

The Global Environment Outlook 7 Scoping Meeting

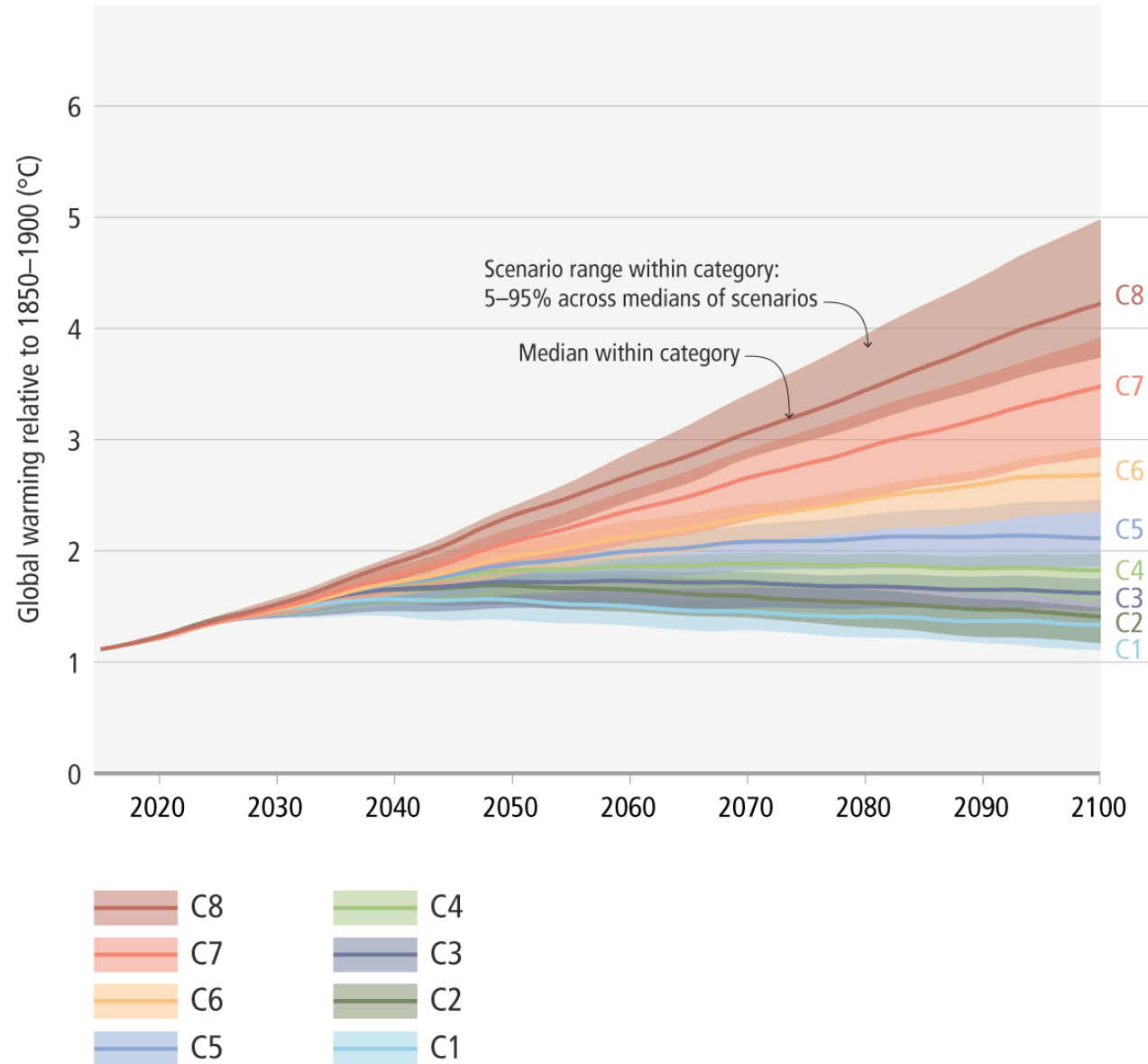


Expert Dialogue – Energy Systems

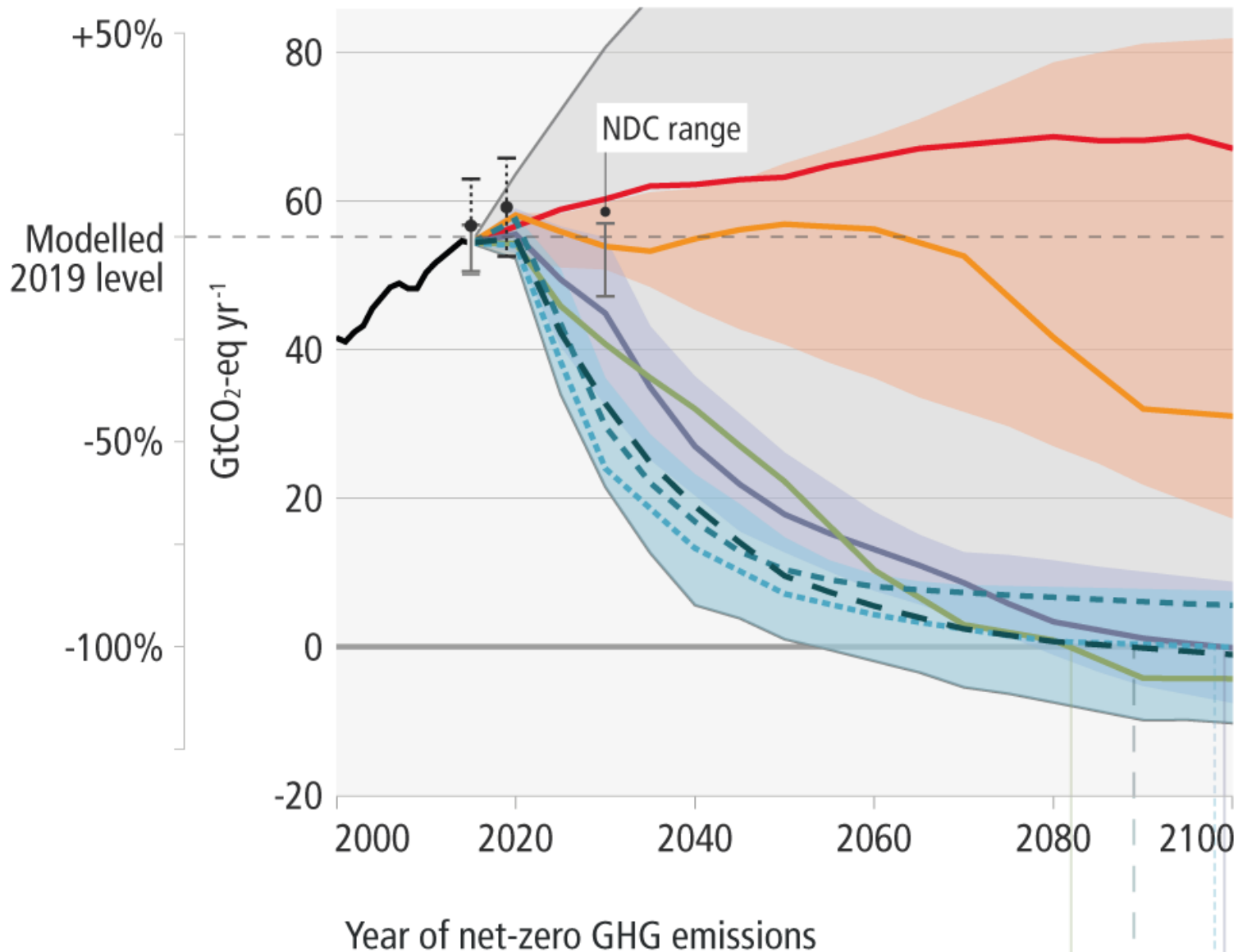
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Emma Gordon
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18 October 2022

a. Median global warming across scenarios in categories C1 to C8



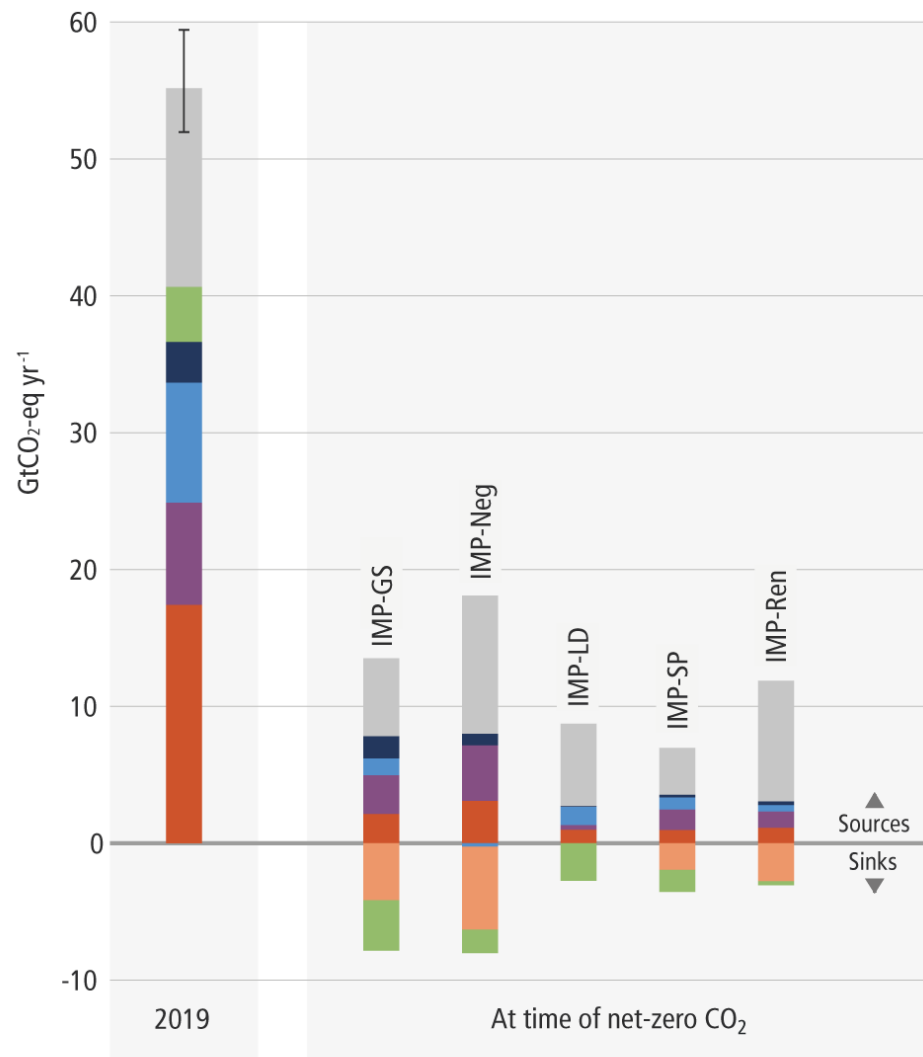
a. Net global GHG emissions



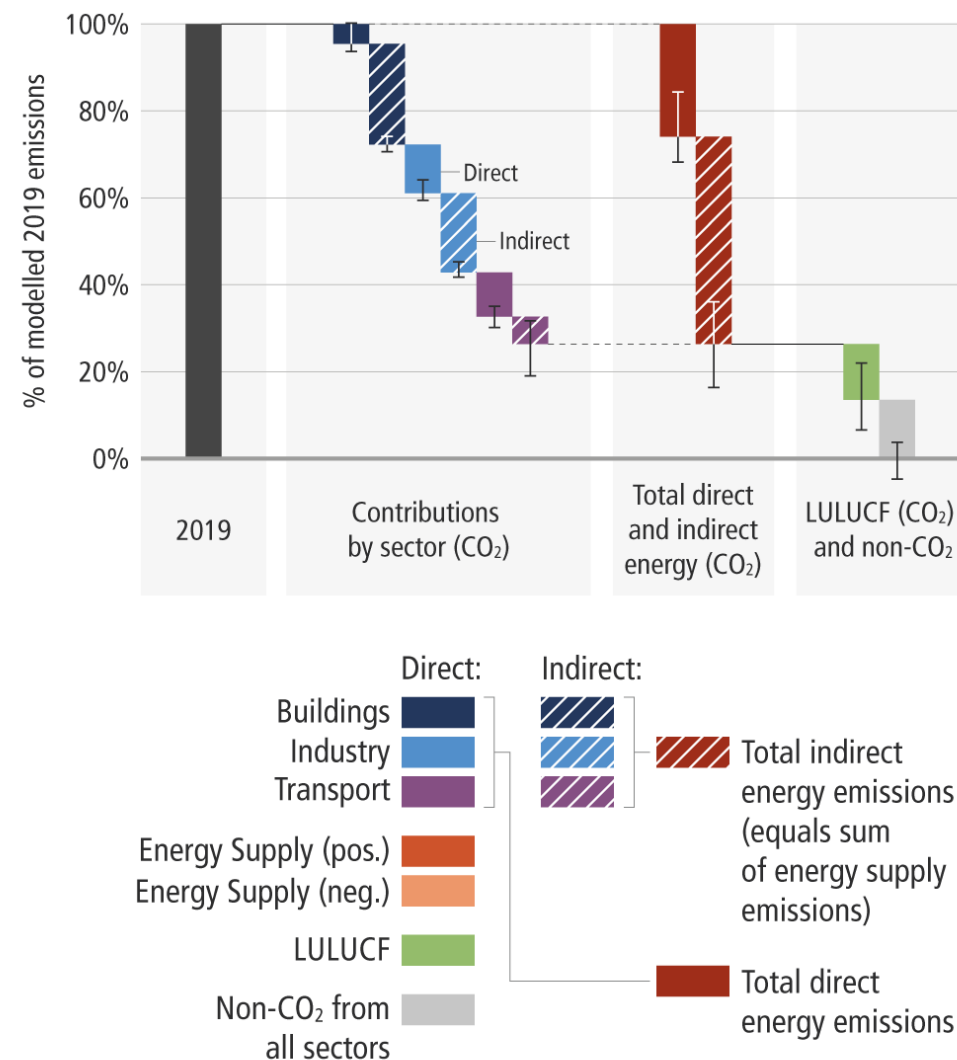
- All climate categories
(very likely range)
- Implemented policies and 2030 pledges
(very likely range)
- Limit warming to 2°C (>67%) (C3)
(very likely range)
- Limit warming to 1.5°C (>50%)
with no or limited overshoot (C1)
(very likely range)

Net zero CO₂ and net zero GHG emissions are possible through different modelled mitigation pathways.

e. Sectoral GHG emissions at the time of net-zero CO₂ emissions (compared to modelled 2019 emissions)



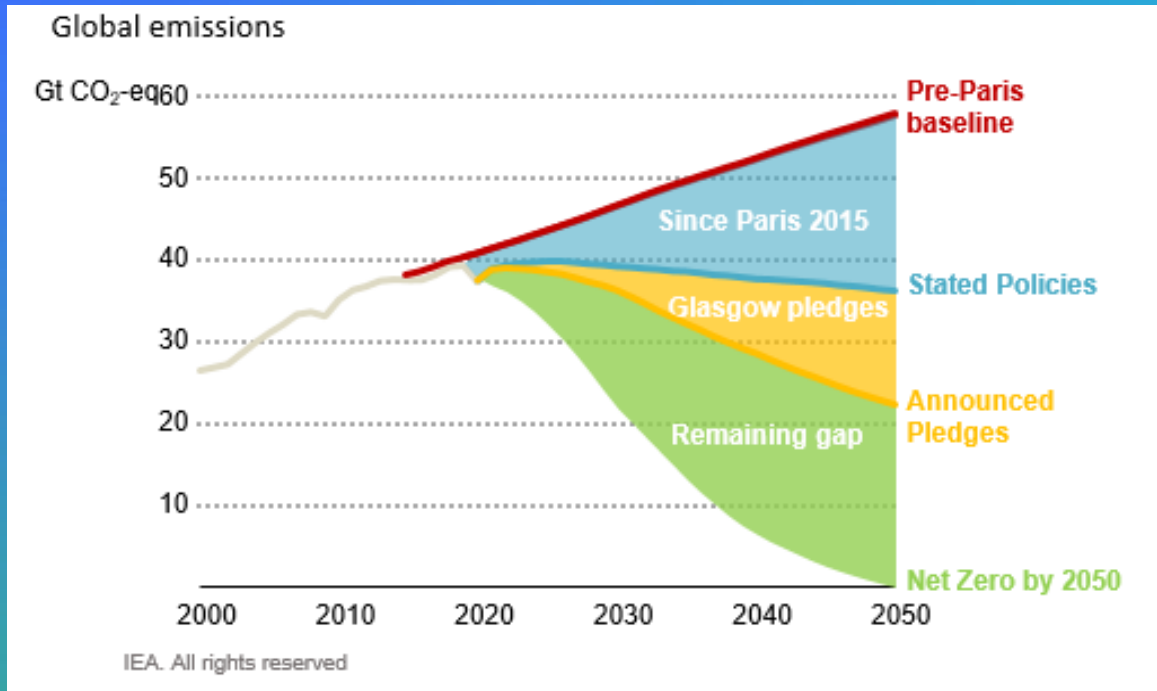
f. Contributions to reaching net zero GHG emissions (for all scenarios reaching net-zero GHGs)



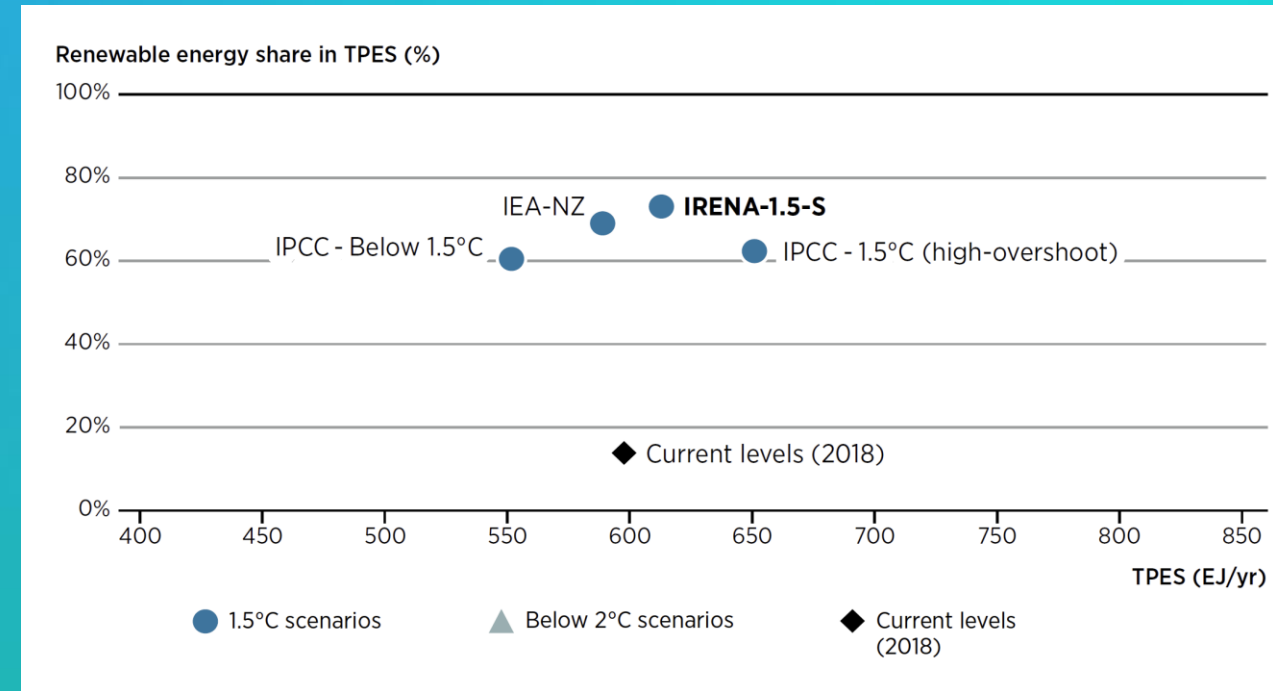
IPCC WG3 AR6 Fig SPM.5 e, f

<https://www.ipcc.ch/report/ar6/wg3/figures/summary-for-policymakers>

Today's policies and pledges remain far from net-zero by 2050. Multiple end-states, but a narrowing range of pathways.

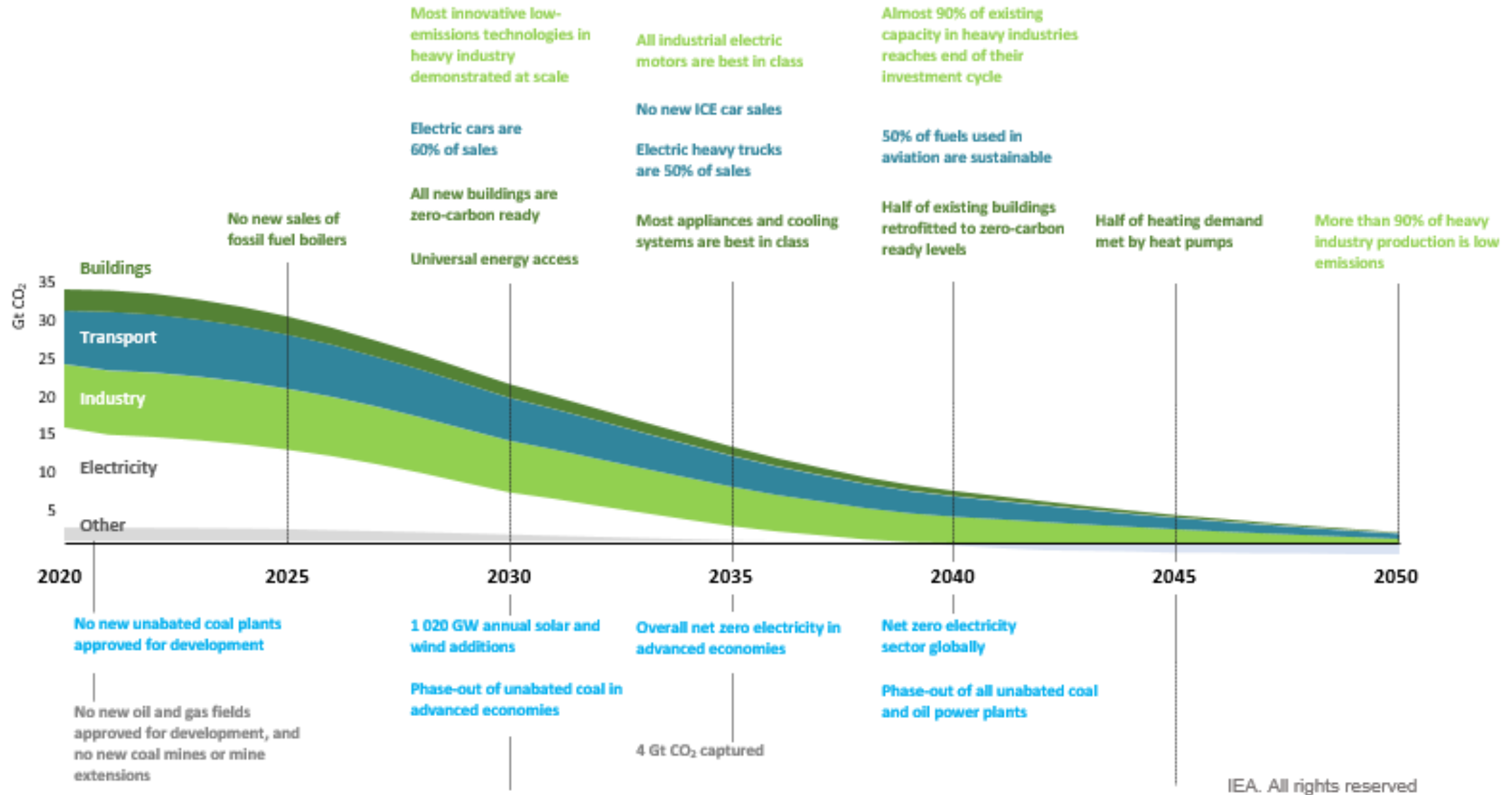


Updated NDCs & long-term net zero pledges decouple emissions and economic growth this decade. However, today's pledges remain far from 1.5°C, and with a large shortfall in 2030.



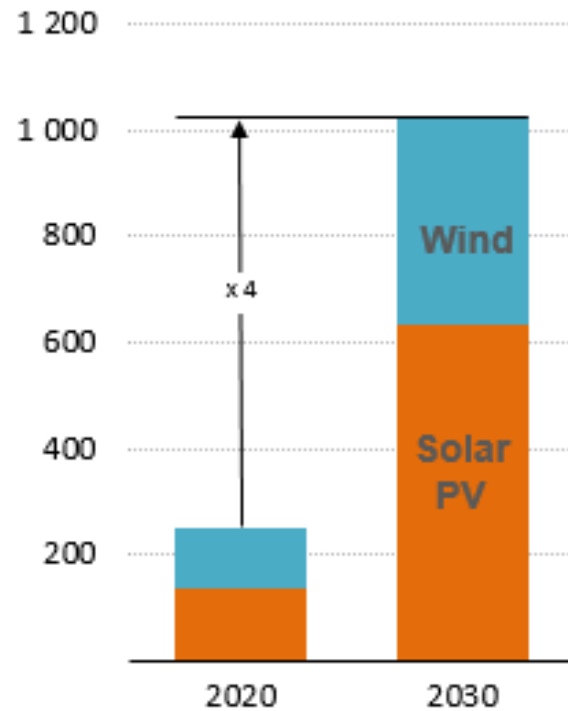
There is no singular pathway to 1.5°C, but the direction of travel is clear: The energy sector must be one of the first to drive decarbonization, especially between now and 2030, focused on efficiency, renewables, and universal access.

Near-term policy milestones needed to be on track

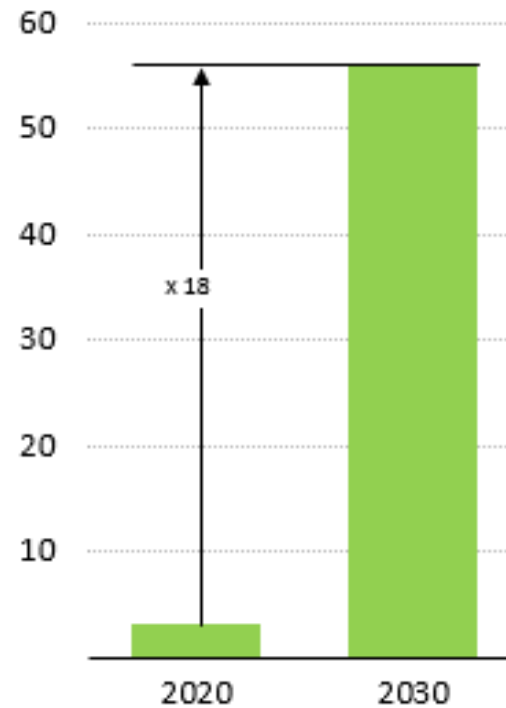


Make the 2020s the decade of massive clean energy expansion

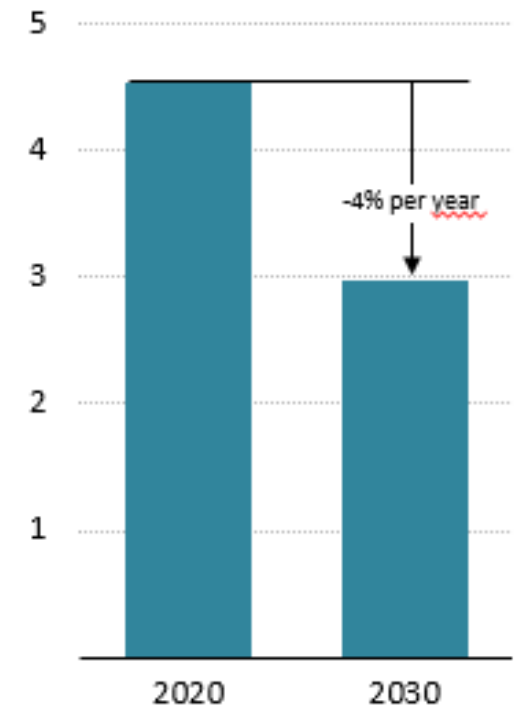
Solar PV and wind capacity additions (GW)



Electric car sales (millions)



Energy intensity of GDP (MJ per USD PPP)

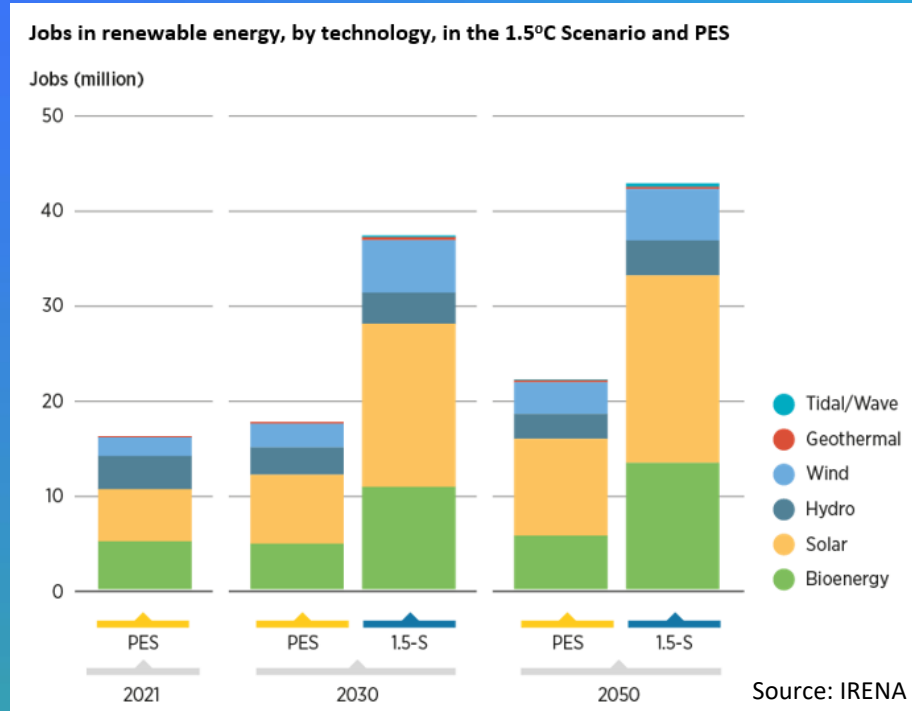


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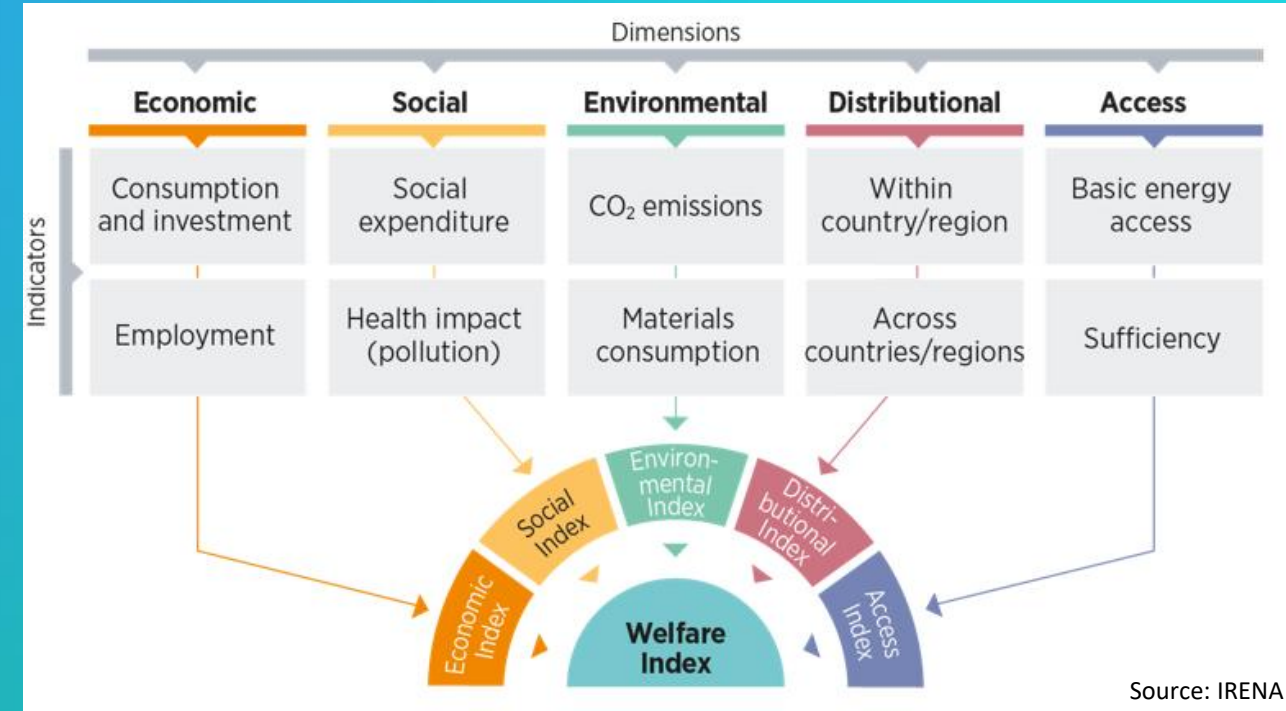
Technologies for achieving the necessary deep cuts in global emissions by 2030 exist, but staying on the narrow path to net-zero requires their immediate and massive deployment.

The energy transition has the potential to bring many socio-economic benefits on the global level

+ 2.4% GDP per year in the next decade compared to PES

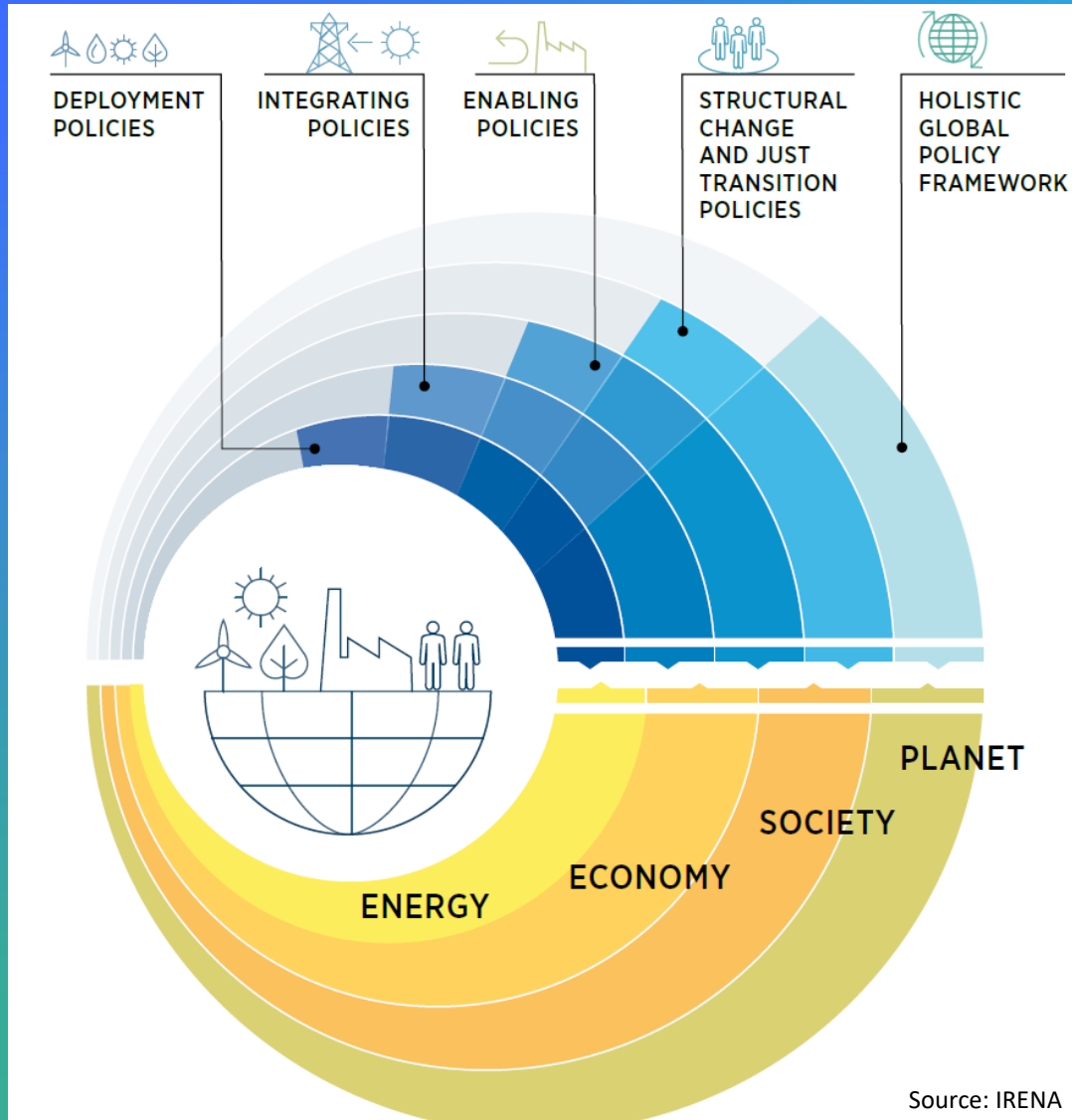


- Renewable energy jobs will increase from 12.7 million in 2021 to 43 million in 2050. Solar PV accounts for the largest share.
- Construction, installation and manufacturing boost renewable jobs during the following decade, with O&M gaining relative weight as the transition advances under the 1.5°C Scenario.



- IRENA's Energy Transition Welfare Index captures economic, social, environmental, distributional and energy access dimensions. For the first time, the Index reports distributional and energy access dimensions that are often overlooked in other analyses.

A comprehensive policy framework for a just and inclusive energy transition



Five System Transitions in Adaptation



Land, ocean,
coastal and
freshwater
ecosystems



Urban, rural and
infrastructure



Energy



Industry

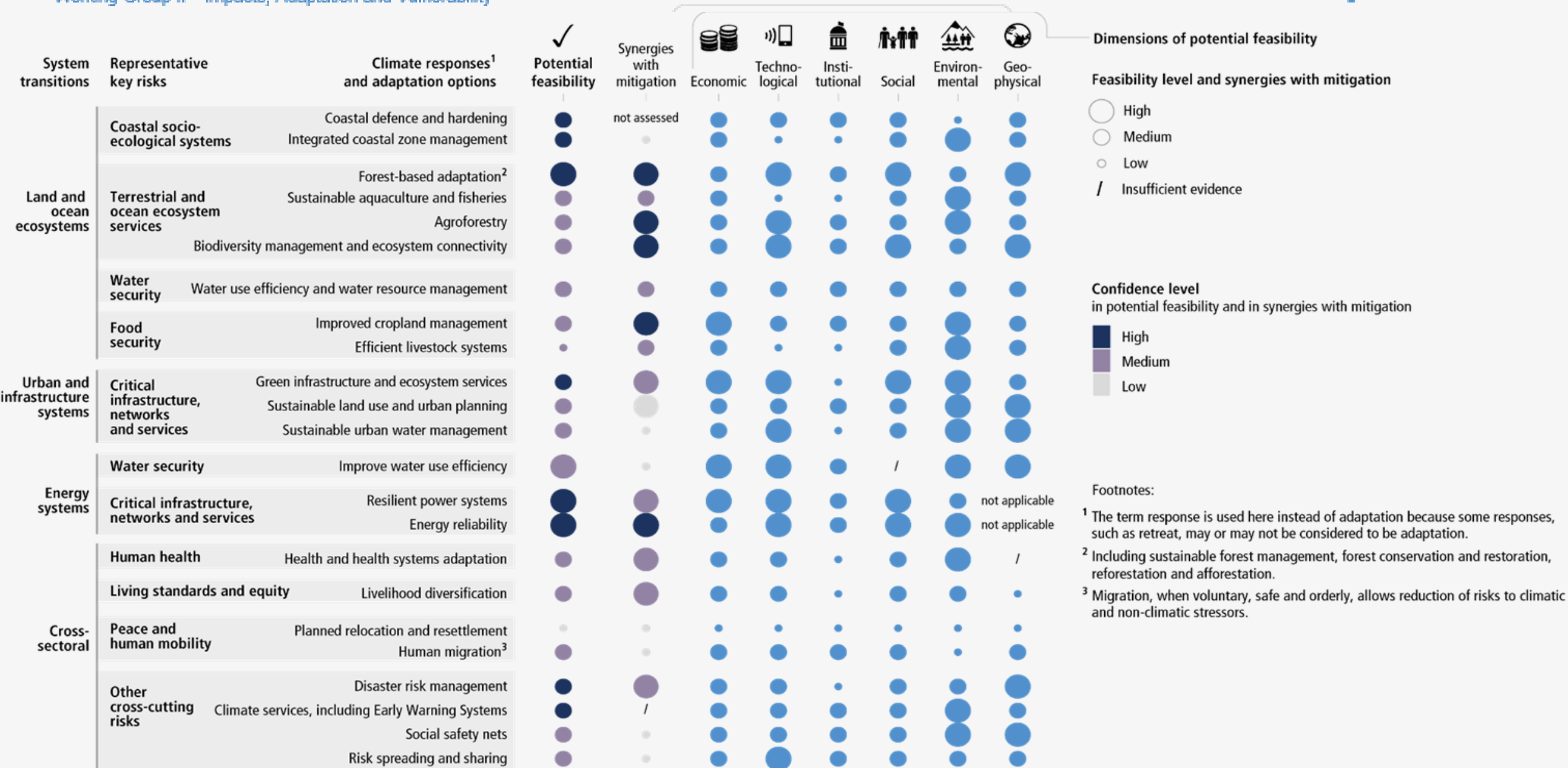


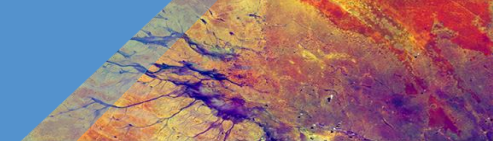
Society

- Make possible the adaption required for human health and well being; economic and social resilience; ecosystem health and planetary health
- Are important for achieving the low global warming levels that would avoid many limits to adaptation

SIXTH ASSESSMENT REPORT

Working Group II – Impacts, Adaptation and Vulnerability

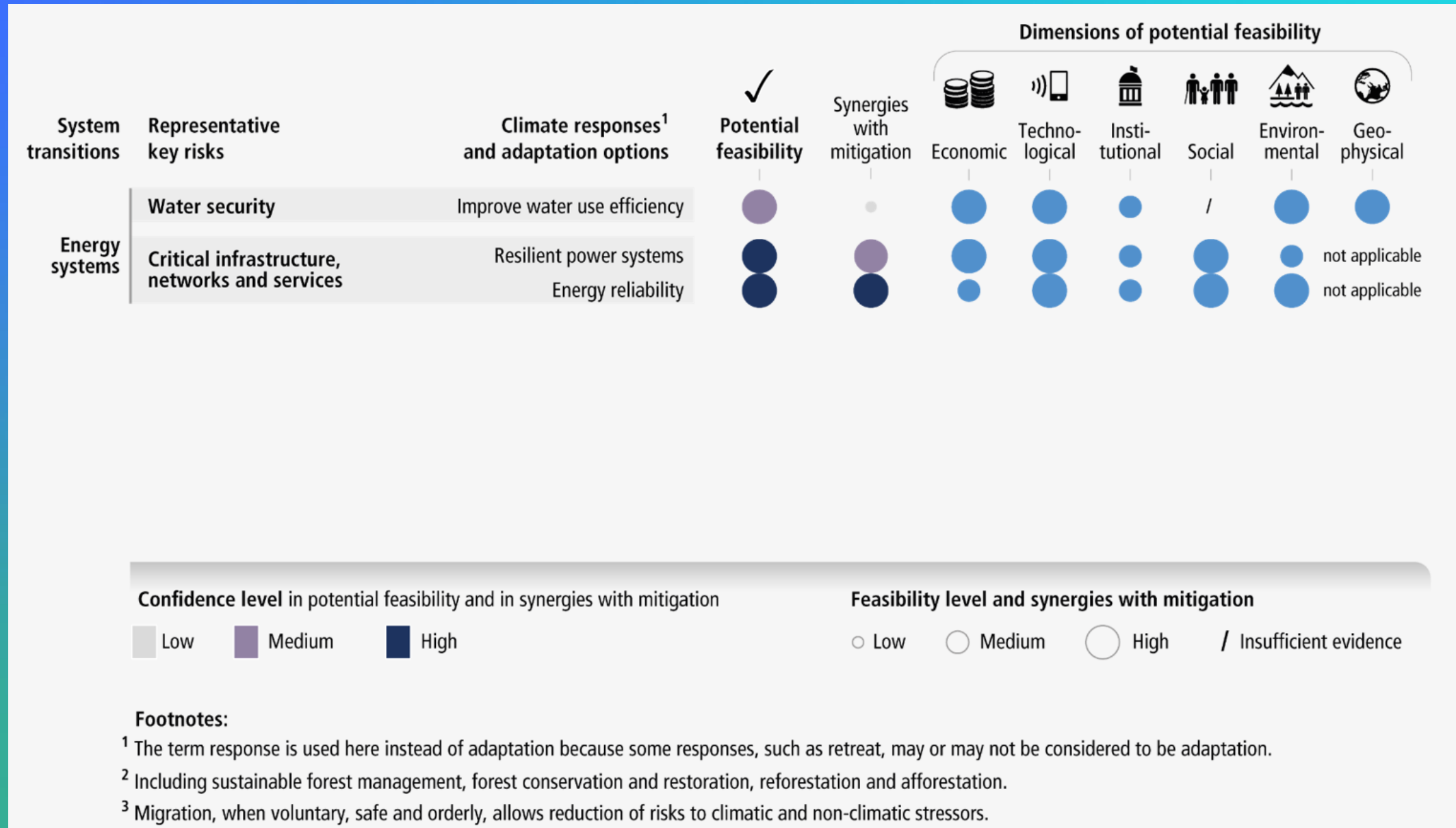




Indicators for adaptation

Dimensions	Adaptation indicators
Economic	Micro-economic viability Macro-economic viability Socio-economic vulnerability reduction potential Employment & productivity enhancement potential
Technological	Technical resource availability Risks mitigation potential
Institutional	Political acceptability Legal & regulatory feasibility Institutional capacity & administrative feasibility Transparency & accountability potential
Socio-cultural	Social co-benefits (health, education) Socio-cultural acceptability Social & regional inclusiveness Intergenerational equity Gender equity
Environmental/ ecological	Ecological capacity Adaptive capacity/ resilience building potential
Geophysical	Physical feasibility Land use change enhancement potential Hazard risk reduction potential

The Feasibility of Adaptation measures





Thank you!

Comments, questions?

