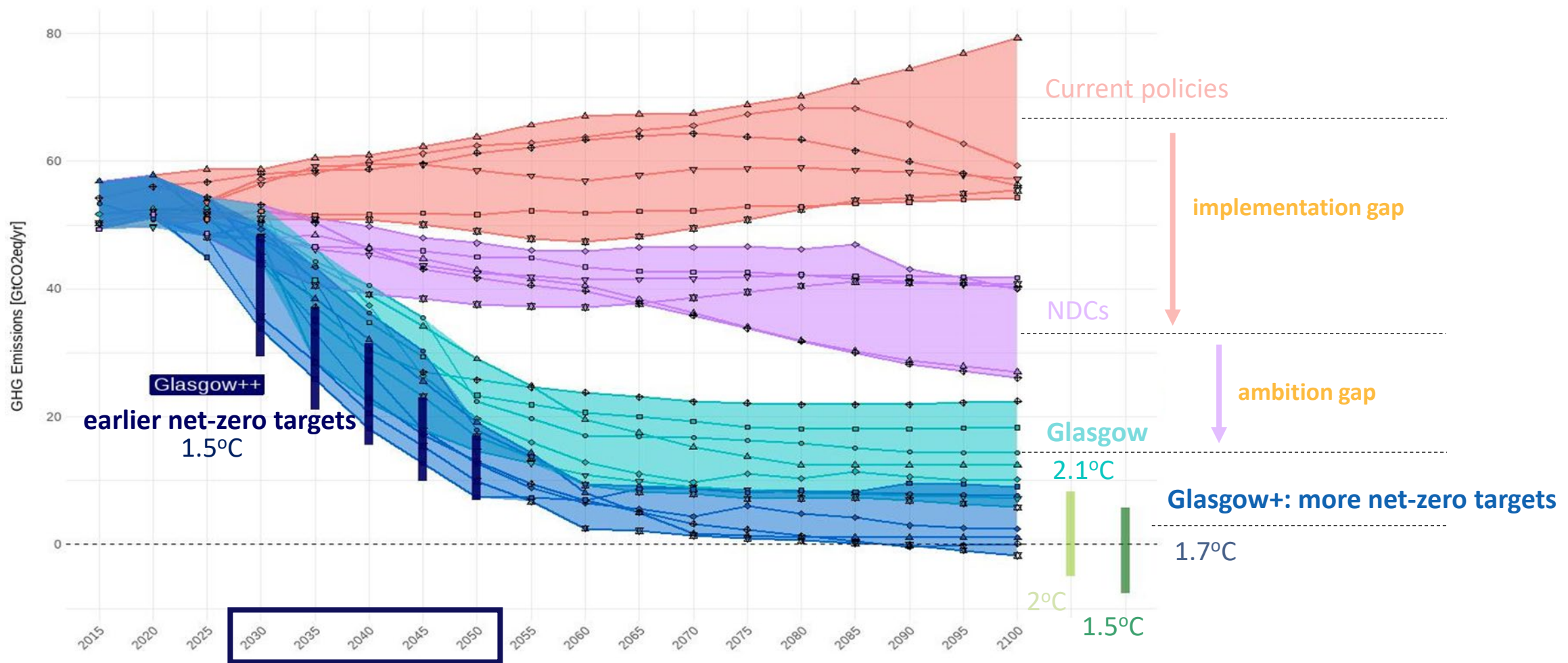


Support for improving institutional capacity for implementation is key

- Warming probably overshoots 1.5°C with feasibility constraints
- Countries with high institutional capacity should take more responsibility for near-term mitigation.
- Low demand & electrification improve likelihood of staying below 1.5°C and minimize overshoot



To close the gap to 1.5C: expand net zero targets and bring them forward in time.



Key policy insights

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Scenario data and solutions explorer

Impacts explorer

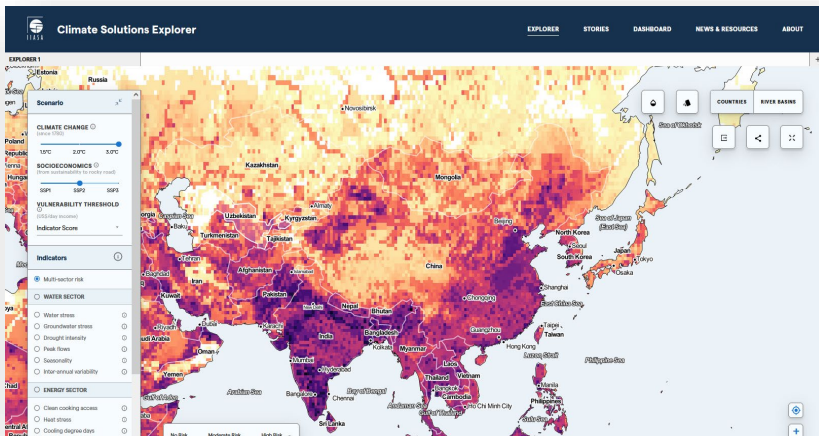
- Maps visualization of avoided impacts datasets
- 1.2 to 3.5 °C global warming level (GWL)
- Latest CMIP6/ISIMIP data

Net-zero stories

- Interactive articles / e-policy briefs with maps and charts on key topics

National Dashboards

- Interactive dashboards for every country
- (Avoided) climate impacts
- Energy & emissions pathways
- Tradeoffs & co-benefits

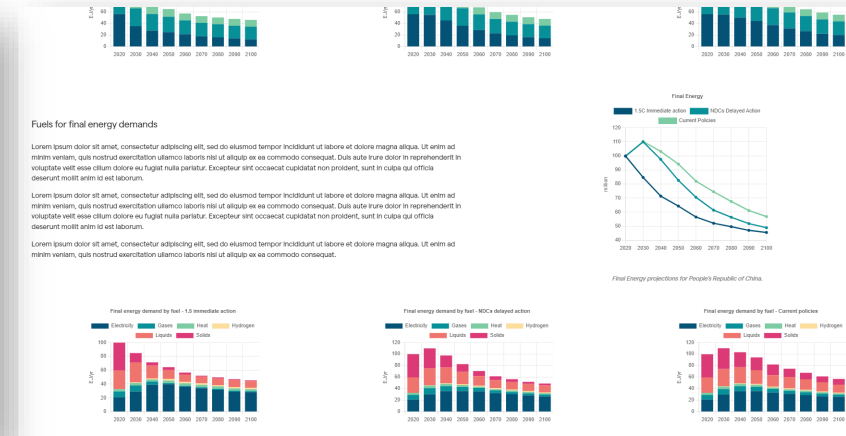


Co-benefits of achieving net zero emissions by 2050 in Thailand

Aside from climate benefits, greenhouse gases mitigation brings several co-benefits including health, environment, improved land utilization, and energy security. Co-benefits of GHG mitigation are often neglected in policy analyses. Incorporating co-benefits in the assessment of GHG emissions reduction would bring higher positive impacts on the overall outcomes.

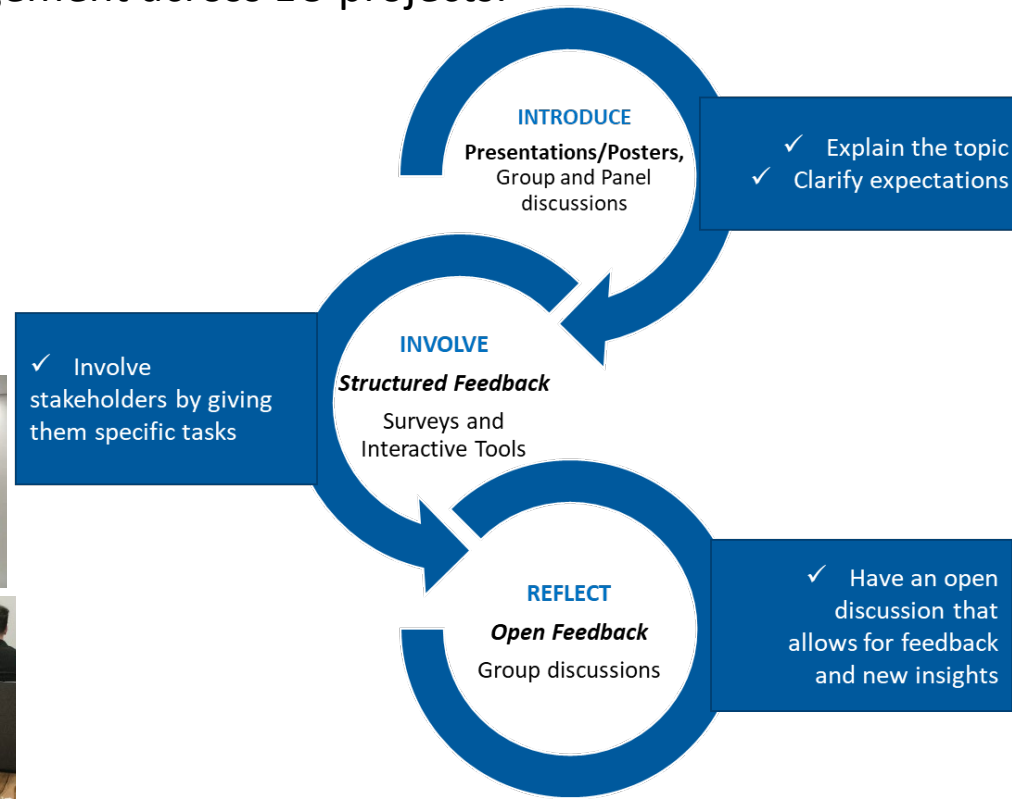
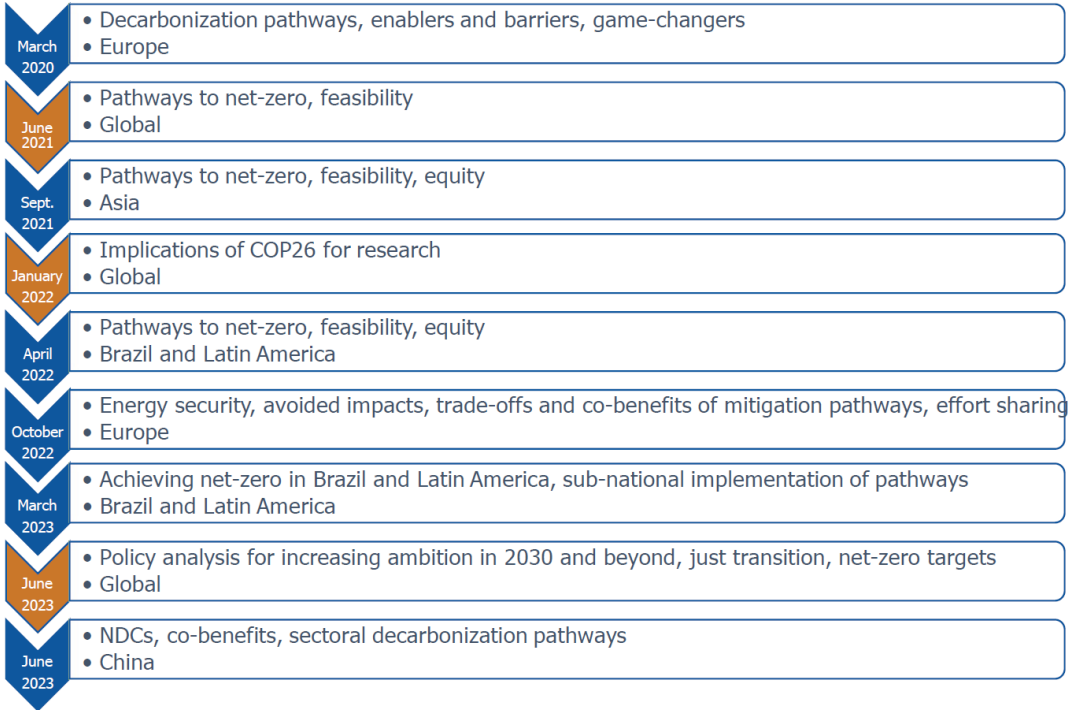
Key insights

- GHG mitigation brings additional benefits, including improved health, enhanced resources utilization and reduced resource use.
- Lowering of local air pollutant emissions would improve local environmental air quality thereby having positive impacts on health.
- Enhanced energy security due to reduced dependence on imported energy.

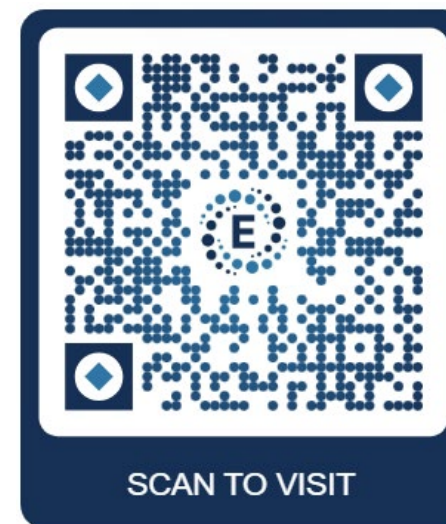


ENGAGE stakeholder workshops

- Online activities cannot fully replace physical meetings.
- Capacity building is essential to increase the facilitation skills of partners and scientific understanding among other stakeholders.
- A central platform is needed to document lessons learned in stakeholder engagement across EU projects.



Thank you very much for your attention!



www.climate-solutions-explorer.eu

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For more information, you call also contact: engage.secretariat@iiasa.ac.at



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