

What do Climate Neutrality Goals Mean to national Long-Term Energy Scenarios?

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IRENA 3rd International Forum

Long-term Energy Scenarios for the Clean Energy Transition

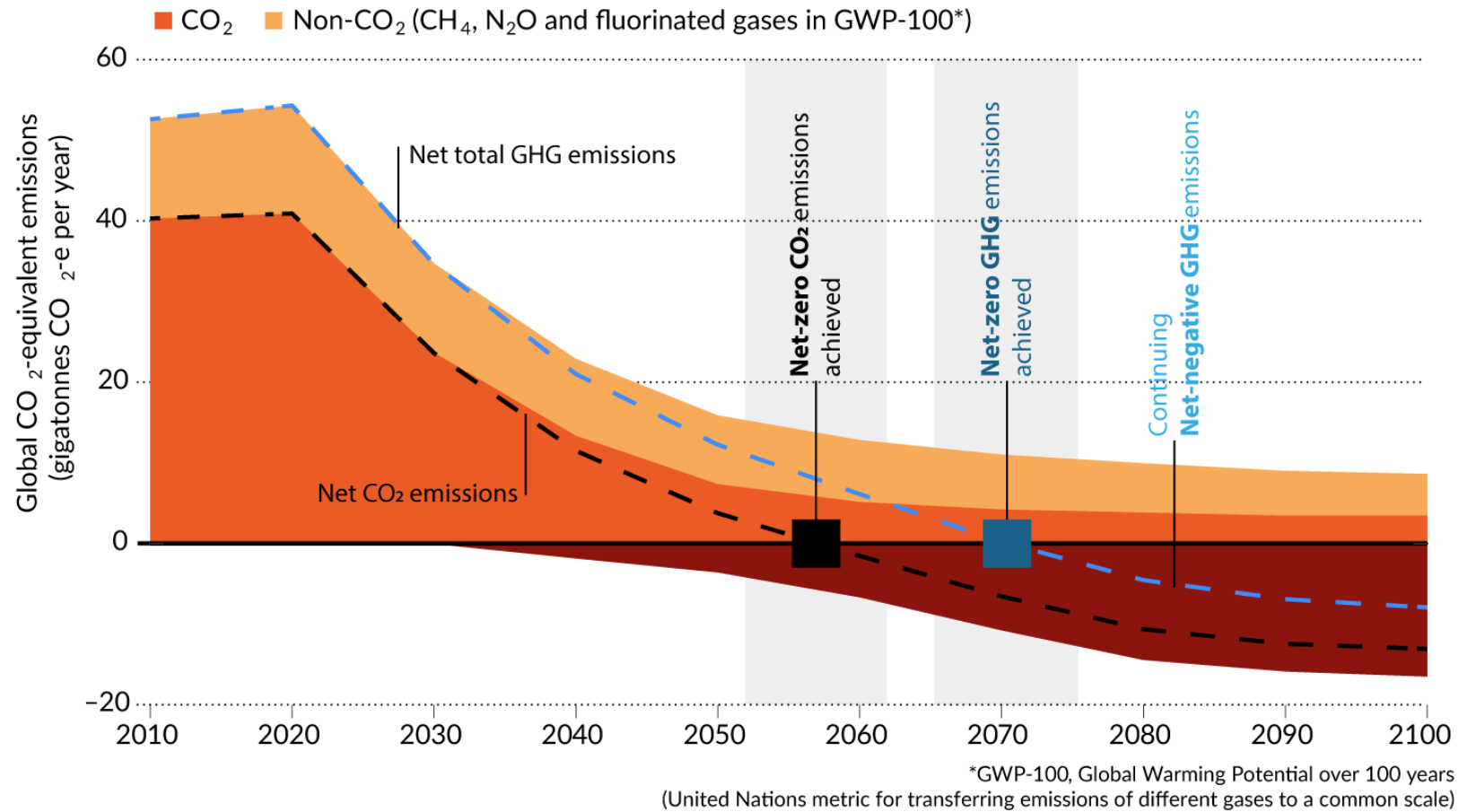
Carbon neutrality vs Climate neutrality

- Concept emerged in scientific literature
 - Net zero CO₂ emissions (but not always)
 - Requirement to stop warming
- Concept emerged in policy literature
 - Net zero greenhouse gas (GHG) emissions
 - Achieves more than carbon neutrality

Net zero fundamentals

Global greenhouse-gas (GHG) emissions

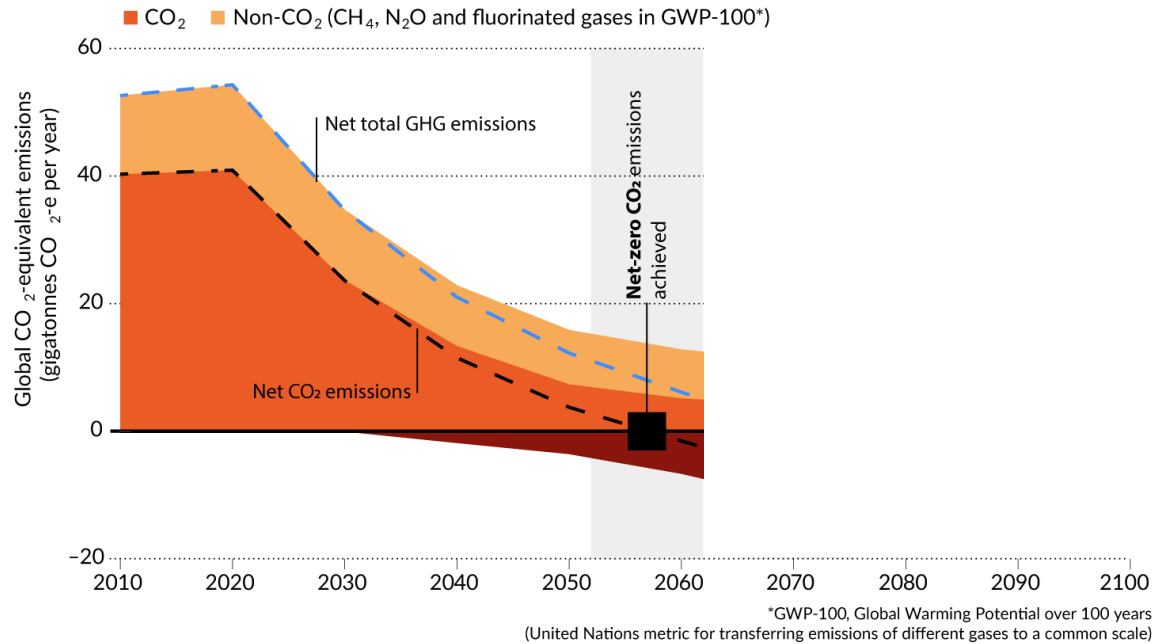
Illustrative pathway for reaching net-zero carbon dioxide and net-zero GHG emissions.



Net zero fundamentals: emissions and temperature implications

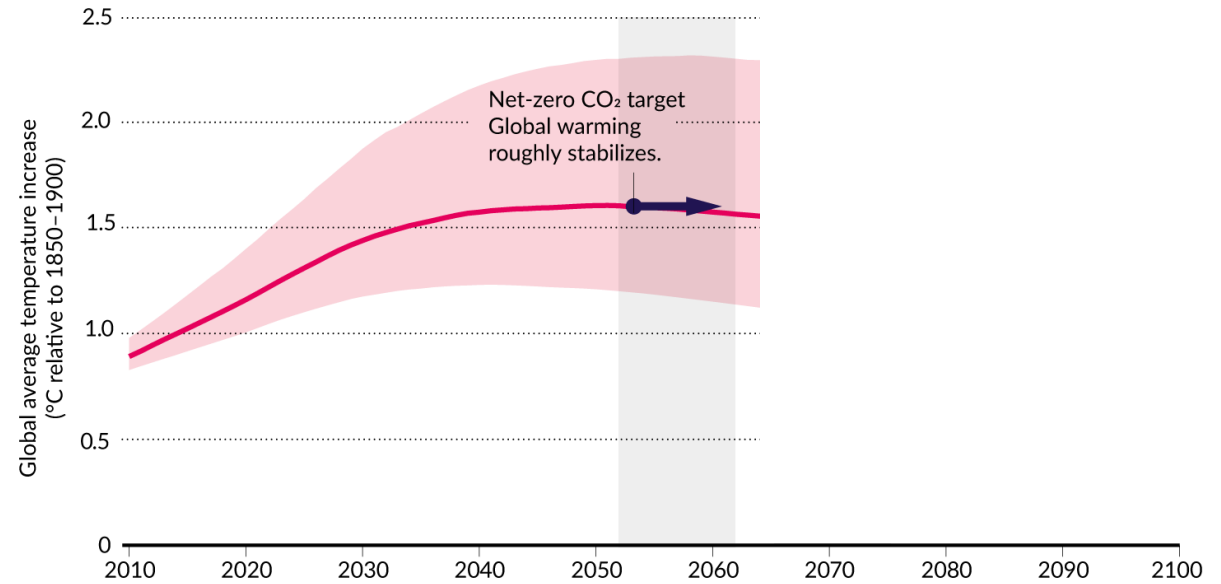
Global greenhouse-gas (GHG) emissions

Illustrative pathway for reaching net-zero carbon dioxide and net-zero GHG emissions.

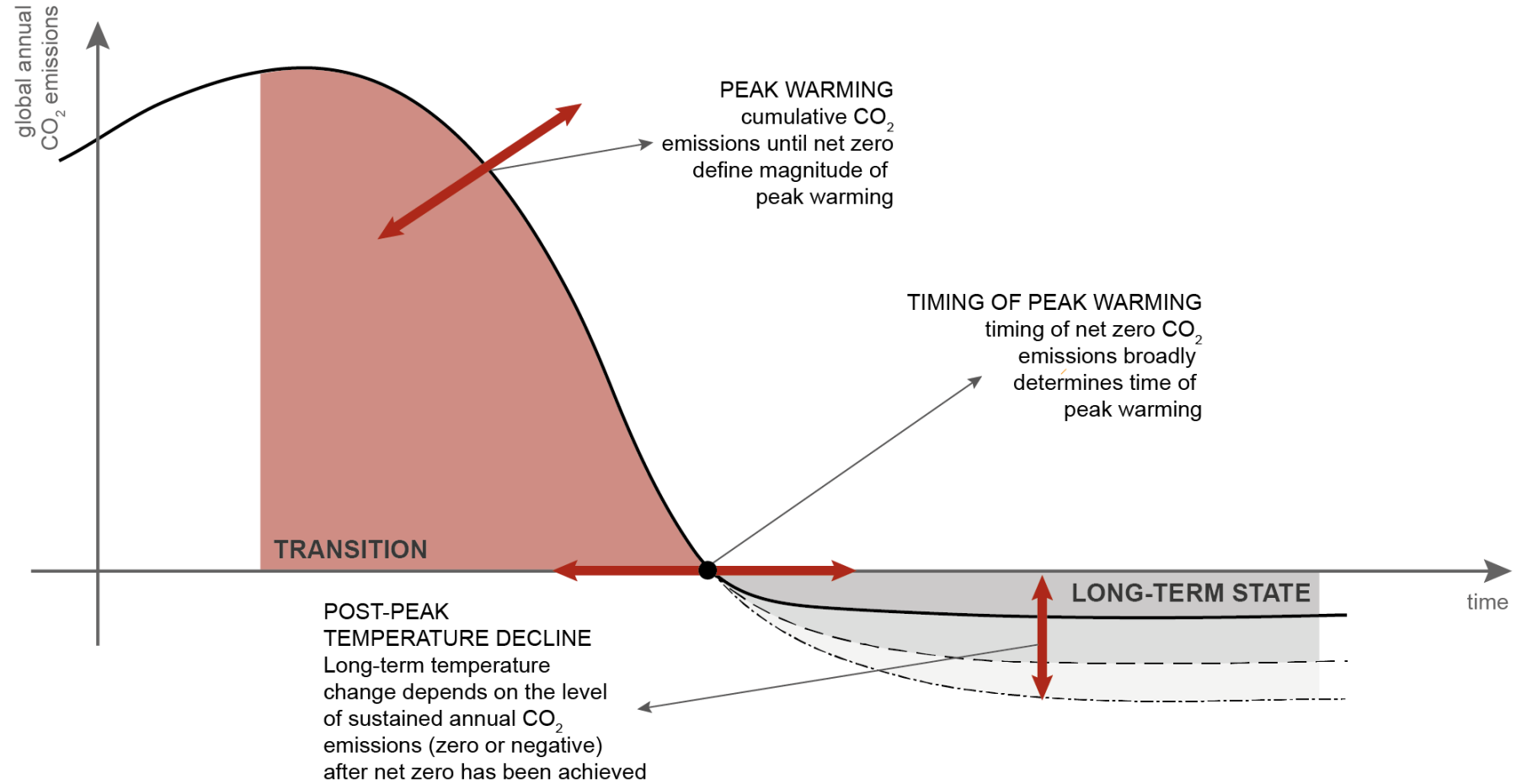


Global-warming implications

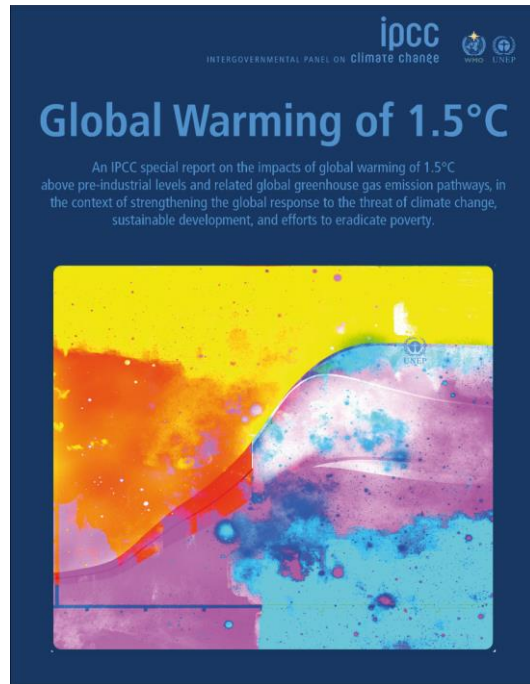
Estimated global temperature peaks (in pink) and declines (arrows) under net-zero GHG emissions.



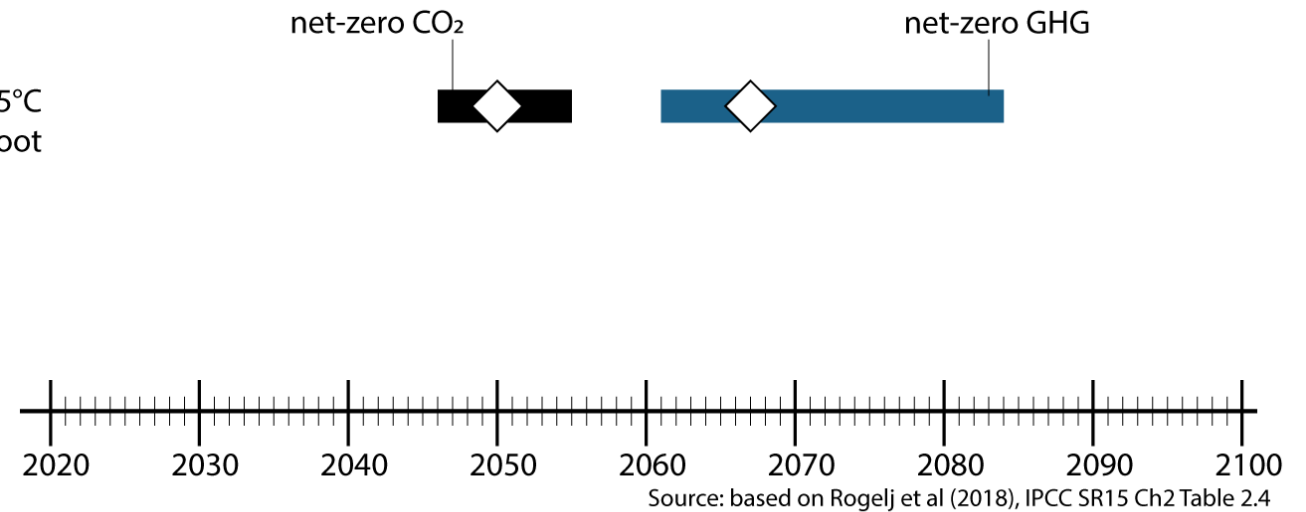
Net zero targets and implied maximum global warming



Global net zero benchmarks for holding warming below specific temperature limits



Holding warming to 1.5°C
with no or limited overshoot





A gold standard for net-zero targets:

10 guidelines for rigorous and clearer targets

Net-zero emissions targets are vague: three ways to fix

To limit warming, action plans from countries and companies must be fair, rigorous and transparent.

Joeri Rogelj  , Oliver Geden , Annette Cowie & Andy Reisinger

Diversification of roles in achieving global net zero

Global
vs.
National
vs.
Sectorial



Thank you

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