

CLIMATE CHANGE 2014

Mitigation of Climate Change



Jim Skea

Vice-Chair, IPCC Working Group III

LCS-RNet 6th Annual Meeting

Rome, 1-2 October 2014

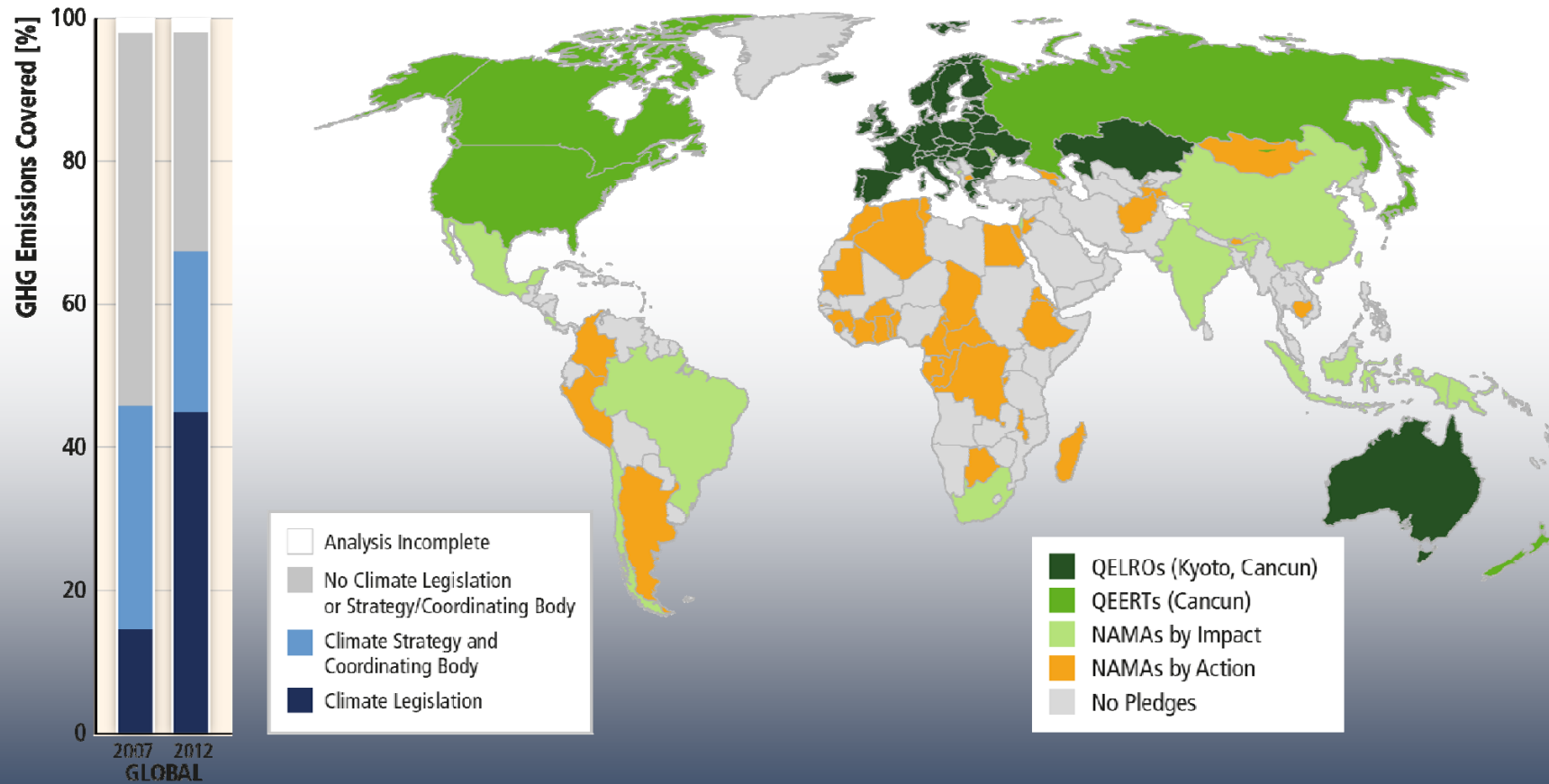
Messages for policymakers from IPCC

The added value of LCS-RNet

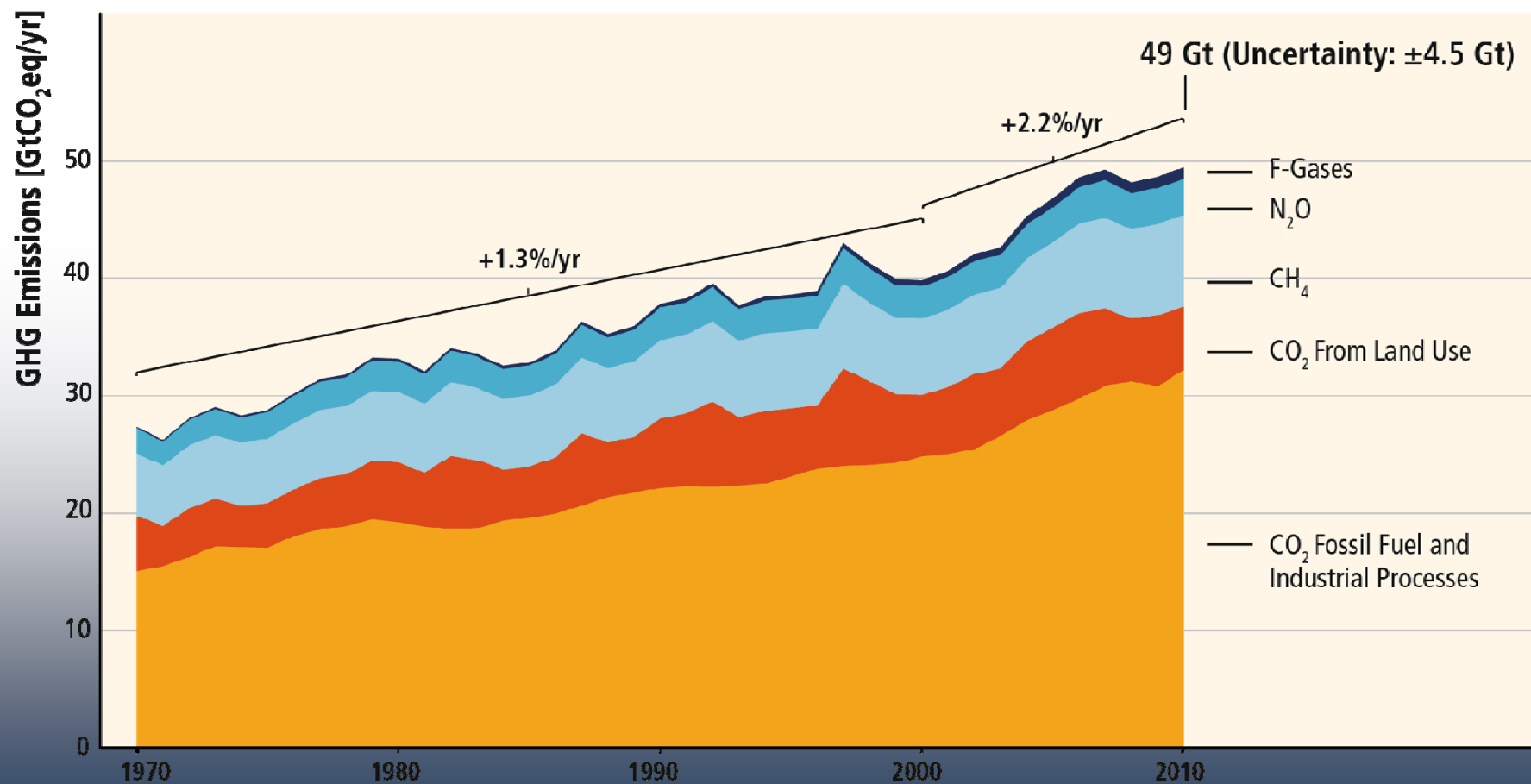
**More plans and strategies –
but emissions growth has accelerated**



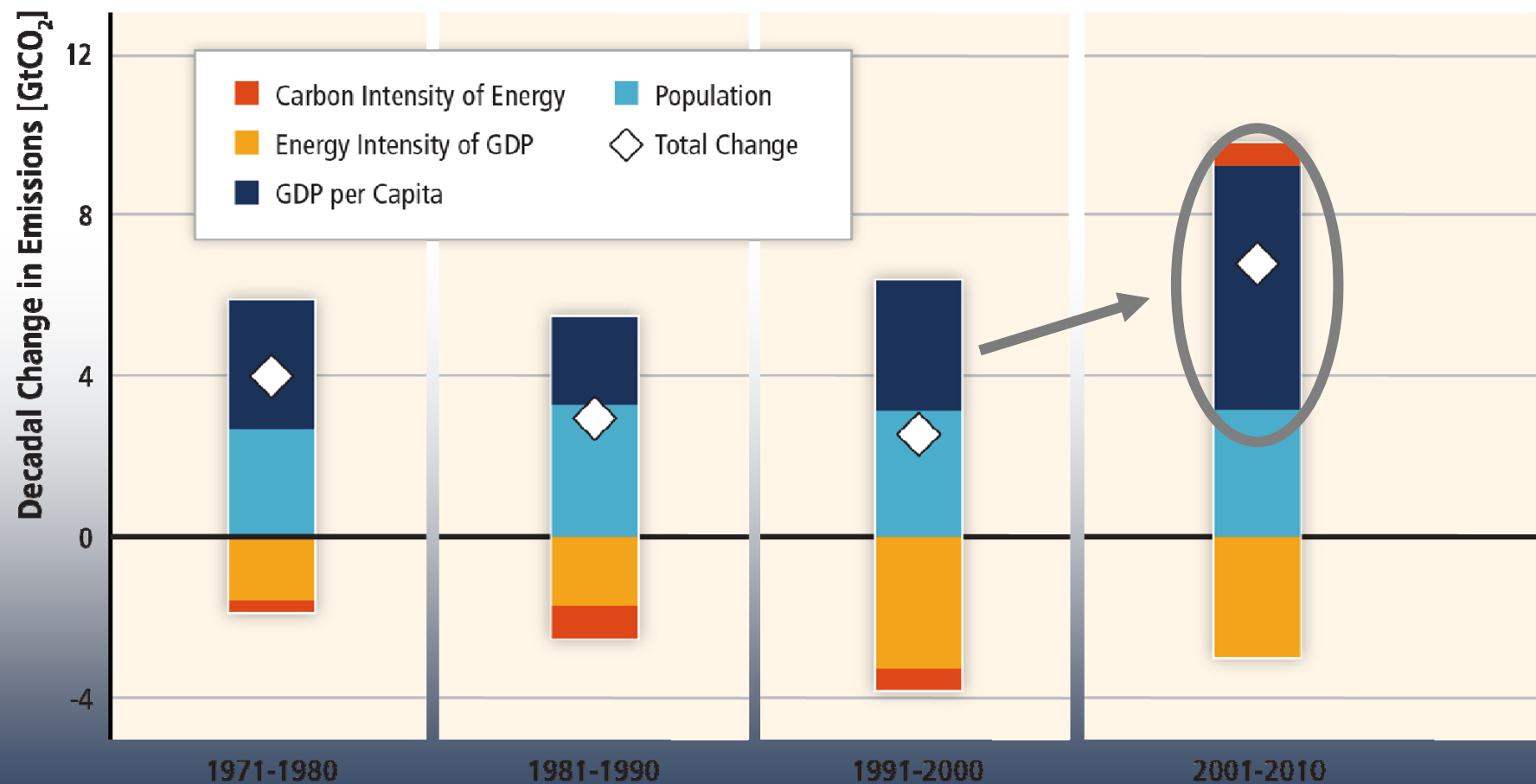
Plans and strategies have expanded since 2007.



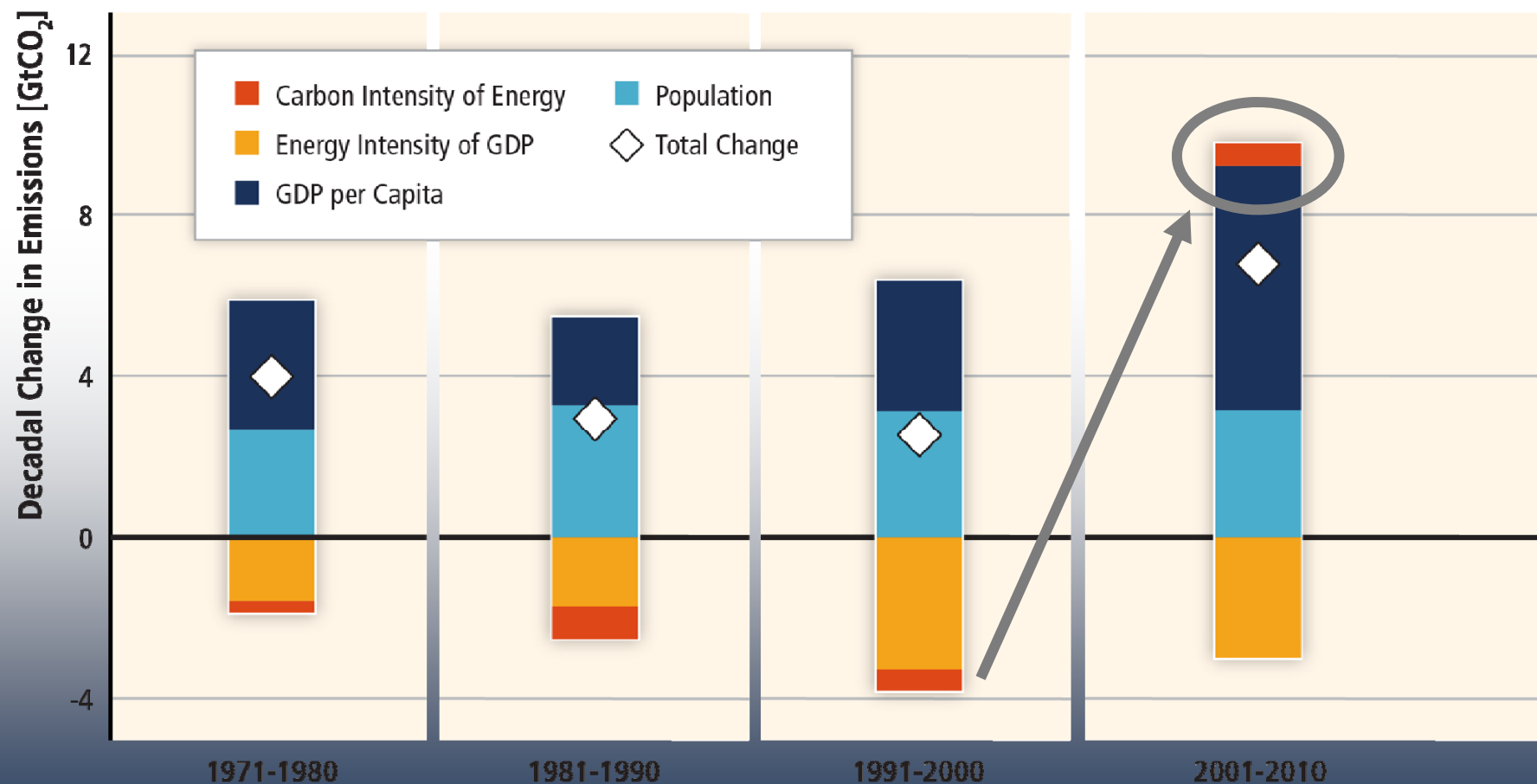
But emissions growth has accelerated in the last decade – driven by CO₂ from fossil fuel combustion



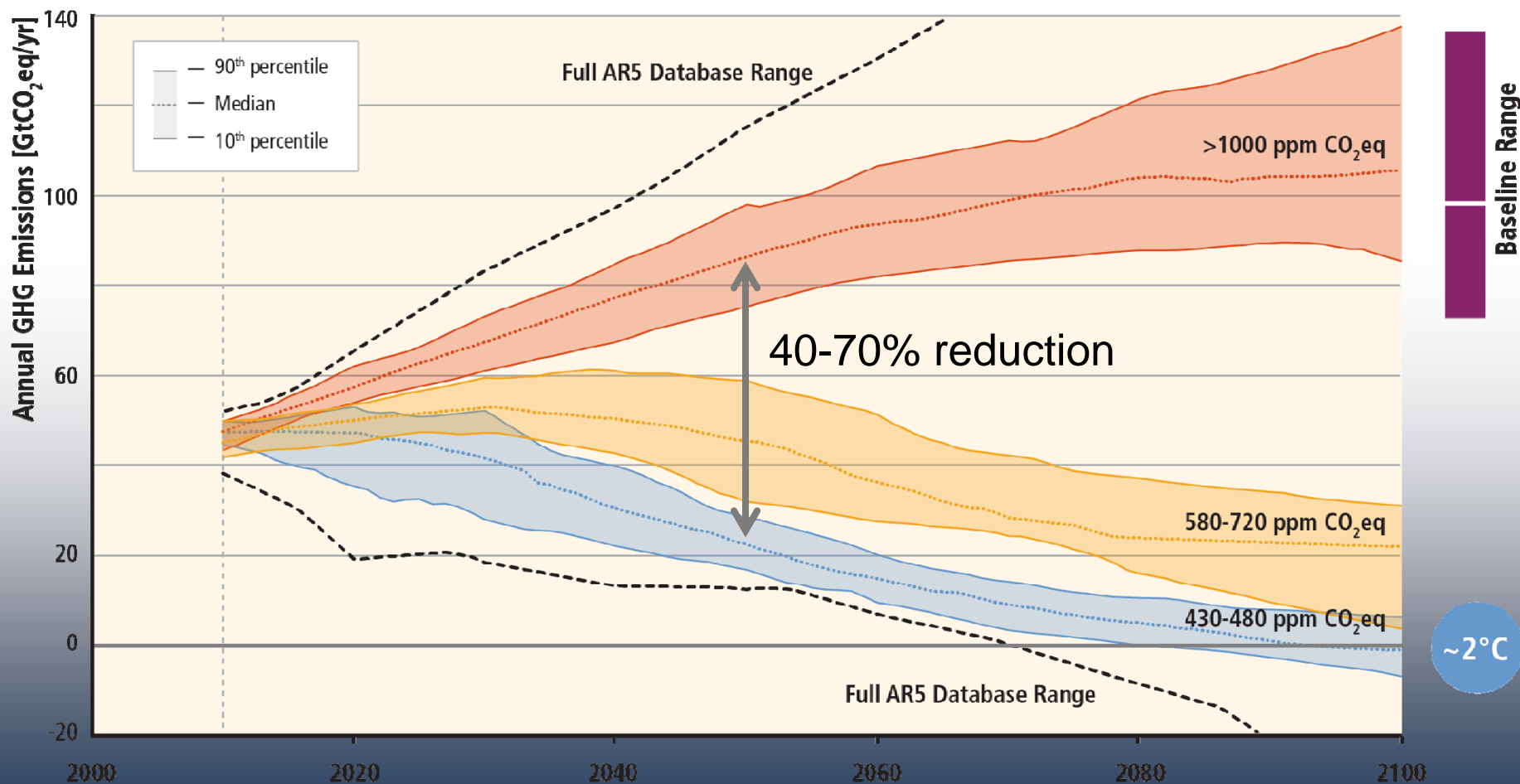
GHG emissions rise with income and population - but are moderated by energy efficiency



GHG emissions rise with income and population - but long-term energy decarbonisation has been reversed.



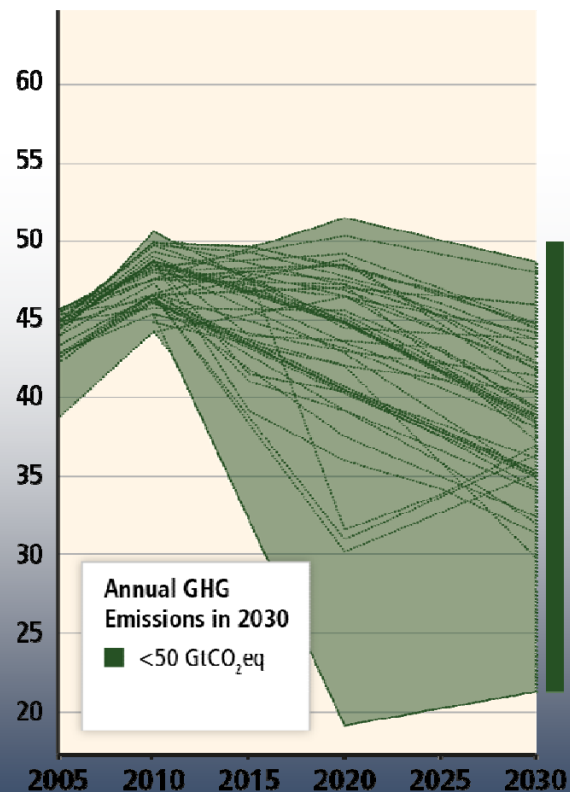
Stabilising the atmosphere means moving away from business-as-usual – regardless of how ambitious we are.



Delaying mitigation until 2030 increases the difficulty and narrows the options for limiting warming to 2°C.

Before 2030

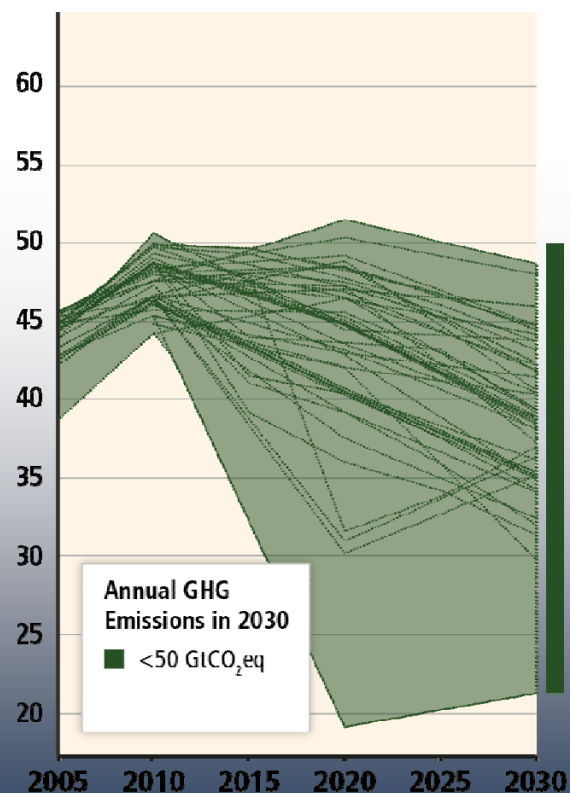
GHG Emissions Pathways [GtCO₂eq/yr]



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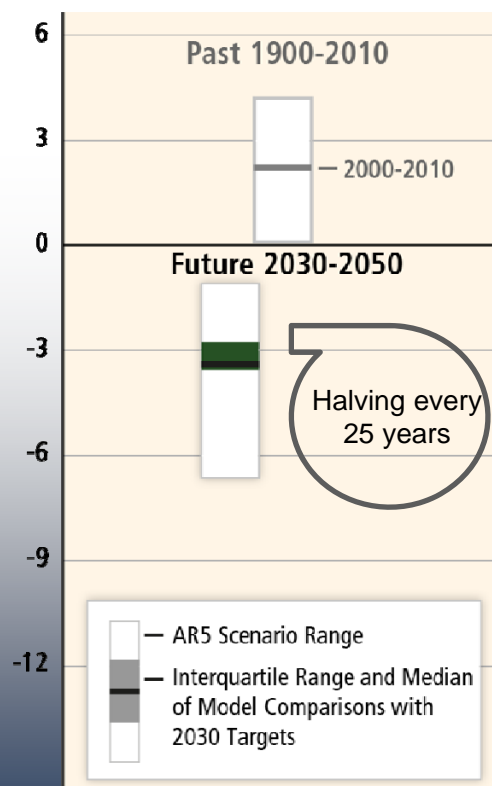
Before 2030

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After 2030

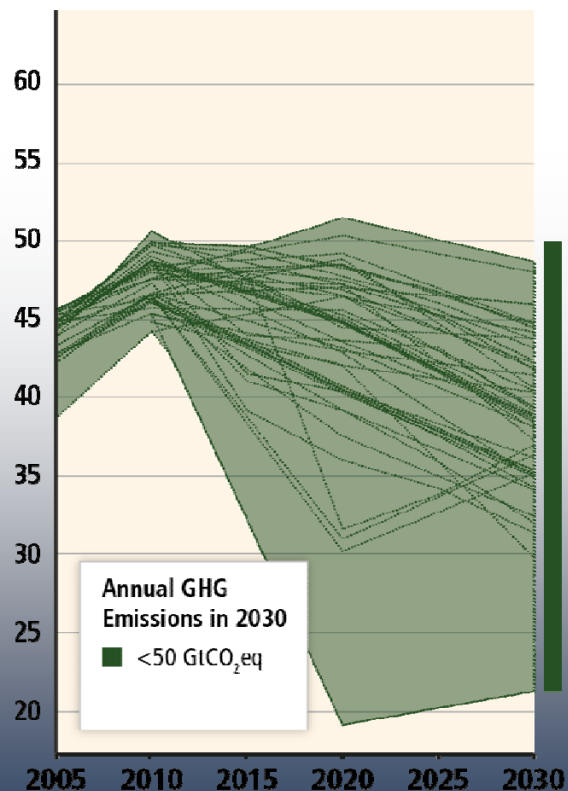
Rate of CO₂ Emission Change [%/yr]



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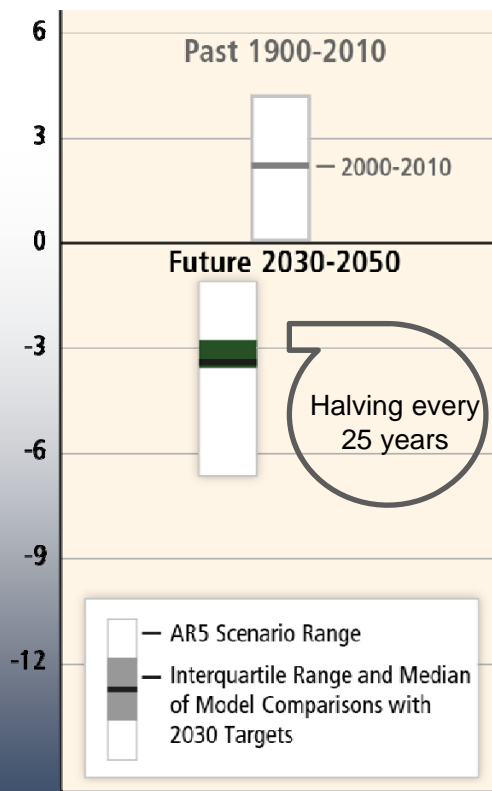
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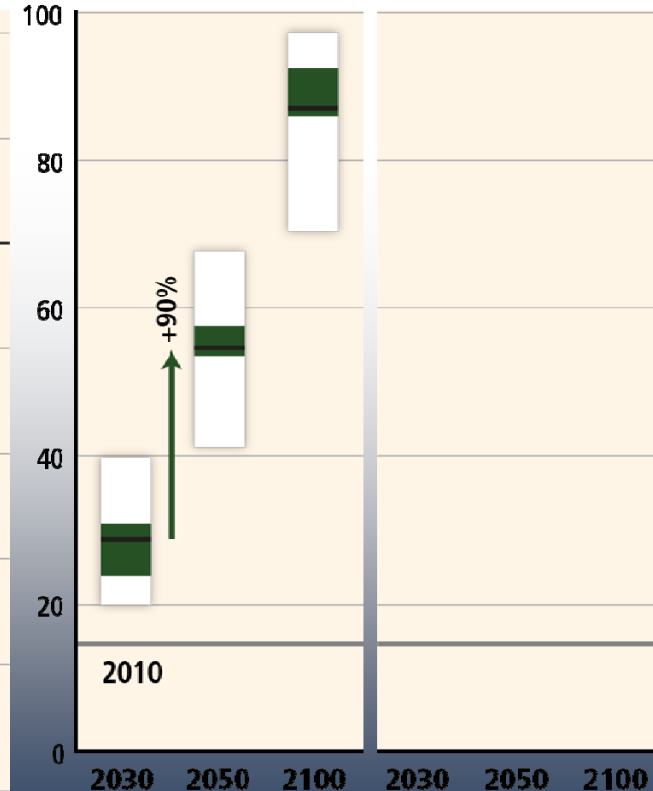


After 2030

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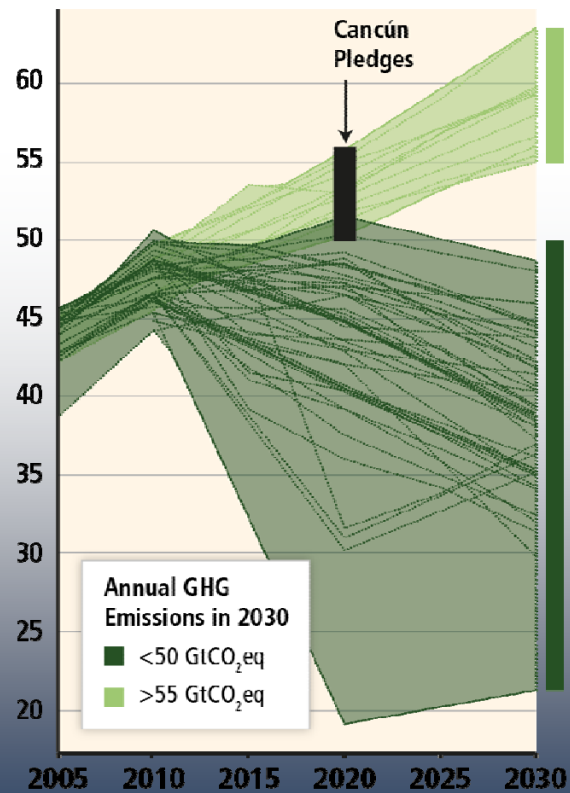
Share of Low-Carbon Energy [%]



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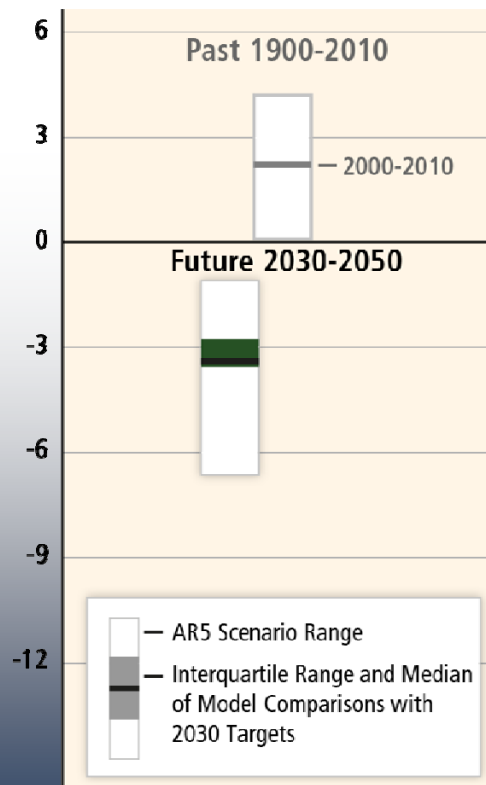
Before 2030

GHG Emissions Pathways [GtCO₂eq/yr]

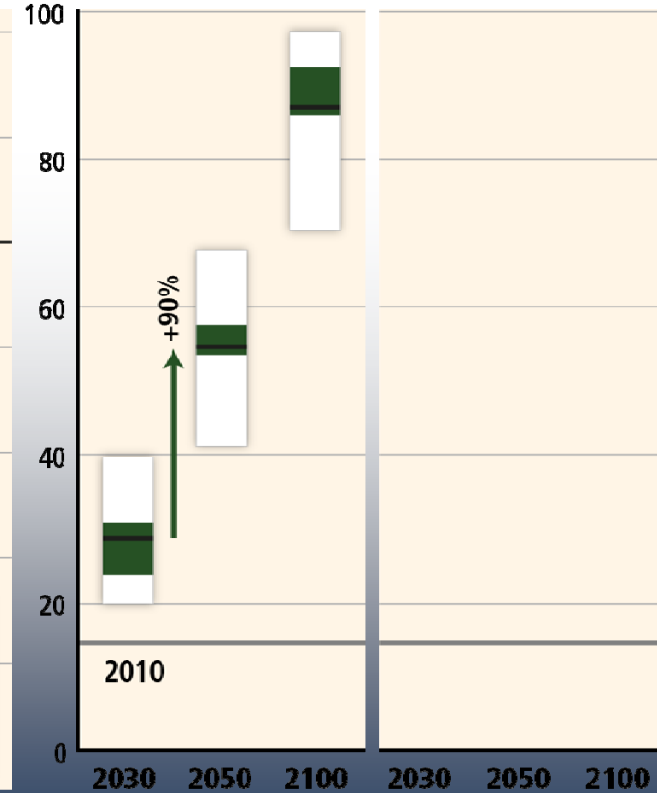


After 2030

Rate of CO₂ Emission Change [%/yr]



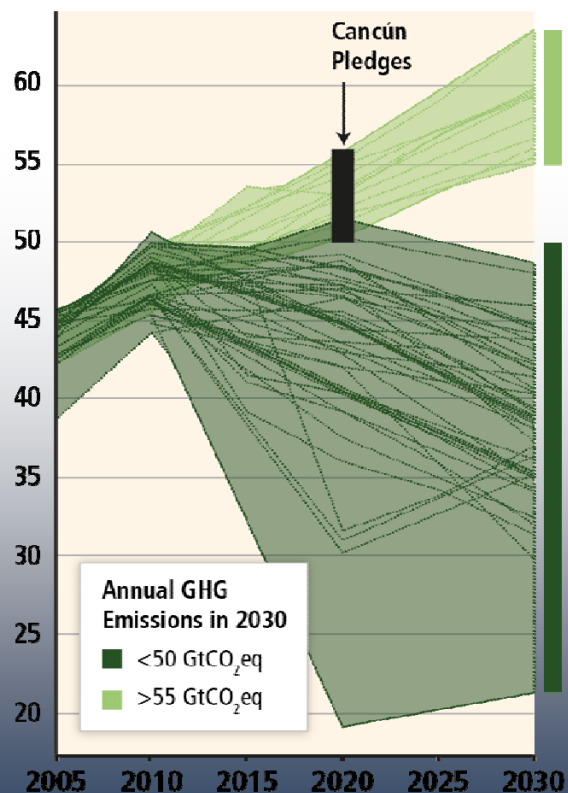
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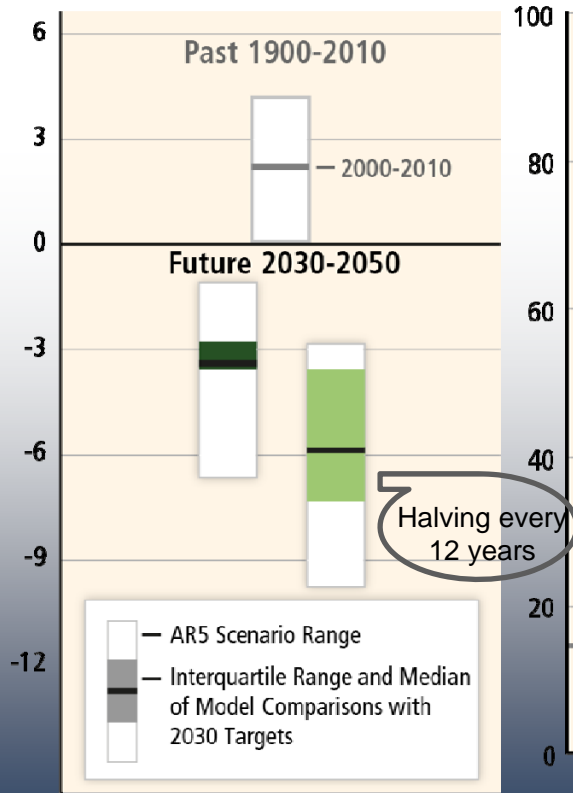
Before 2030

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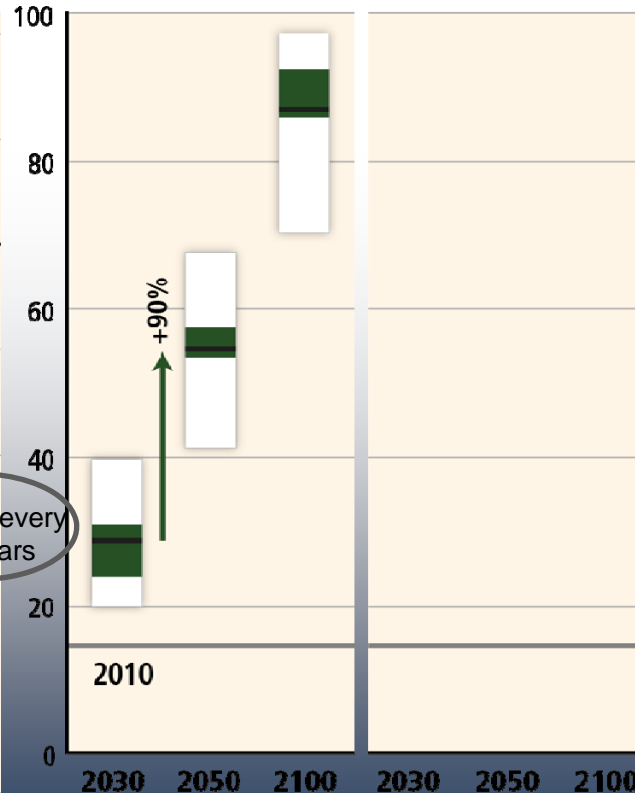


After 2030

Rate of CO₂ Emission Change [%/yr]



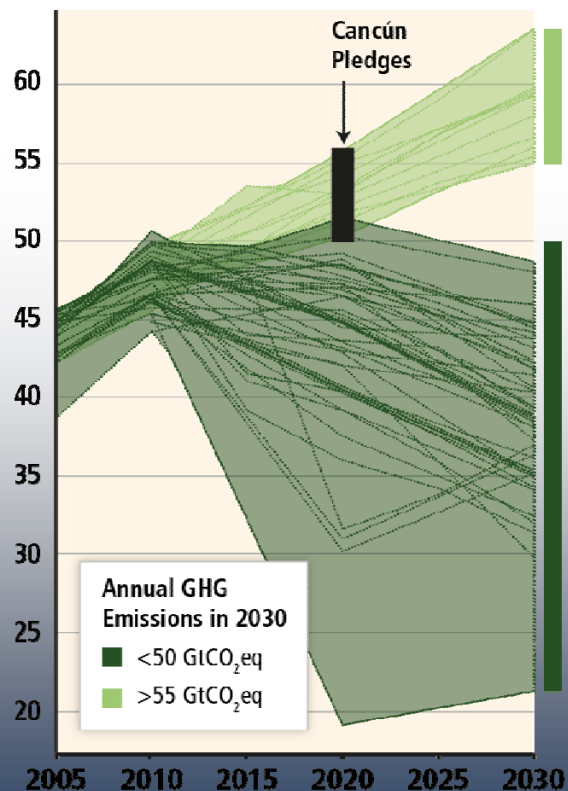
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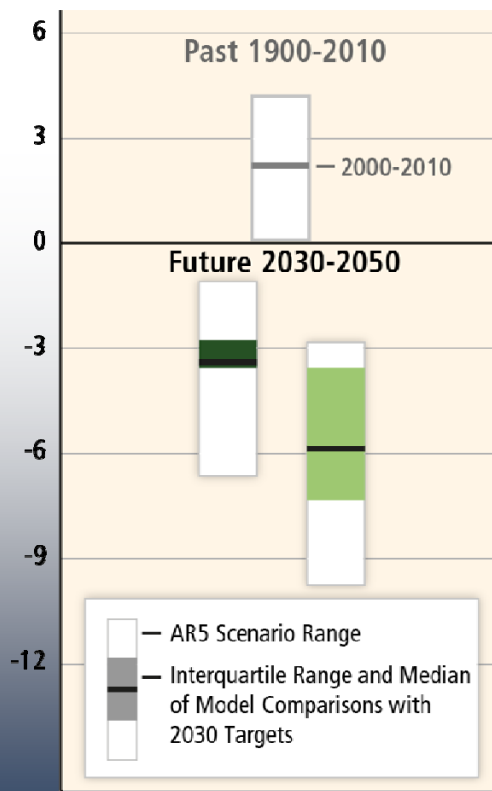
Before 2030

GHG Emissions Pathways [GtCO₂eq/yr]

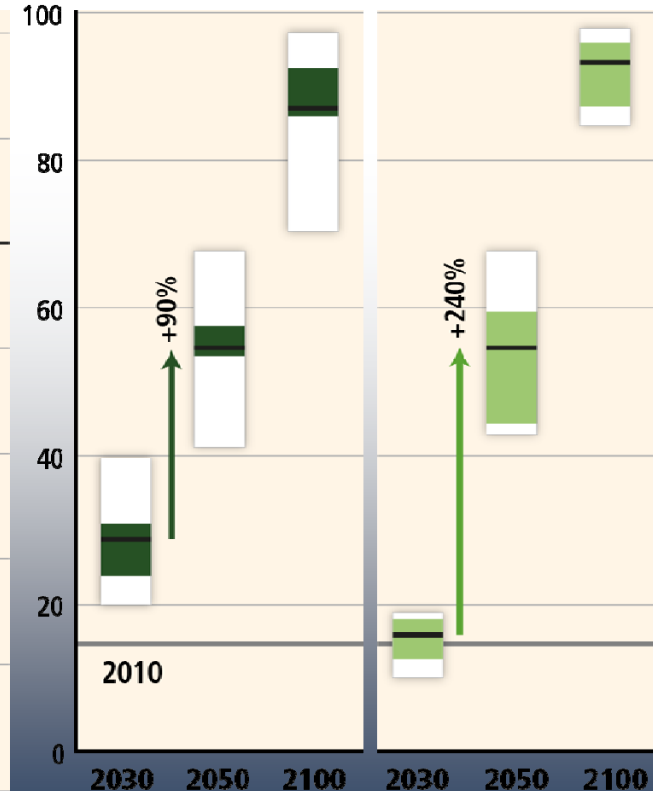


After 2030

Rate of CO₂ Emission Change [%/yr]



Share of Low-Carbon Energy [%]

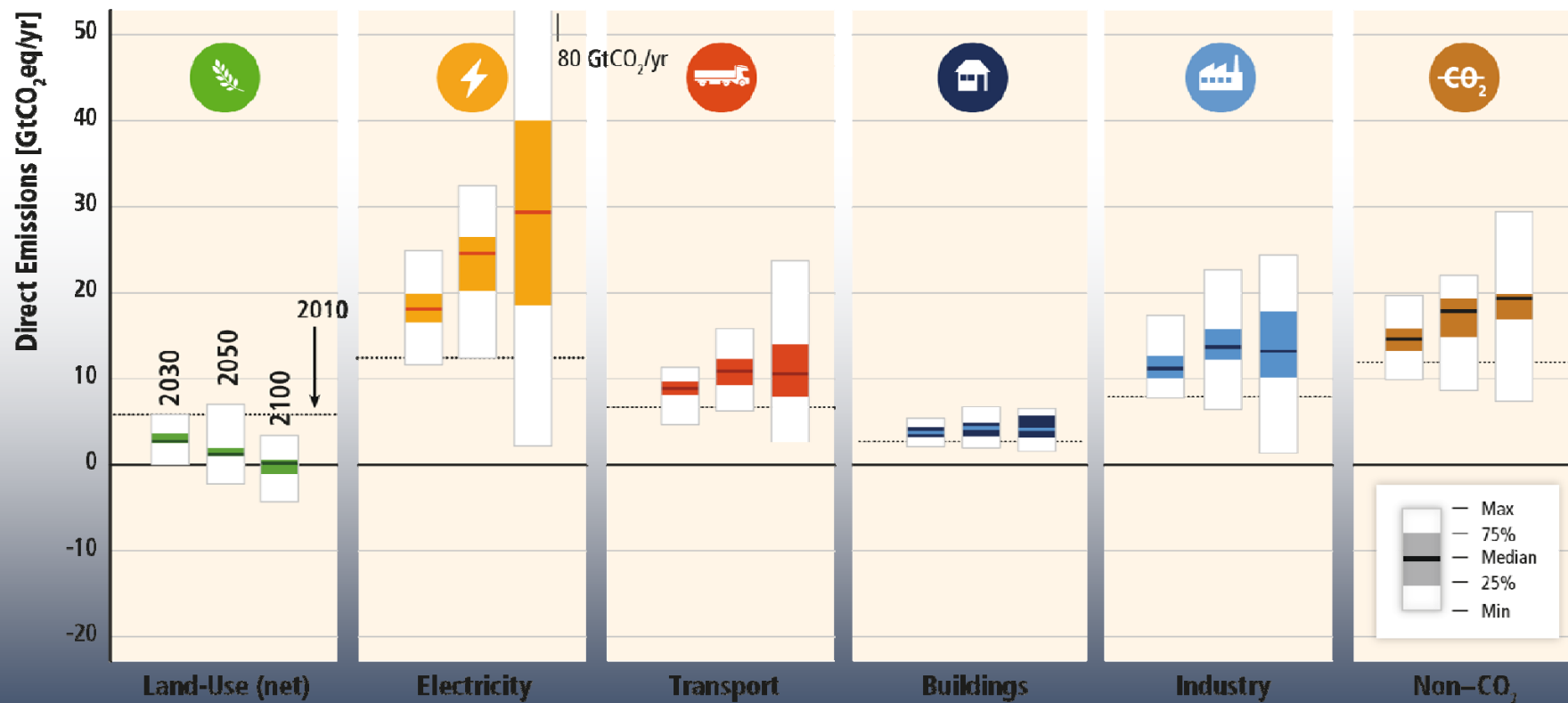


**Ambitious mitigation involves
transformation of the energy system.**



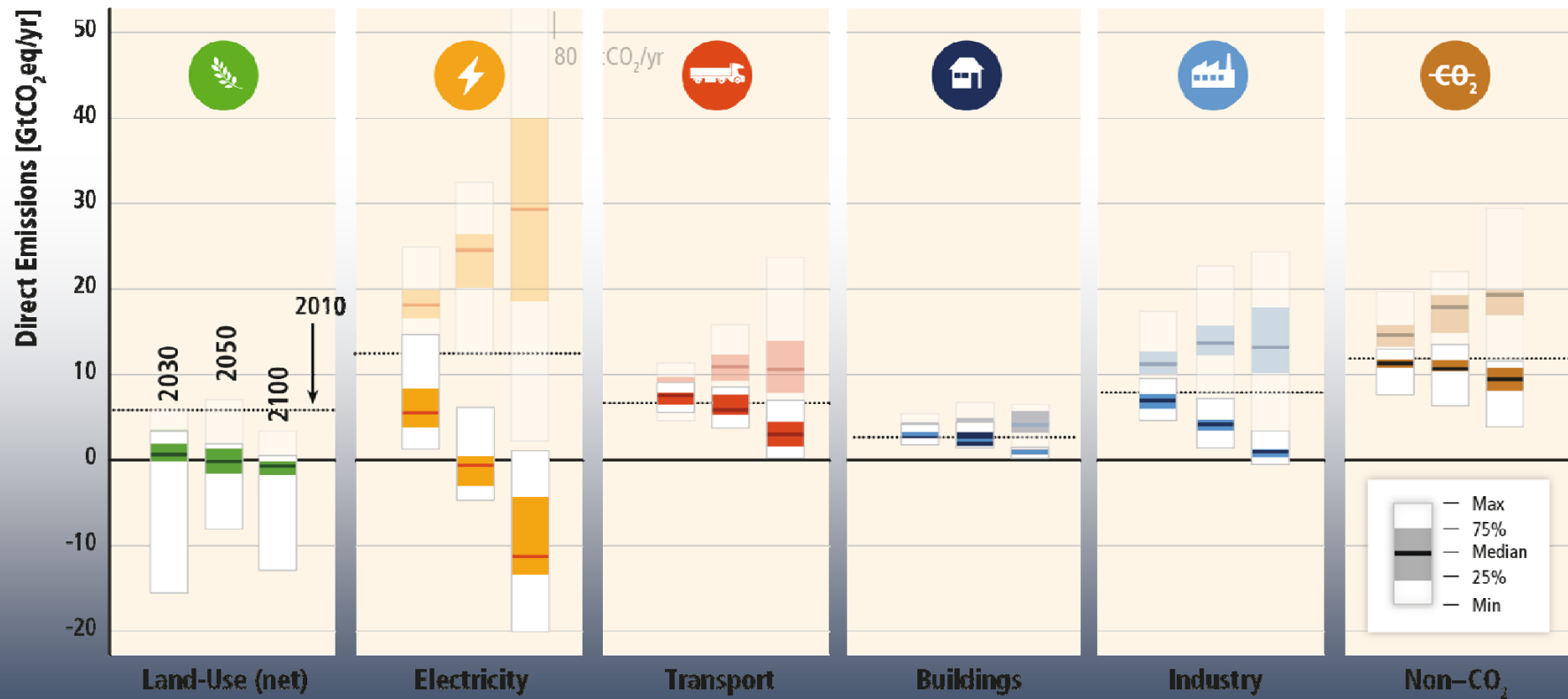
Emission patterns would need to change throughout the economy.

BASELINES

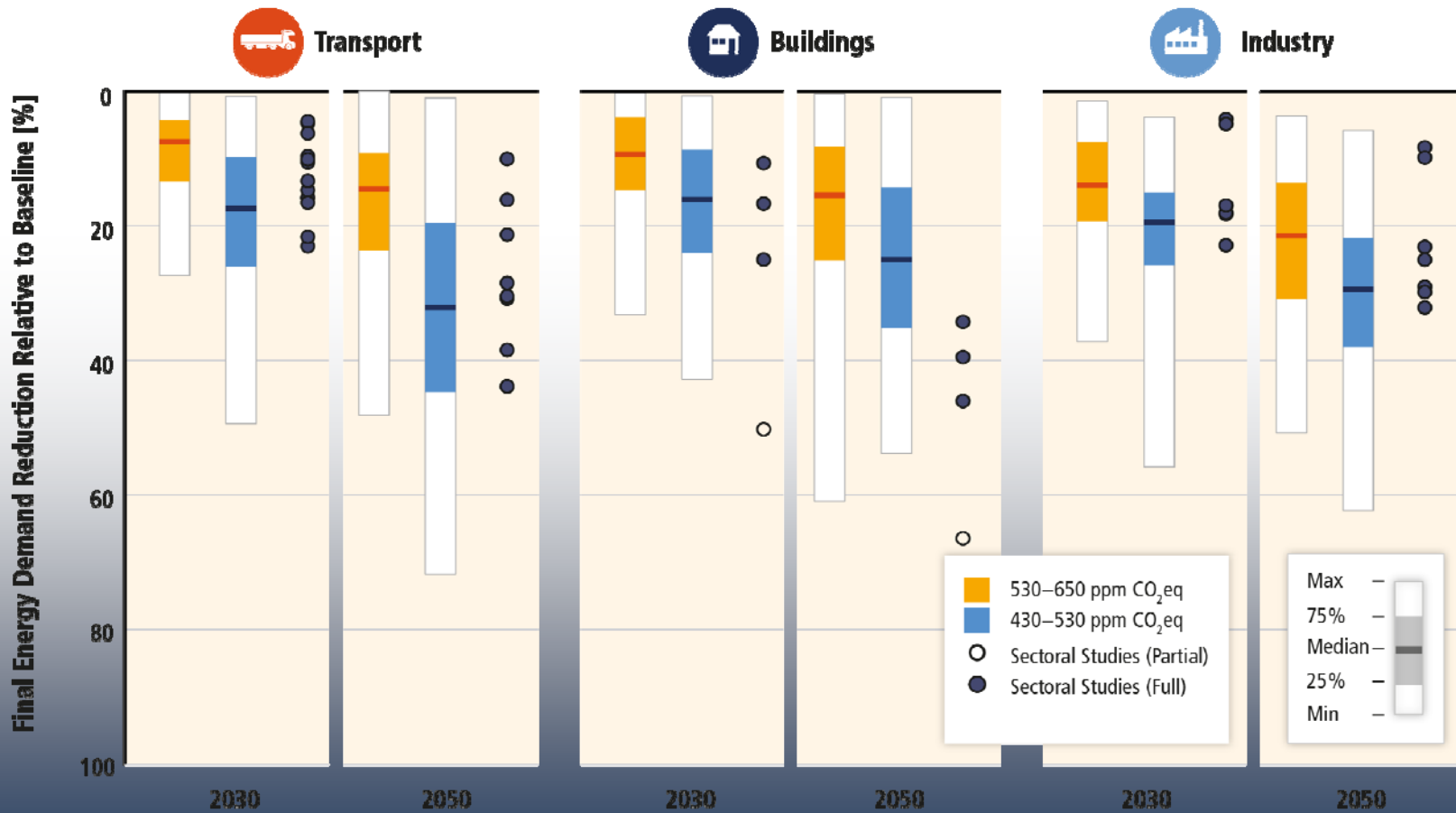


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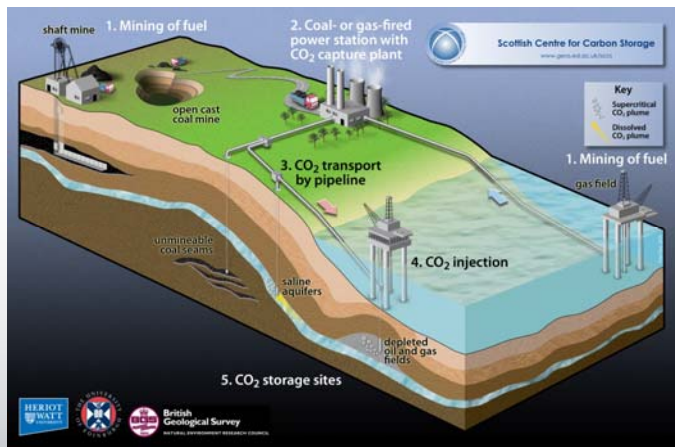
450 ppm CO₂eq with Carbon Dioxide Capture & Storage



Reducing energy demand is key

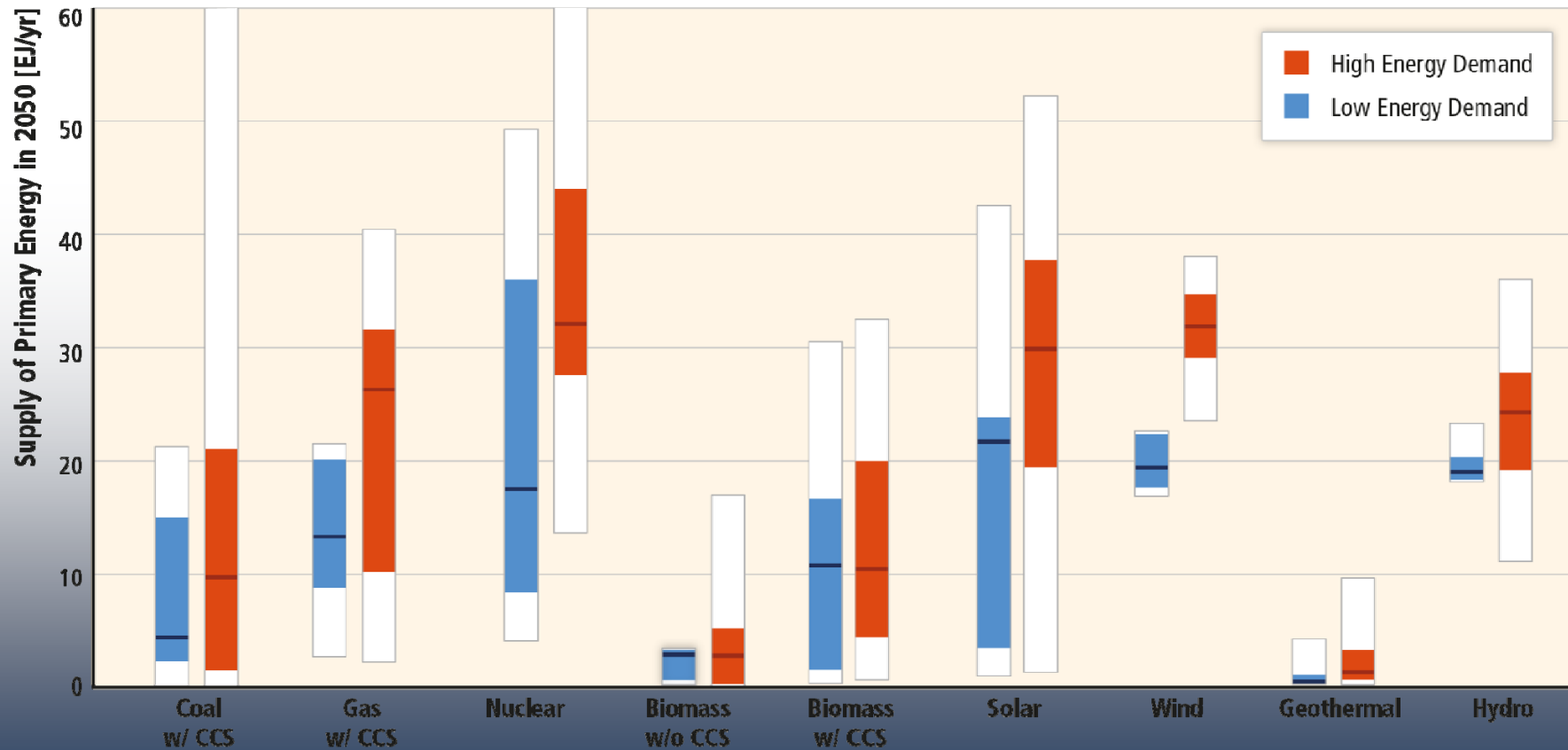


Decarbonization of energy supply would be needed.



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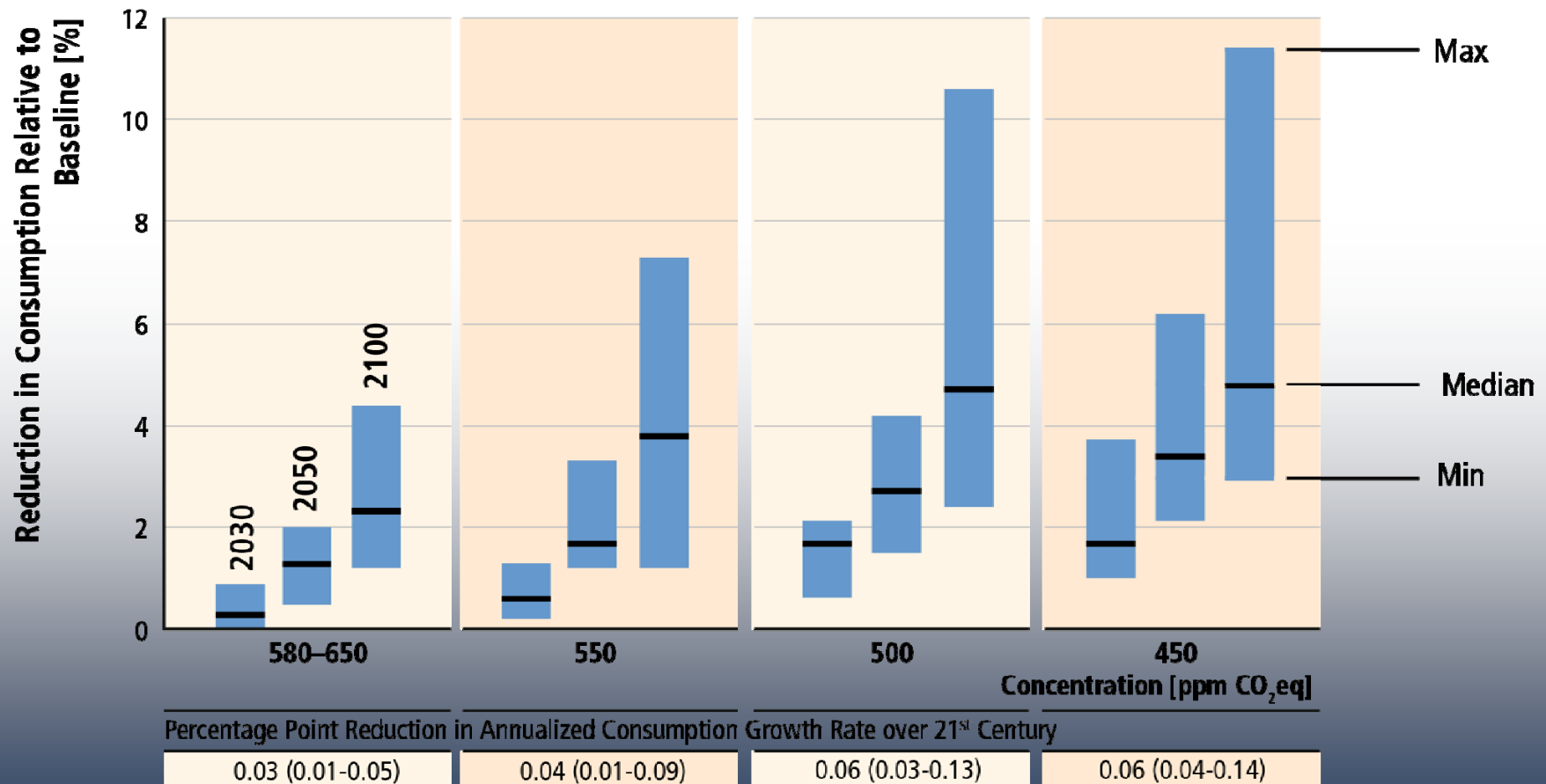
Contribution of Low Carbon Technologies to Energy Supply (430-530 ppm CO₂eq Scenarios)



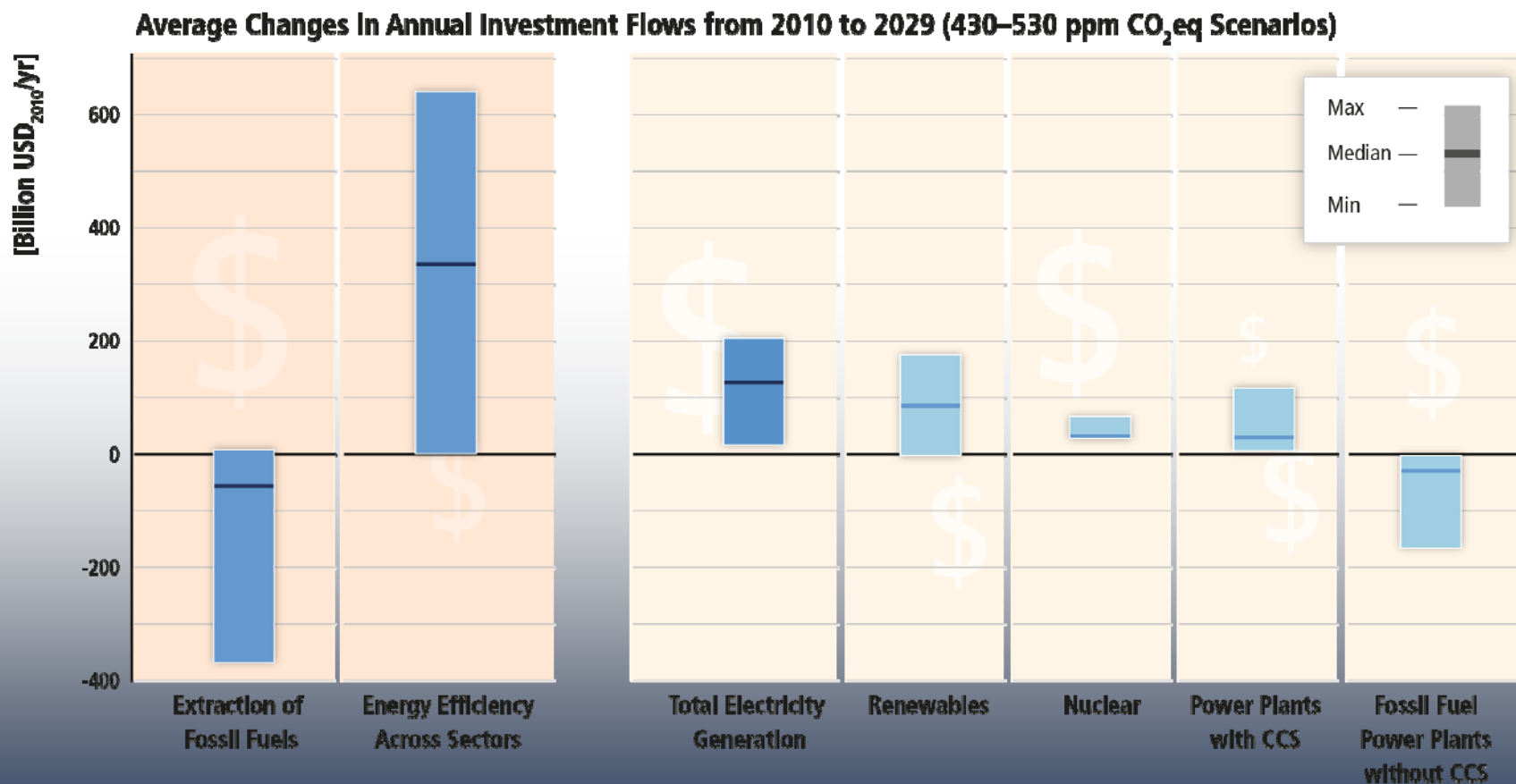
**Mitigation comes at a cost,
but strong economic growth can continue.**



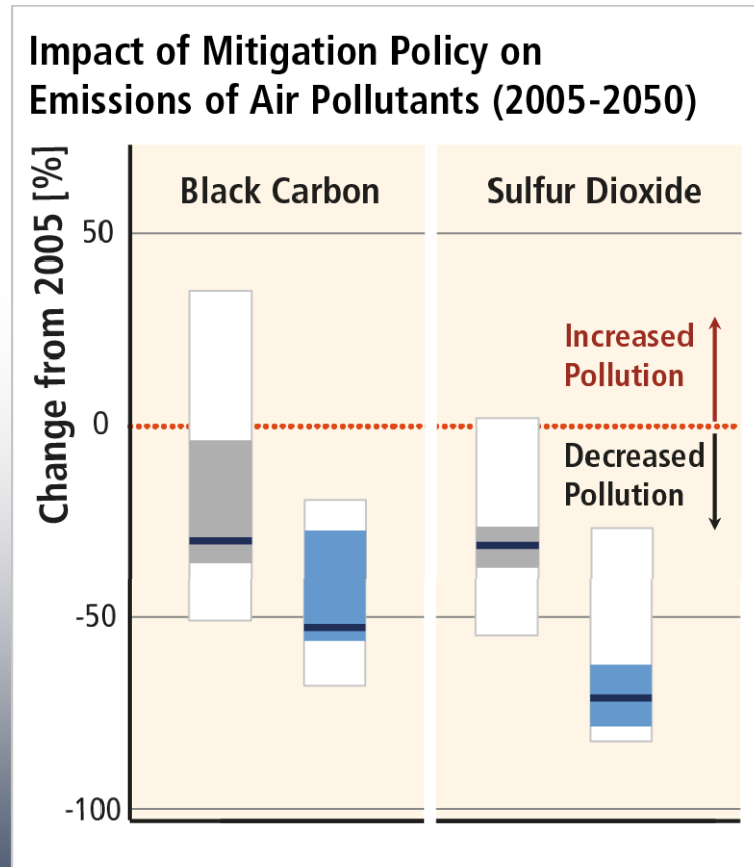
Global costs rise with the ambition of the mitigation goal.



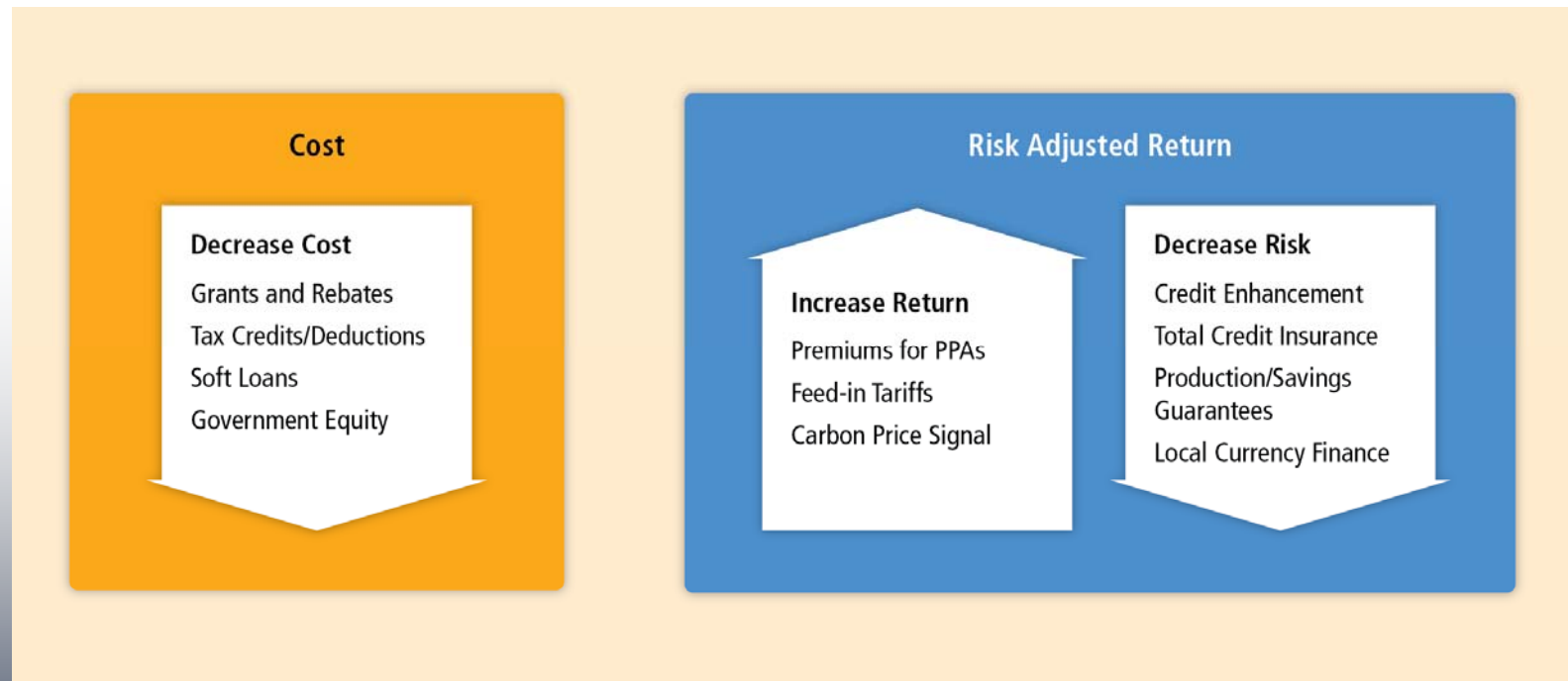
Substantial reductions in emissions would require large changes in investment patterns.



And mitigation brings other benefits – health, energy security.



With a helpful policy framework,
the private sector can help to mitigate climate change.



Personal thoughts: gaps in IPCC

- Model/scenario fatigue
- Attention to cross-cutting issues:
 - Behaviour
 - Innovation
 - Finance
 - Sustainability/co-benefits
- International co-operation
- The bits that IPCC can't touch:
 - Development and GHG emissions
 - Policy assessment and evaluation

ipcc

INTERGOVERNMENTAL PANEL ON climate change

CLIMATE CHANGE 2014

Mitigation of Climate Change



www.mitigation2014.org

Working Group III contribution to the
IPCC Fifth Assessment Report

