

Systems transitions and sustainable development in the Special Report on 1.5°C

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COP25 – IPCC Pavilion

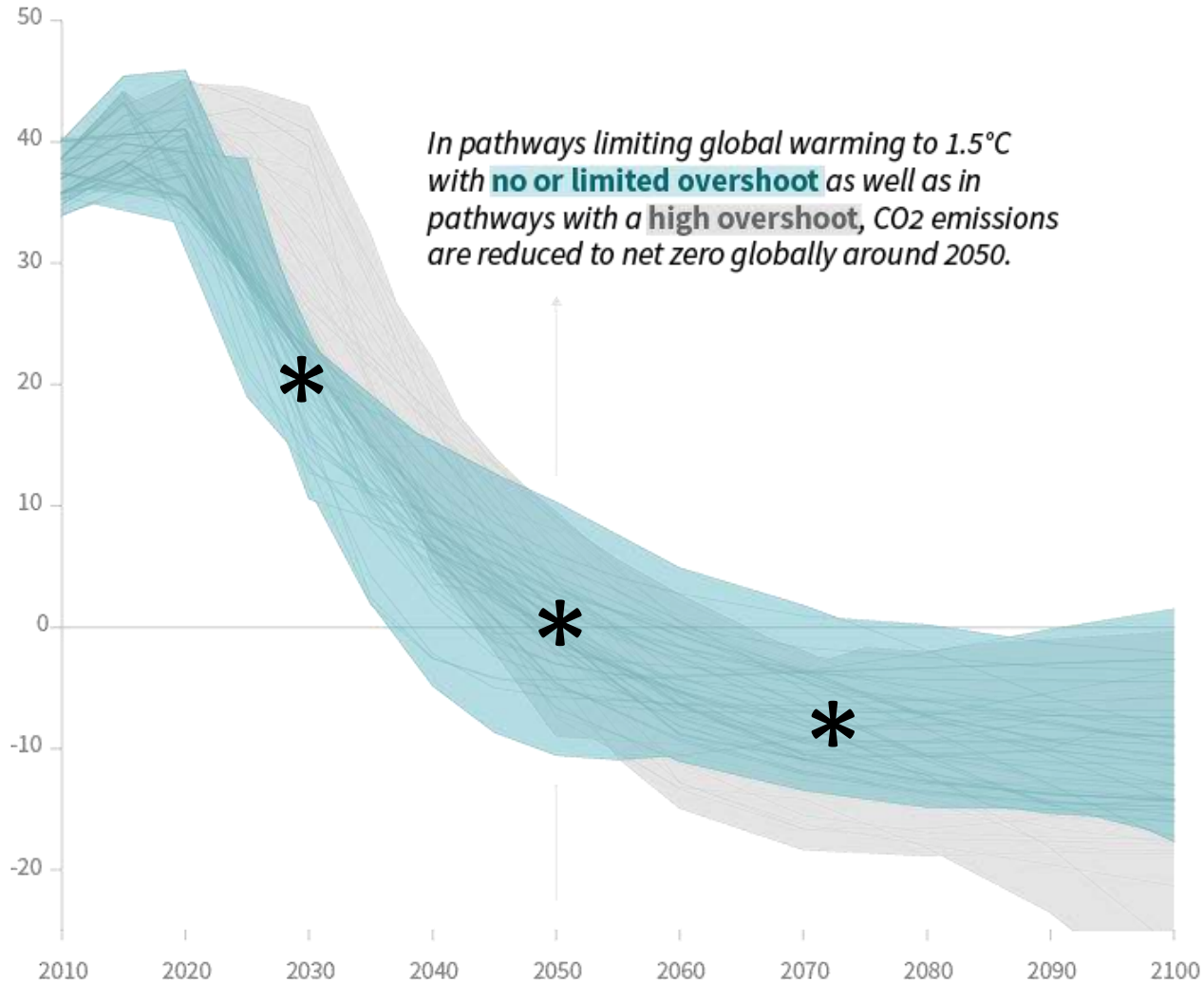
1.5C/2C pathways and Sustainable Development

4 December 2019



Global total net CO₂ emissions

Billion tonnes of CO₂/yr

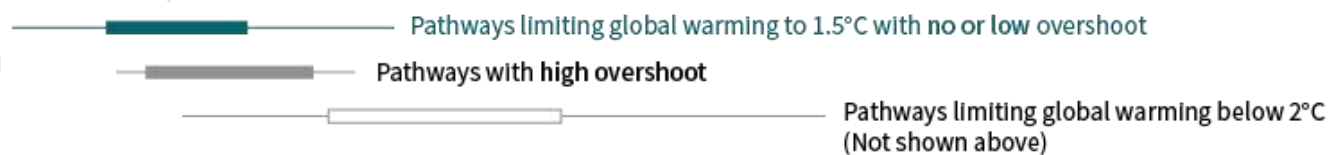


-45% CO₂ in 2030

Net zero CO₂ in 2050

Carbon dioxide removal

Timing of net zero CO₂
Line widths depict the 5-95th percentile and the 25-75th percentile of scenarios





Energy



Land

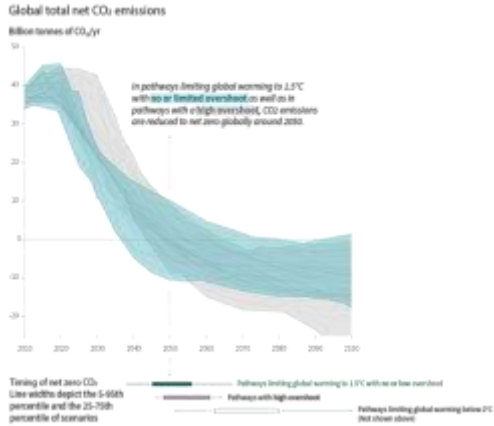


**Urban &
Infrastructure**



Industry

Pathways integrated assessment models



Systems transitions

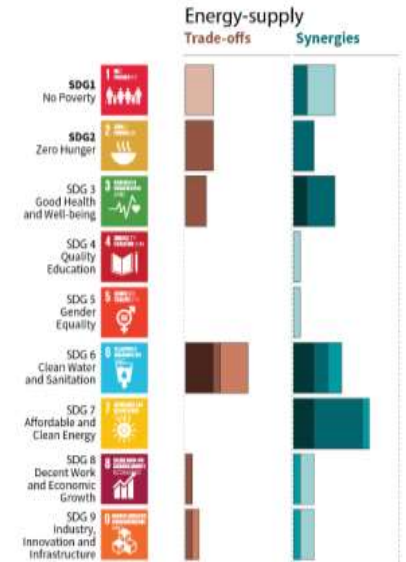
How can we make the systems transitions feasibly happen?

How societal goals be maximised while doing 1.5°C-consistent mitigation and adaptation?

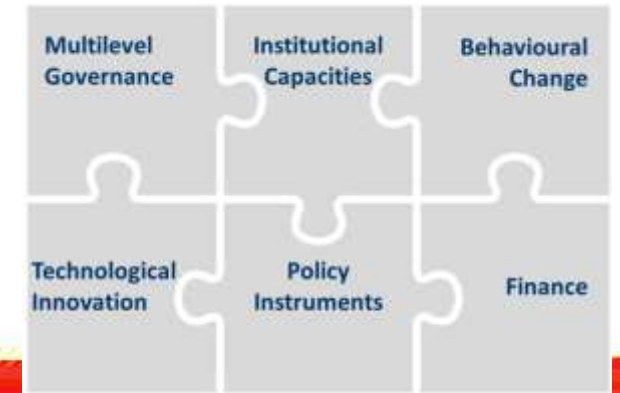
Feasibility of options



Synergies and trade-offs Sustainable Development Goals

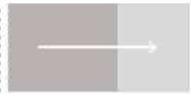


Enabling conditions



Most synergies by reducing demand for energy, materials and land

Length shows strength of connection

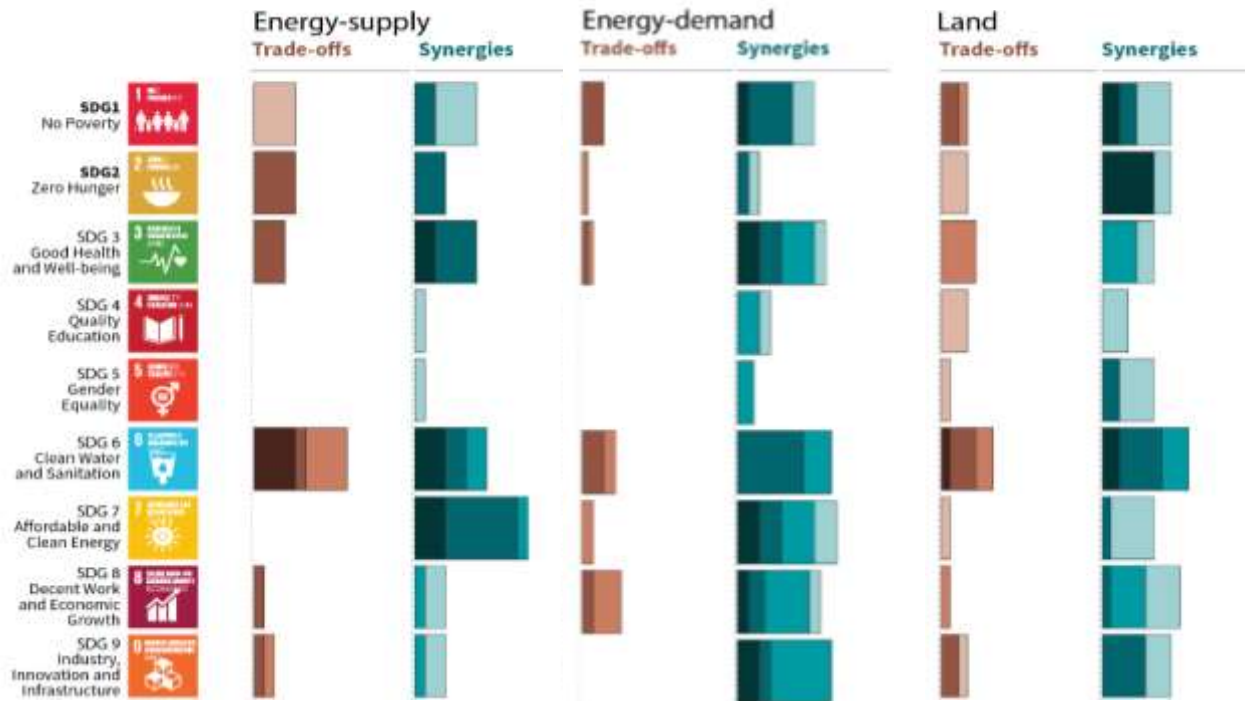


The overall size of the coloured bars depict the relative for synergies and trade-offs between the sectoral mitigation options and the SDGs.

Shades show level of confidence



The shades depict the level of confidence of the assessed potential for **Trade-offs/Synergies**.



Robust synergies between 1.5C and ...

- SDG 3 (health)
- SDG 7 (clean energy)
- SDG 11 (cities)
- SDG 12 (sustainable cons & prod)
- SDG 14 (oceans)

Risks of trade-offs with

- SDG 1 (poverty)
- SDG 2 (hunger)
- SDG 6 (water access)
- SDG 7 (energy access)



How to maximize synergies ?

- ❑ **Act fast while anticipating long-term changes**

To keep the possibility of choices in the future

- ❑ **Combine actions from different actors**

Mobilizing all stakeholders operating at different scales

- ❑ **Think within structured strategies**

Combinations of systemic, dynamic and context-specific actions

- ❑ **Coordinate actions**

International cooperation is a critical enabler for the effectiveness and equity of the transition