Low stabilization and new long term scenarios from the IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation (SRREN)

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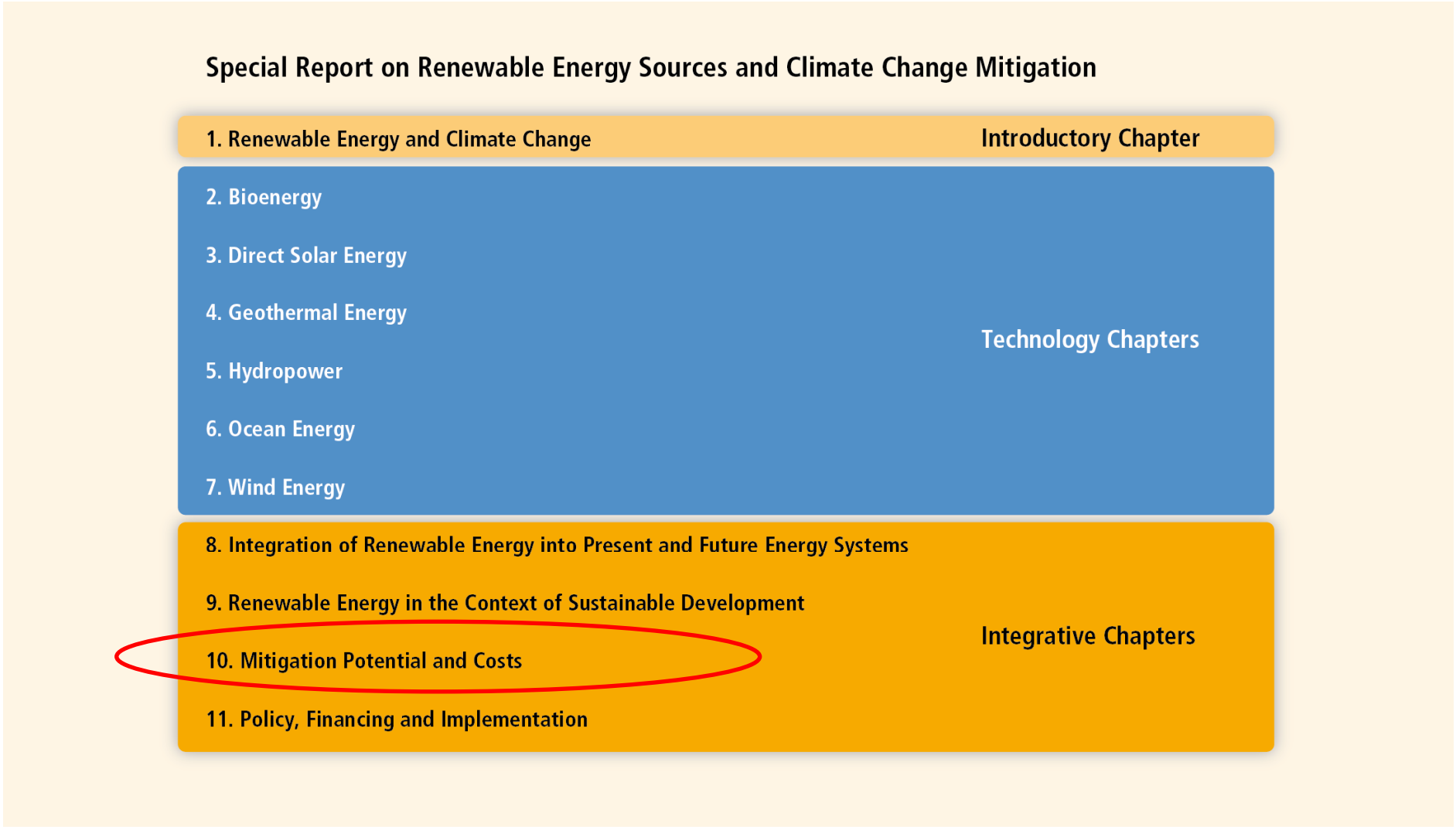
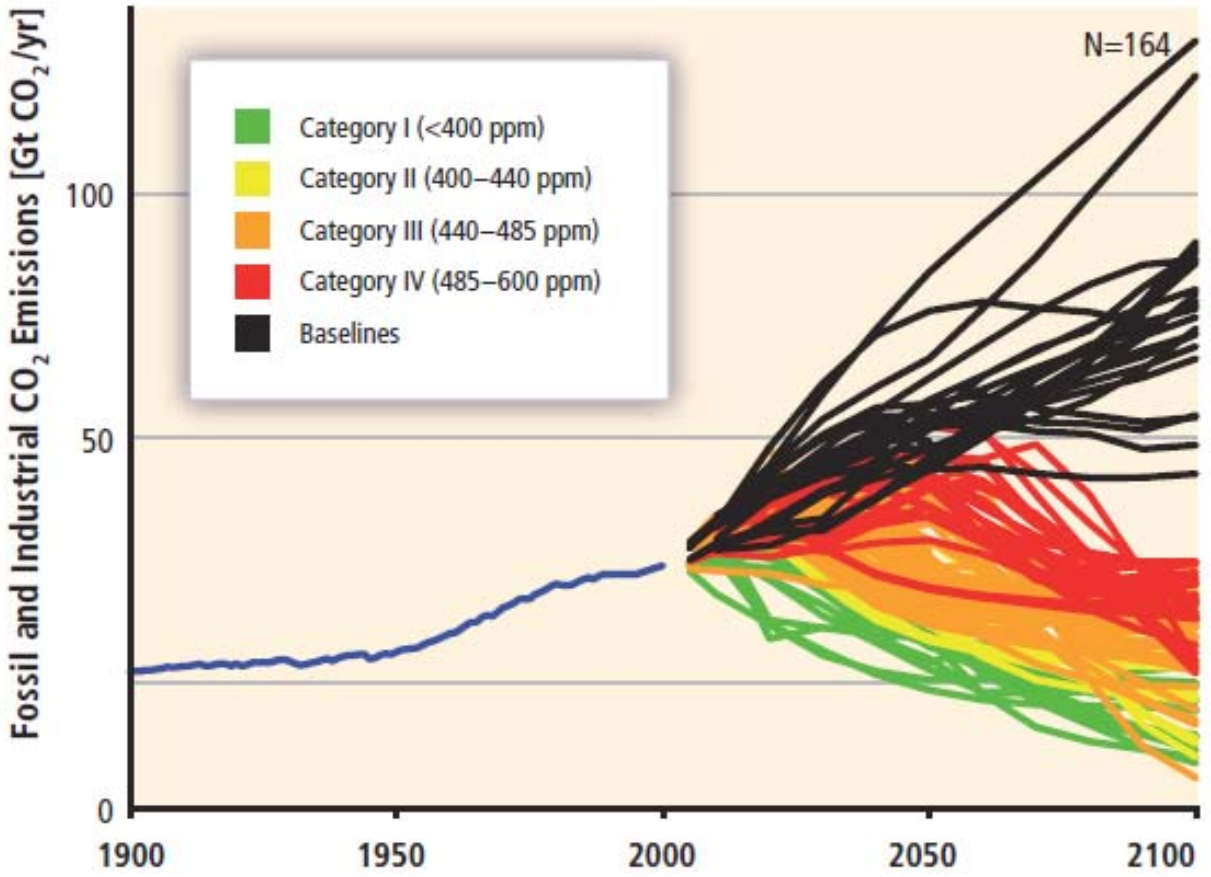
164 new long-term scenarios in chapter 10 of the SRREN



Exploring the whole solution space: identifying robust mitigation options in multi-model ensembles



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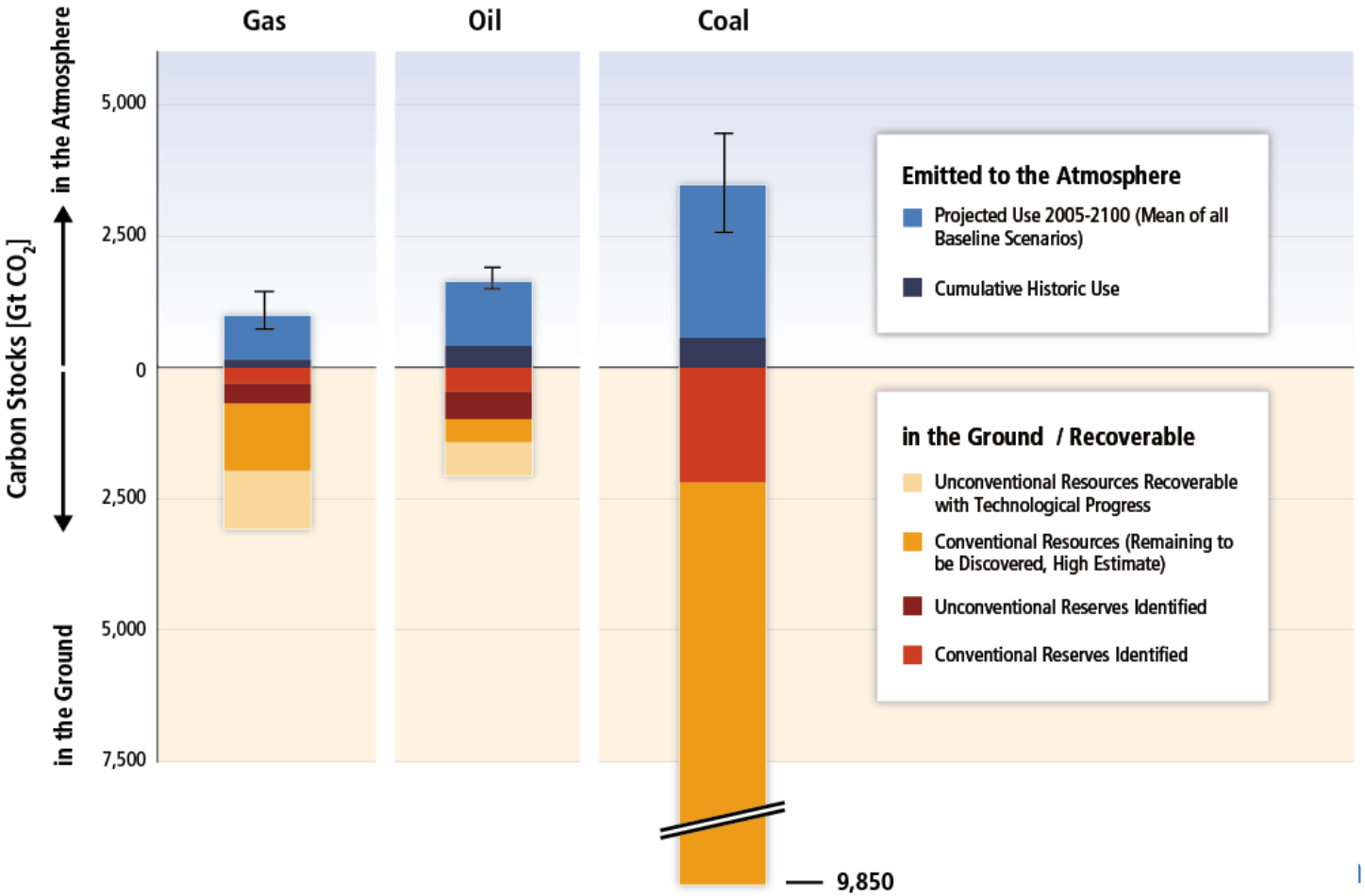
Several characteristics of SRREN scenarios:

(1)Update AR4 – all scenarios published after 2006
(2)Large number of low stabilization scenarios
(3)Climate policy in imperfect (2nd best) worlds
(4)Role of RE in mitigation portfolio

	CO_2 concentration by 2100 (ppm)	Number of scenarios	Policy Scenarios			
			First-best	Constrained technology	Second-best policy	Constrained technology & second-best policy
Baselines	>600	27	—	—	—	—
Category IV	485–600	32	11	13	6	2
Category III	440–485	63	20	29	11	3
Category II	400–440	14	7	6	1	0
Category I	<400	28	10	16	2	0

Amount of carbon in fossil fuel reserves and resources has the potential to add quantities of CO2 to the atmosphere that would exceed any baseline scenario



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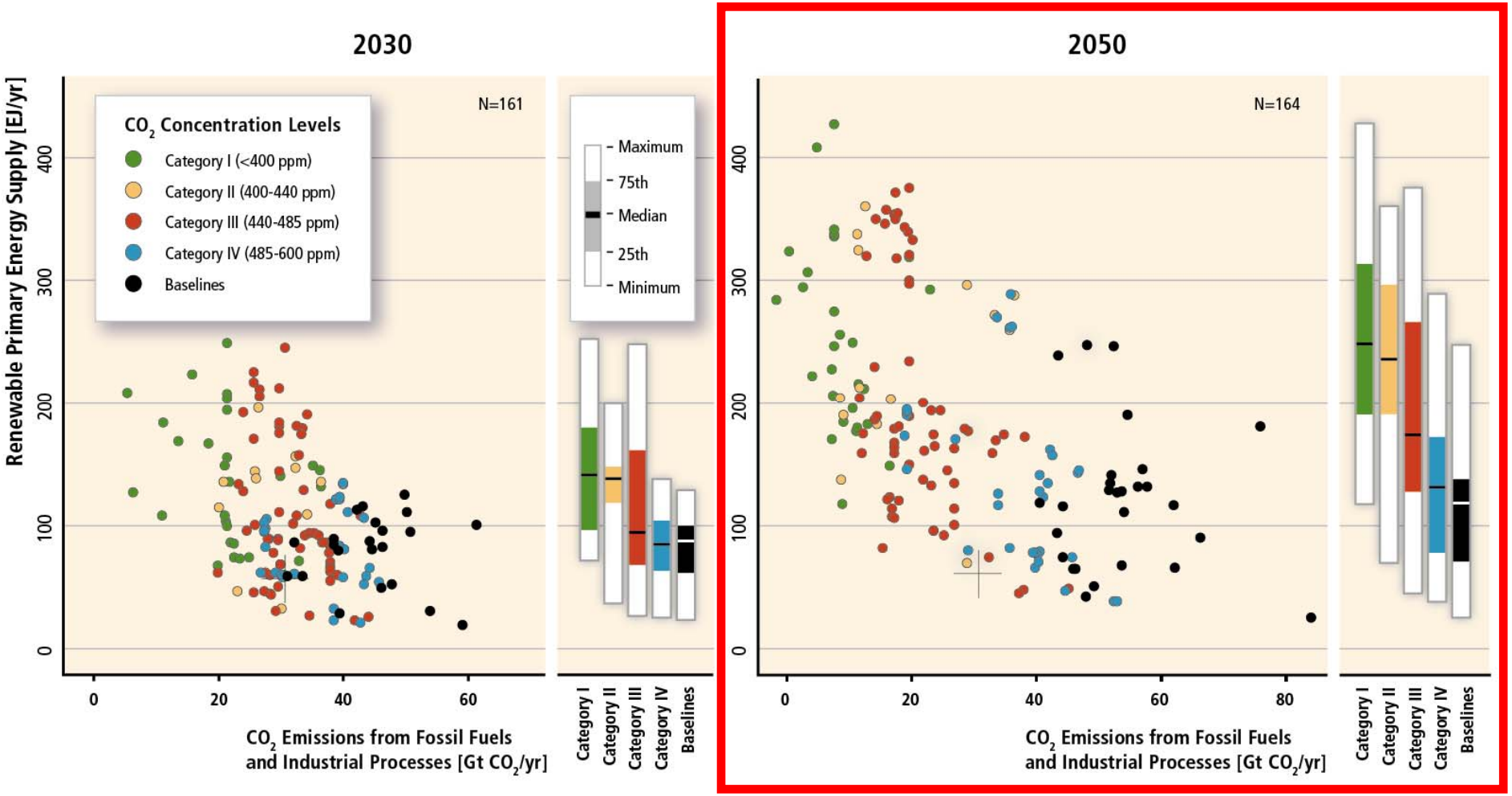
The contribution of renewable primary energy supply at differential CO2 concentration goals



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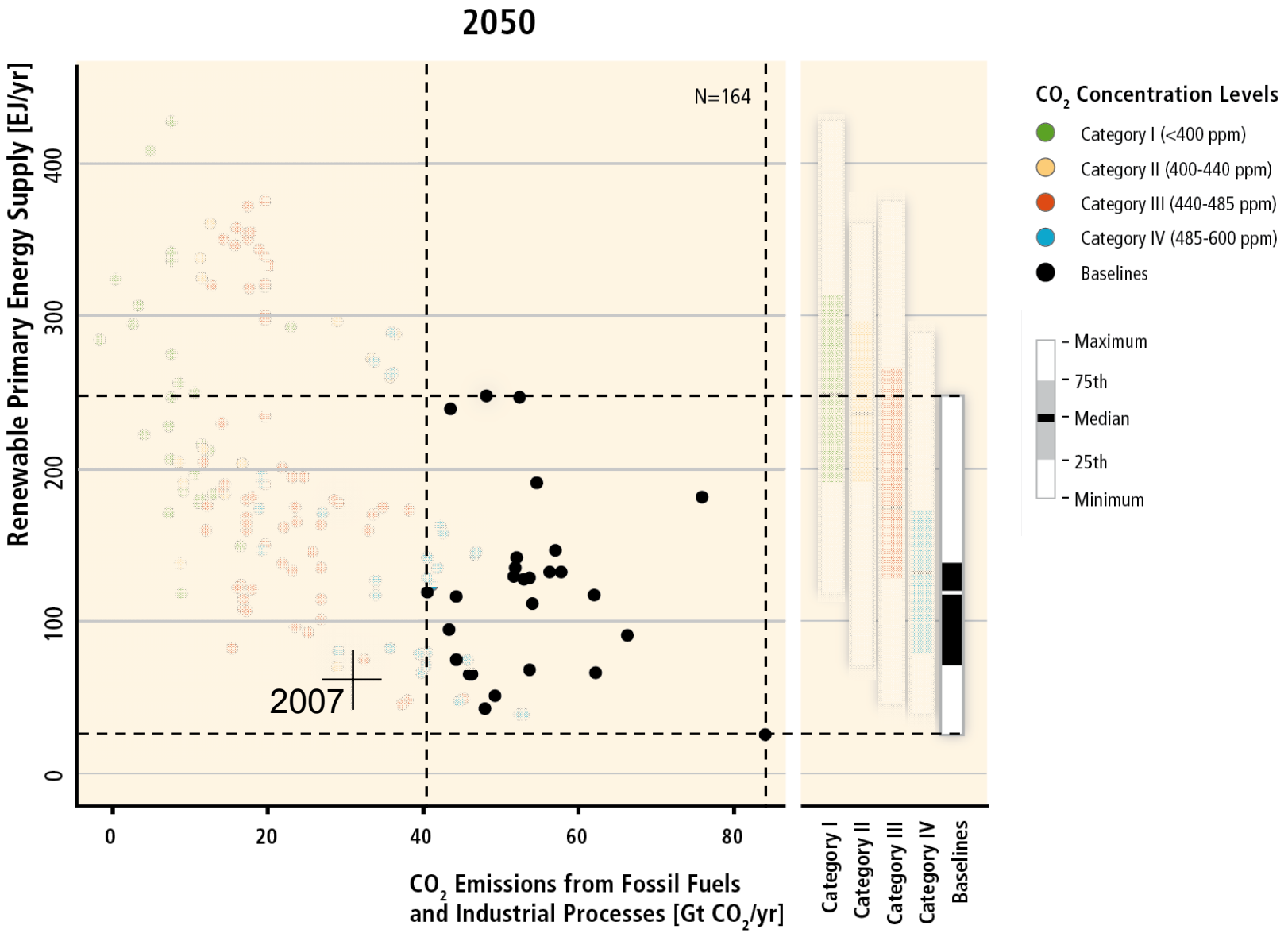
With increasing mitigation ambition, renewable energy plays an increasingly important role.



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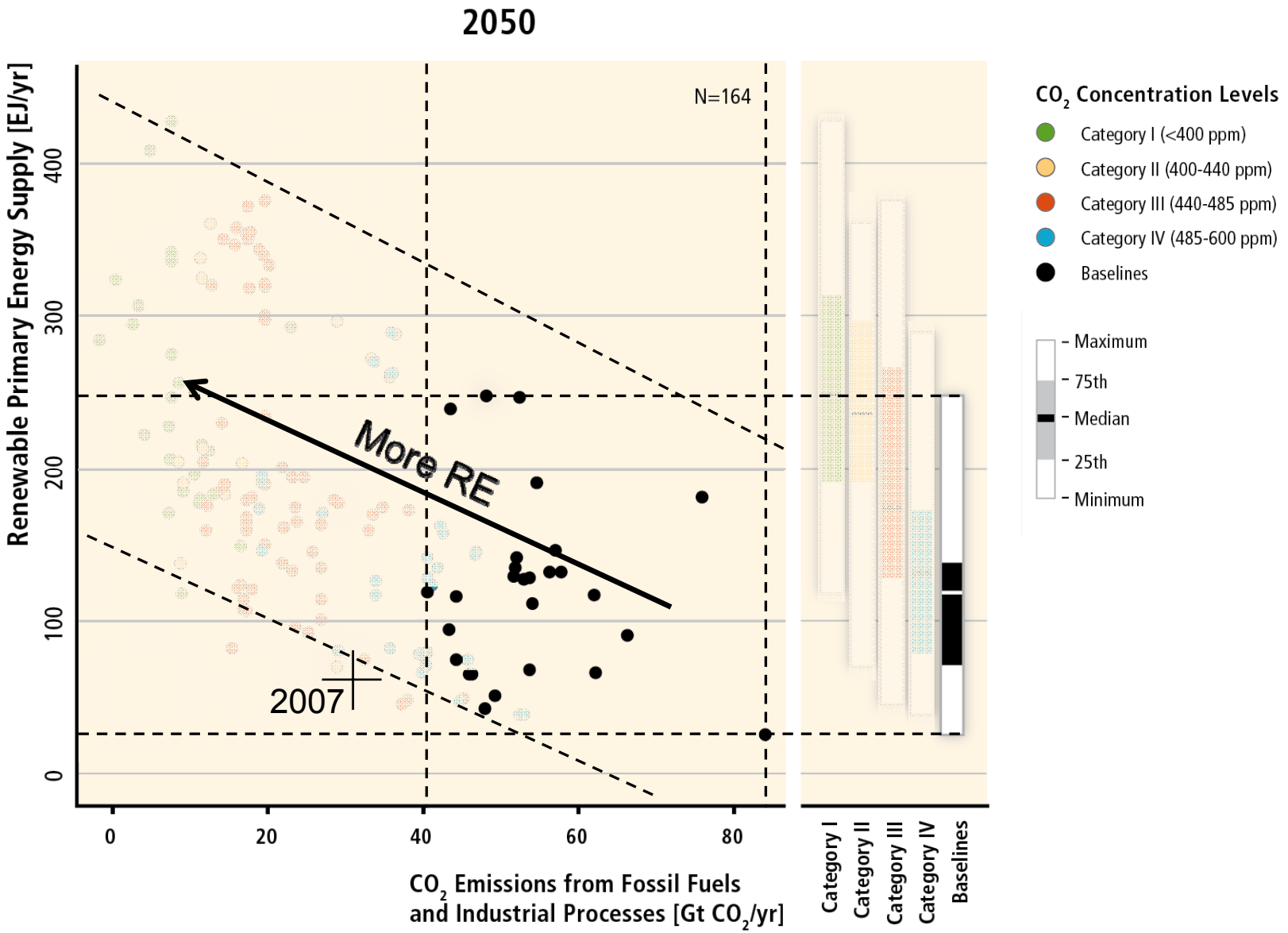
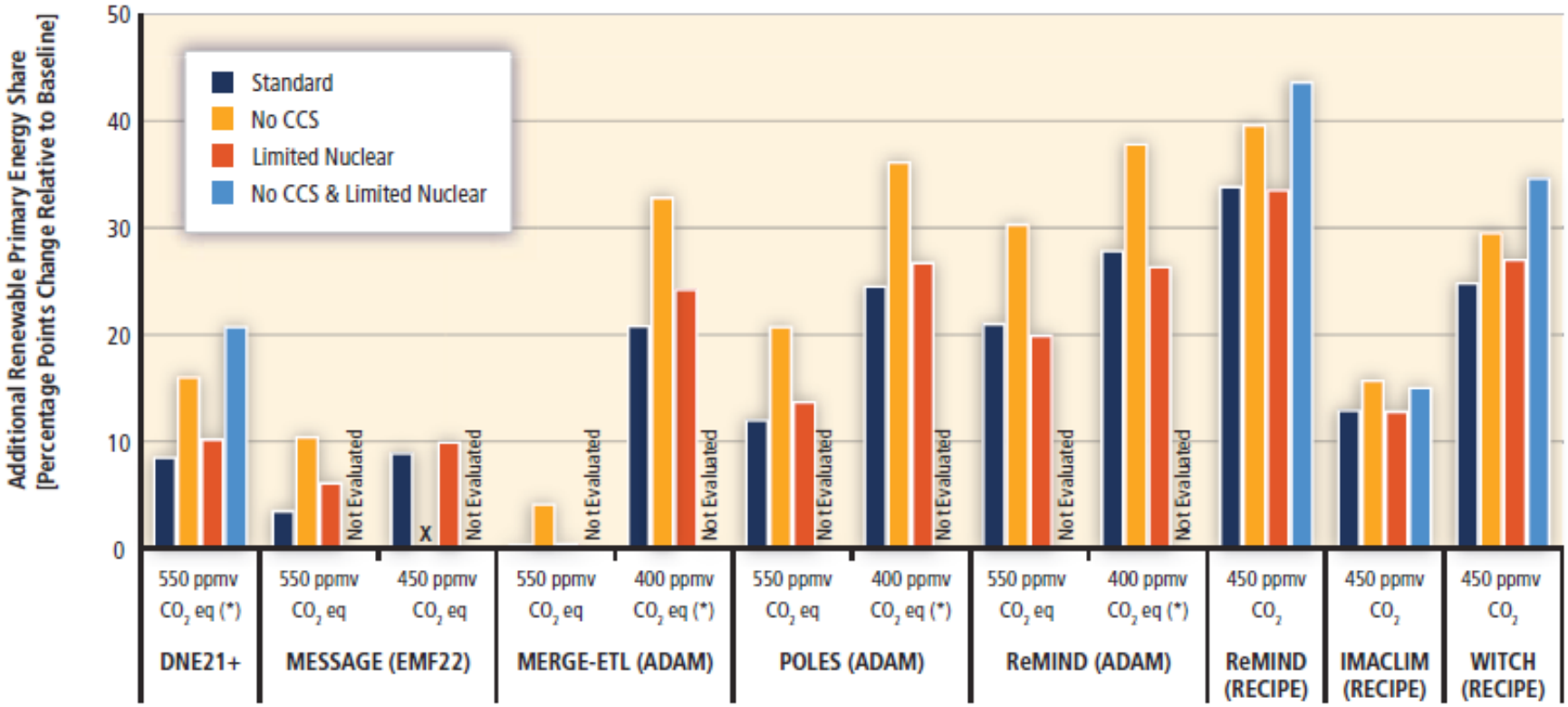


Insights from second-best worlds: When competing options are not available or are otherwise constrained, RE deployments are higher



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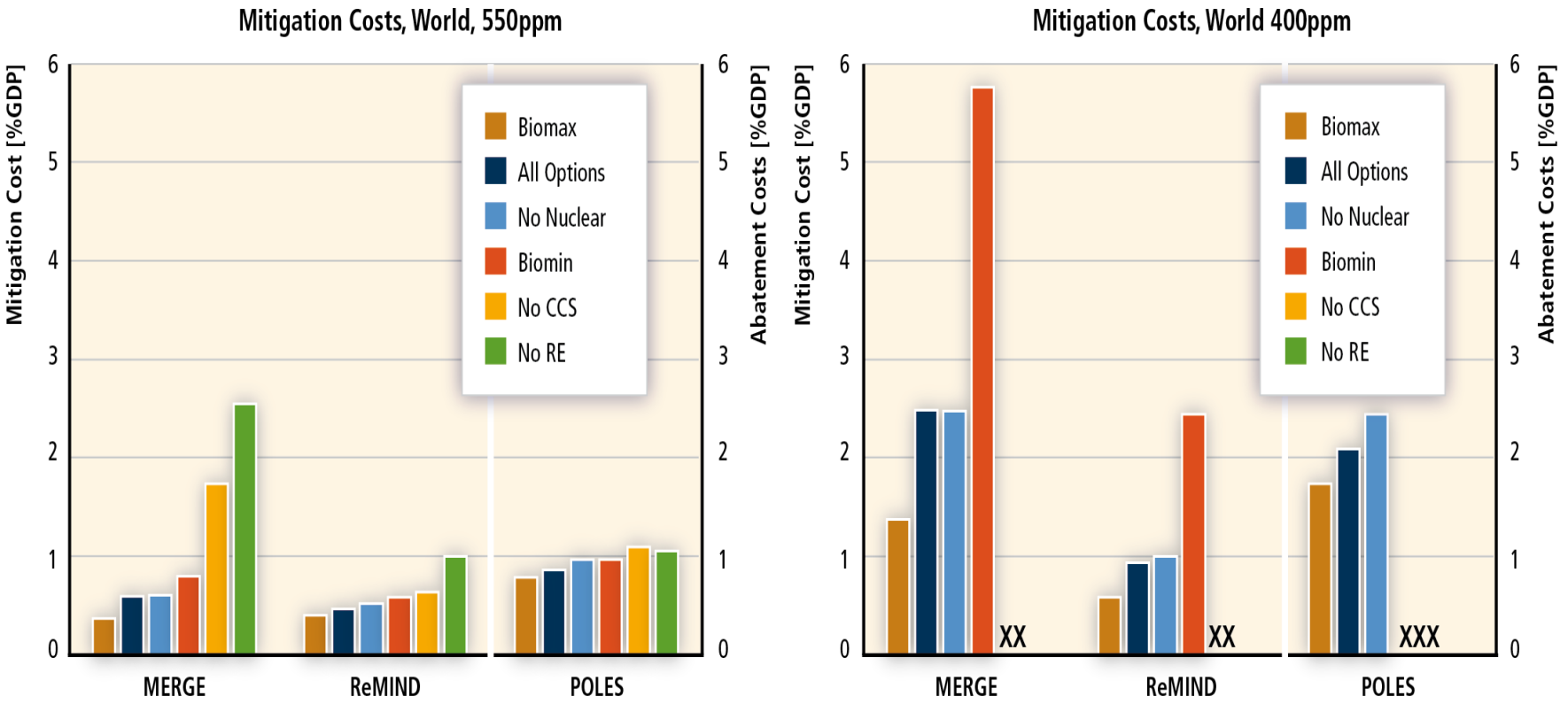
Global mitigation costs rise with ambition and unavailability of technologies. With unavailability of some technologies (RE, CCS) more ambitious stabilization goals may no longer be reachable



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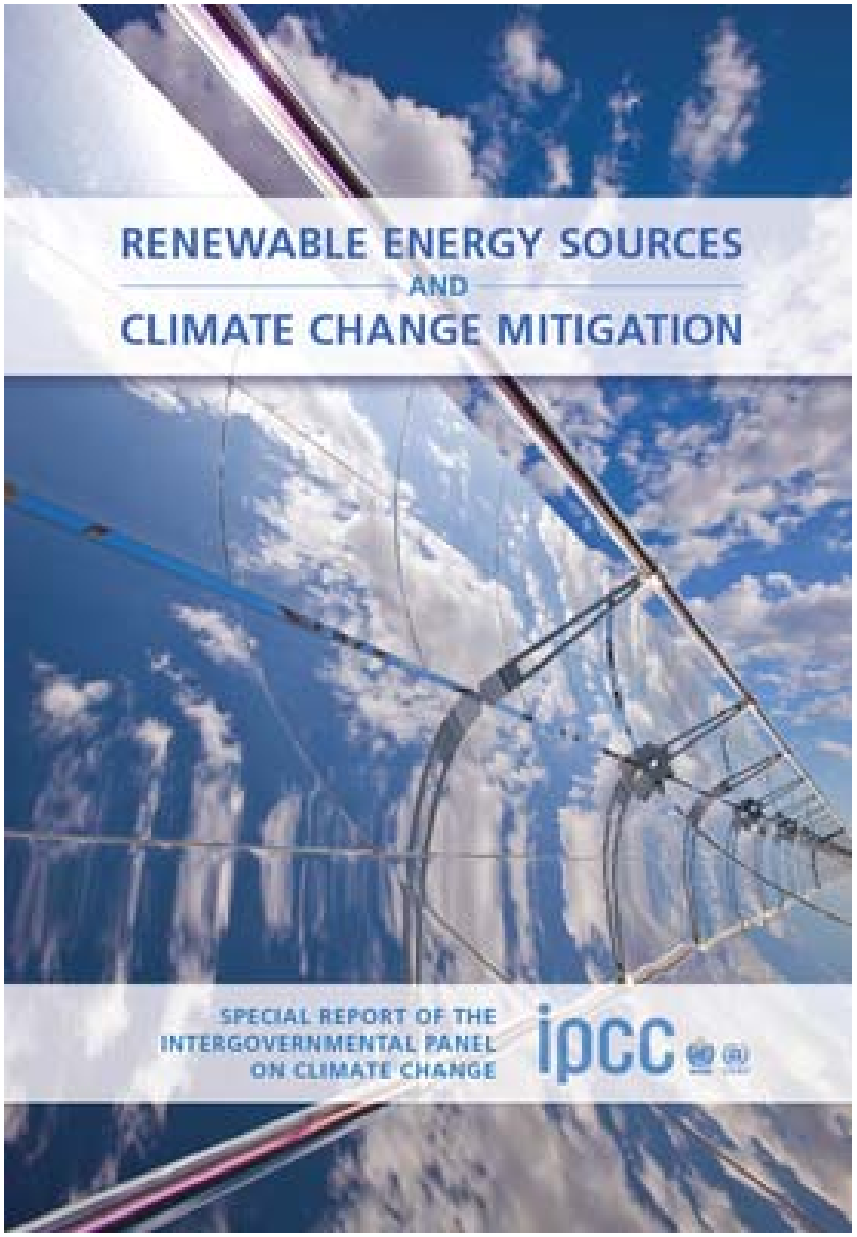
Key messages (1)

- New set of 164 IPCC scenarios available in SRREN considering full mitigation portfolio.
- Long-term stabilization of atmospheric CO2 concentrations below 400ppm achievable in multiple integrated assessment models.
- With increasing mitigation ambition, renewable energy plays an increasingly important role in mitigation portfolios across models.

Key messages (2)

- When competing options are not available or are otherwise constrained, RE deployments tend to be higher.
- Global mitigation costs tend to rise with ambition and unavailability of technologies.
- With unavailability of some technologies (RE, CCS) more ambitious stabilization goals may no longer be reachable.



Thank you!

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