ipcc
INTERGOVERNMENTAL PANEL ON climate change

CLIMATE CHANGE 2014

Mitigation of Climate Change

Name

Role

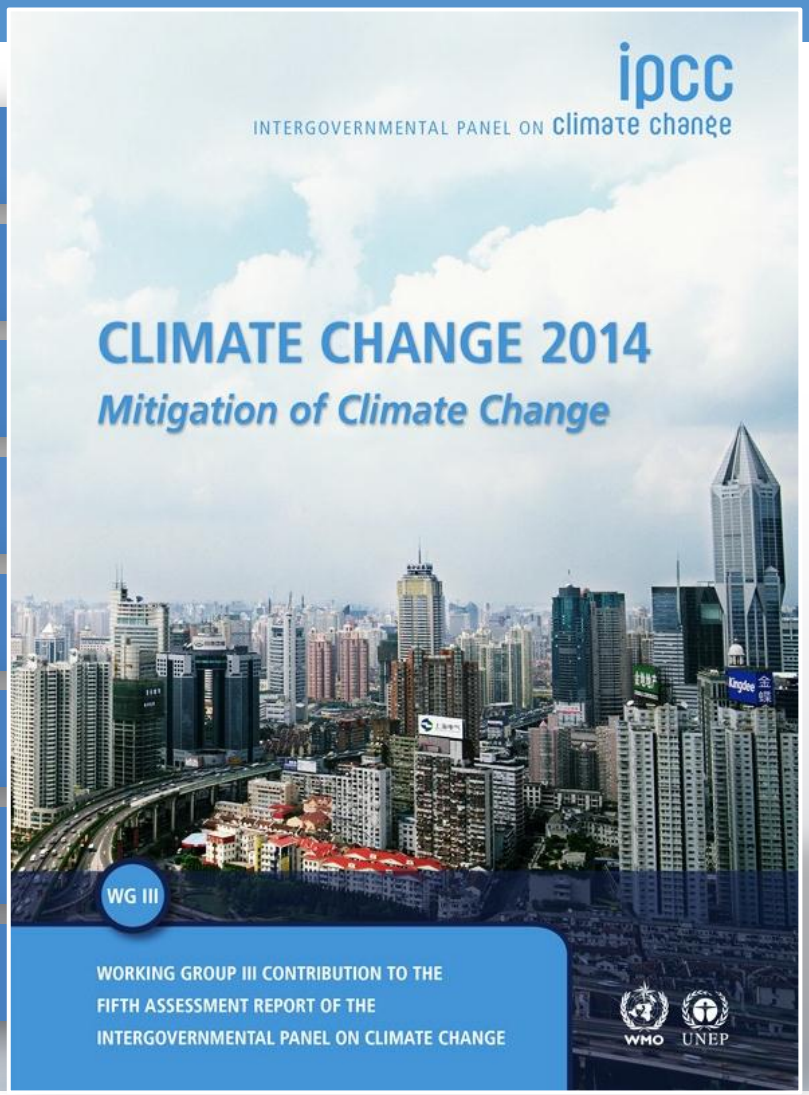
Working Group III contribution to the
IPCC Fifth Assessment Report

WMO UNEP


Climate change is a global commons problem.

IPCC reports are the result of extensive work of many scientists from around the world.

- 1 Summary for Policymakers
- 1 Technical Summary
- 16 Chapters
- 235 Authors
- 900 Reviewers
- More than 2000 pages
- Close to 10,000 references
- More than 38,000 comments



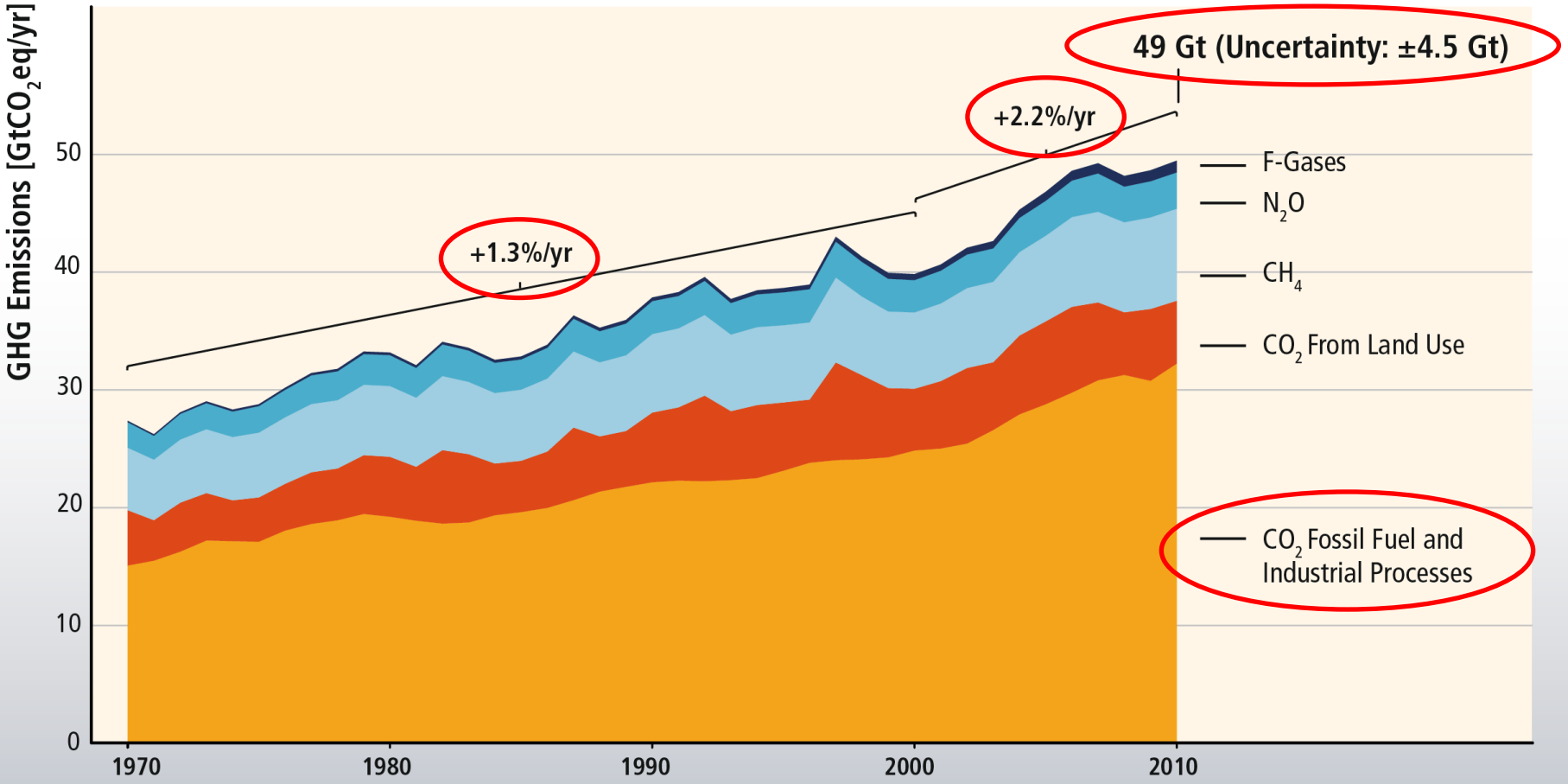
Chapter Structure

- Framing Chapters
  1. Introduction
  2. Risk and Uncertainty
  3. Social, Economic, and Ethical Concepts
  4. Sustainable Development and Equity
- Bridging Chapters
  5. Drivers, Trends, and Mitigation (Historical -jcr)
  6. Assessing Transformation Pathways (scenarios)

Chapter Structure - 2

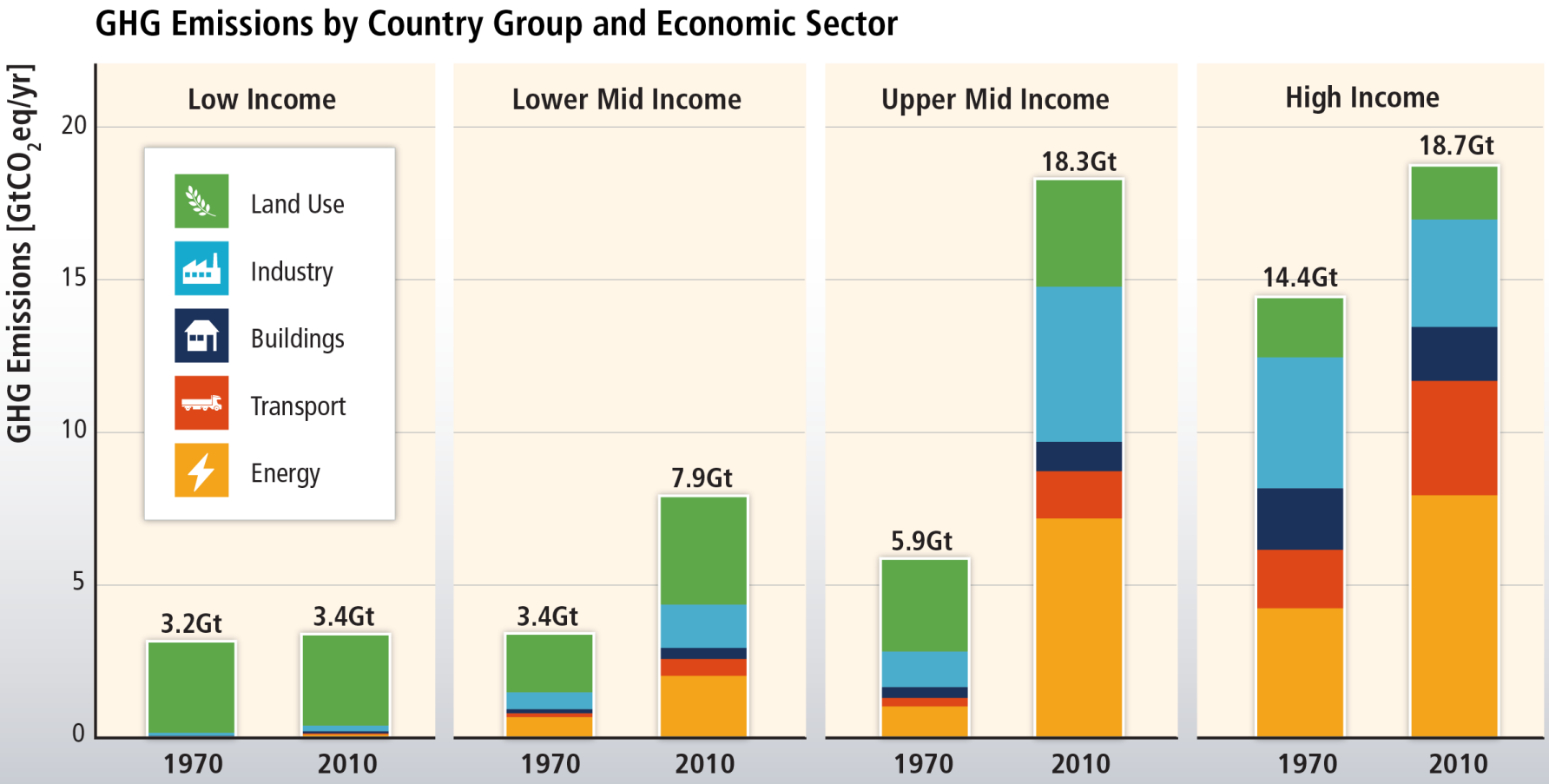
- Thematic Chapters
  7. Energy Systems
  8. Transport
  9. Buildings
  10. Industry
  11. Agriculture, Forestry & Other Land Uses
  12. Human Settlements, Infrastructure, Spatial Planning
- Policies and Financing
  13. International Cooperation: Agreements and Instruments
  14. Regional Development and Cooperation
  15. National and Sub-National Policies and Institutions
  16. Cross-cutting Investment and Finance Issues

GHG emissions growth between 2000 and 2010 has been larger than in the previous three decades.



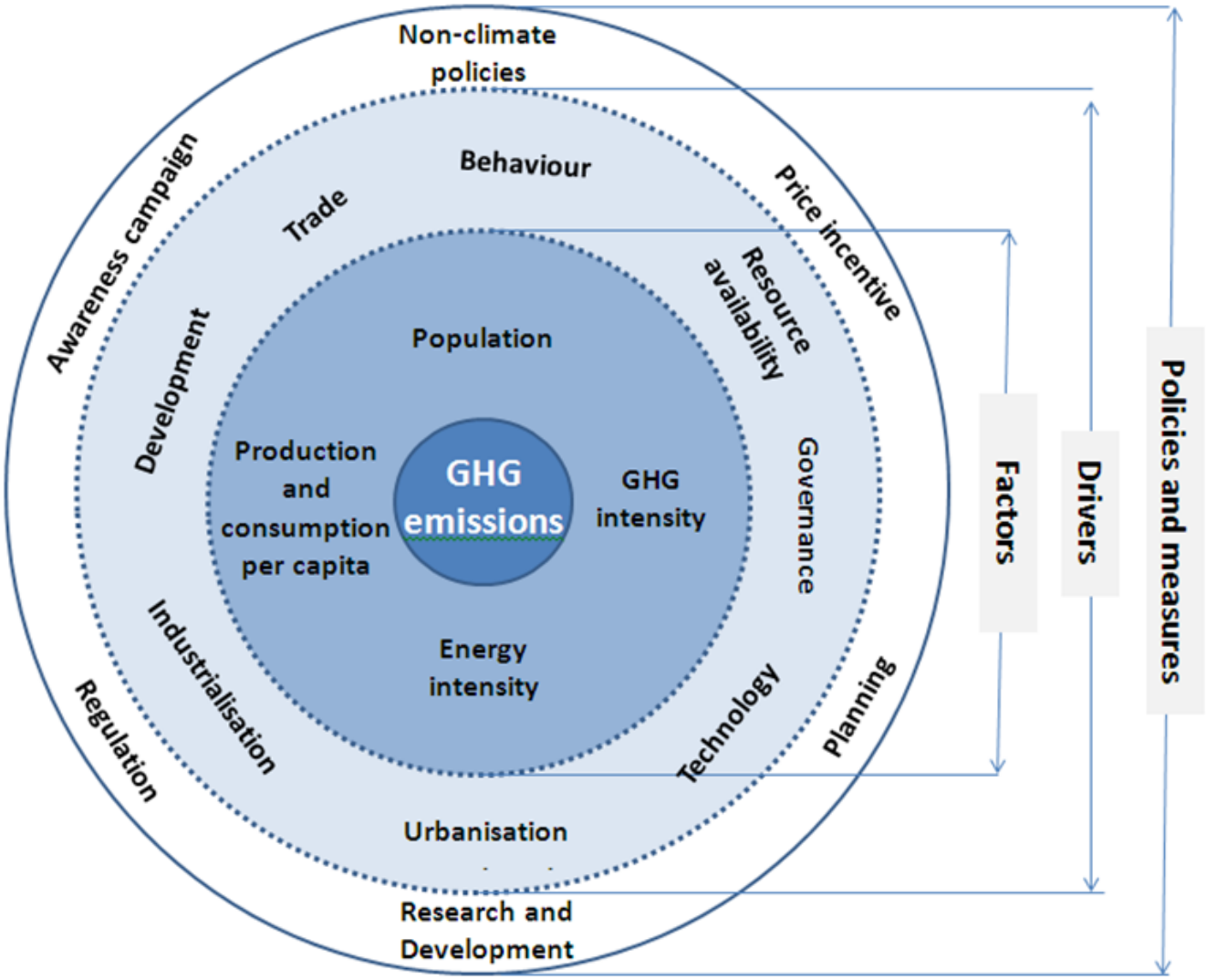
Based on Figure 1.3

Regional patterns of GHG emissions are shifting along with changes in the world economy.

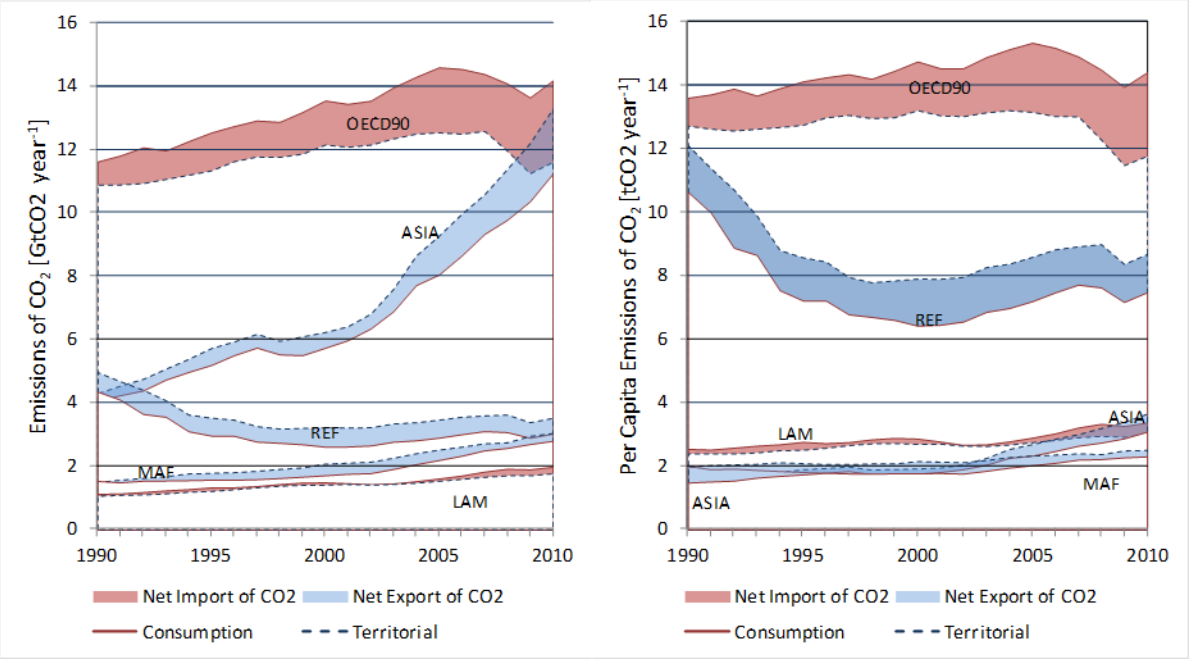


Based on Figure 1.6

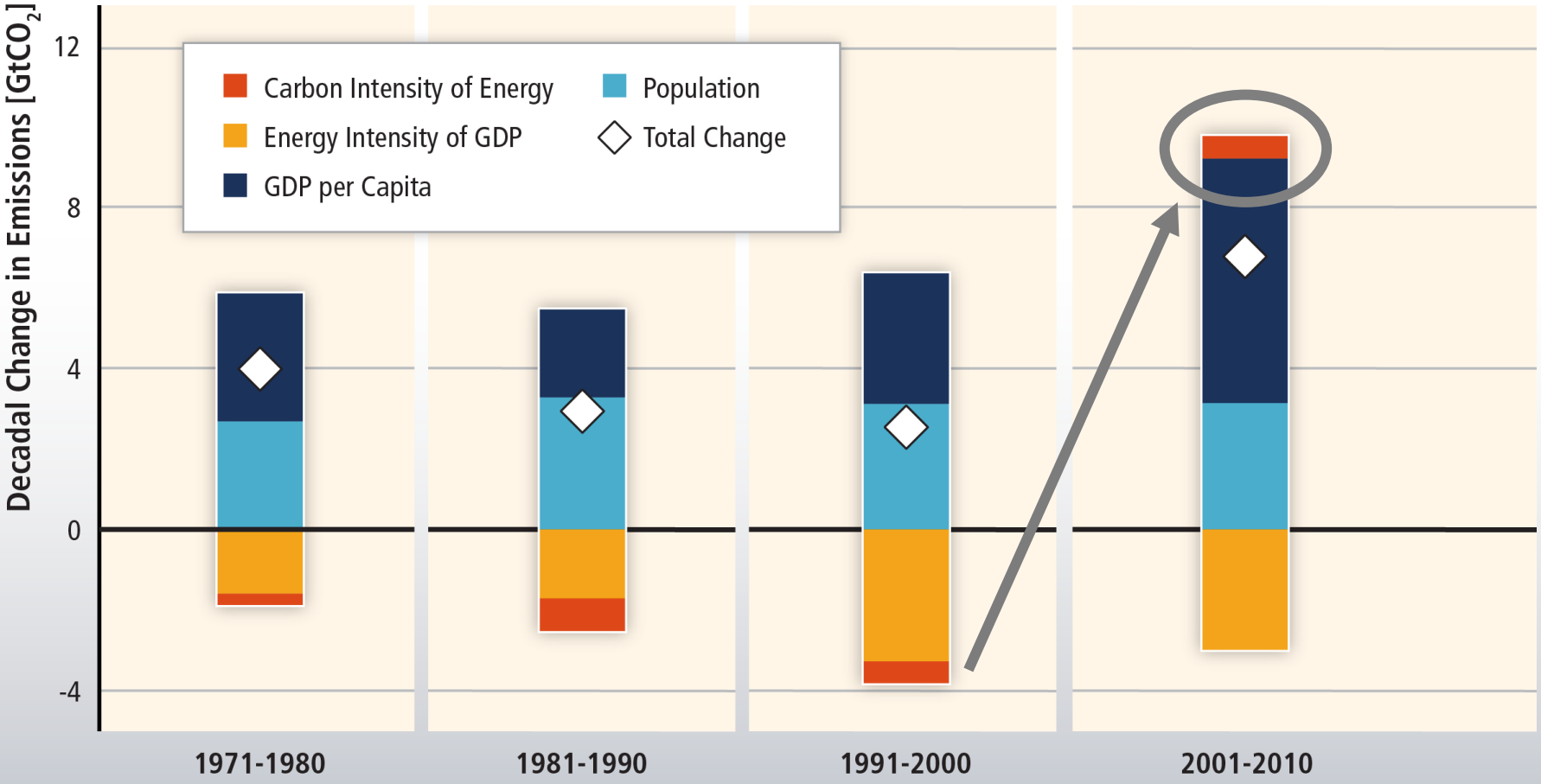
What happens to a flow diagram when everything is connected to everything else?
(and we wanted the wheels to spin)



Role of trade in emissions ACCOUNTING

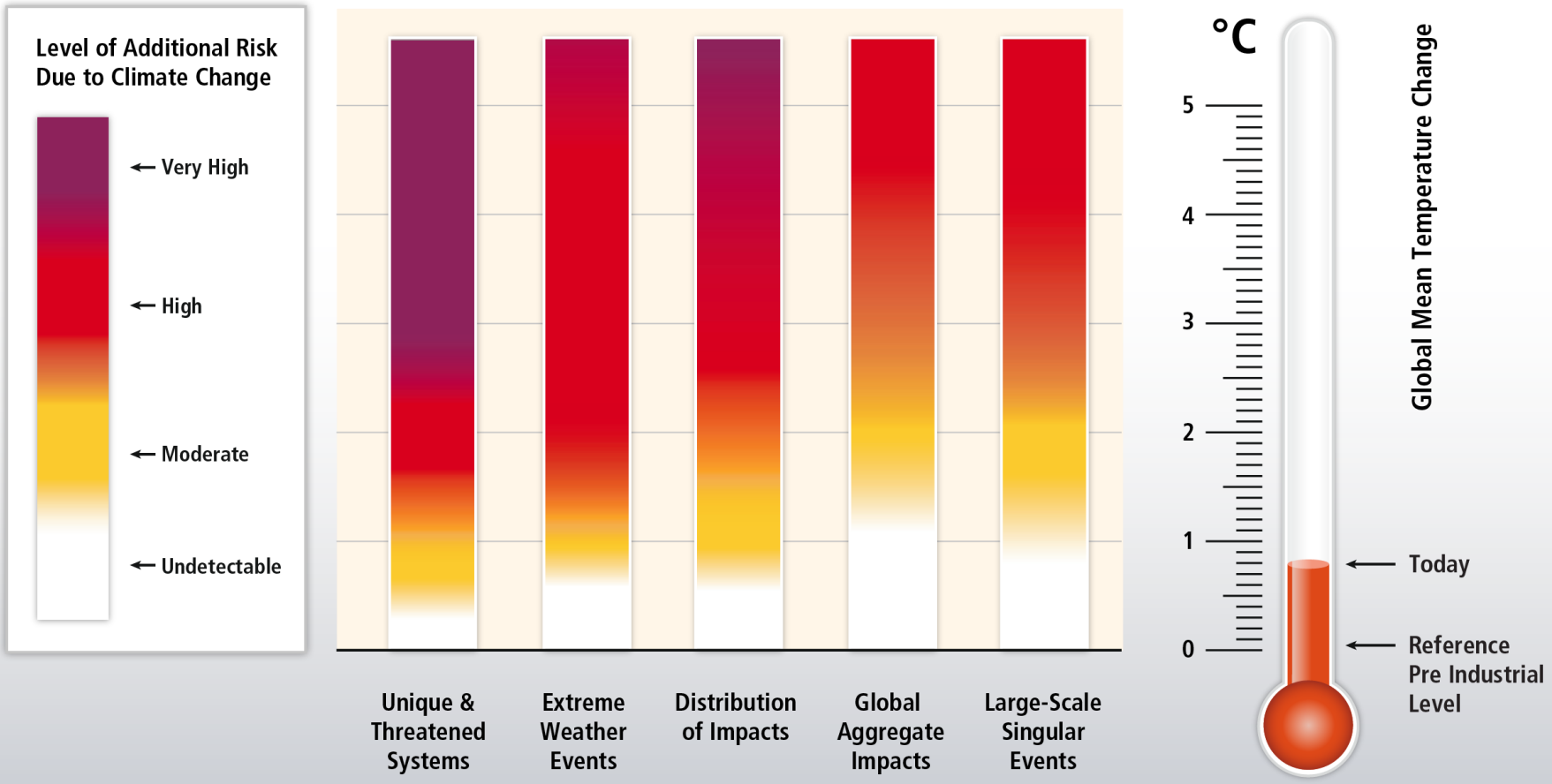


GHG emissions rise with growth in GDP and population; long-standing trend of decarbonisation of energy reversed.



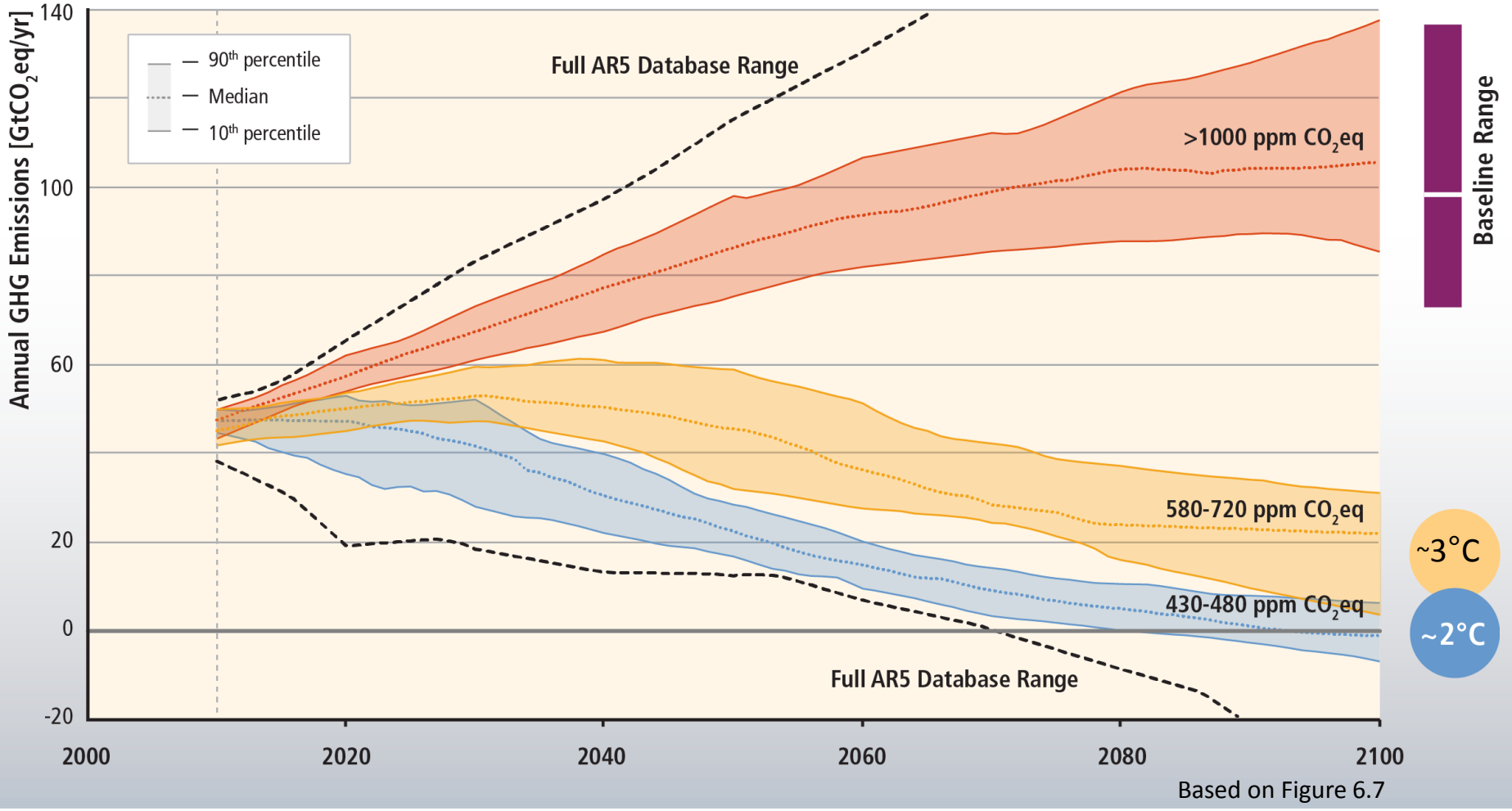
Based on Figure 1.7

Without additional mitigation, global mean surface temperature is projected to increase by 3.7 to 4.8°C over the 21st century.



Based on WGII AR5 Figure 19.4

Stabilization of atmospheric concentrations requires moving away from the baseline – regardless of the mitigation goal.

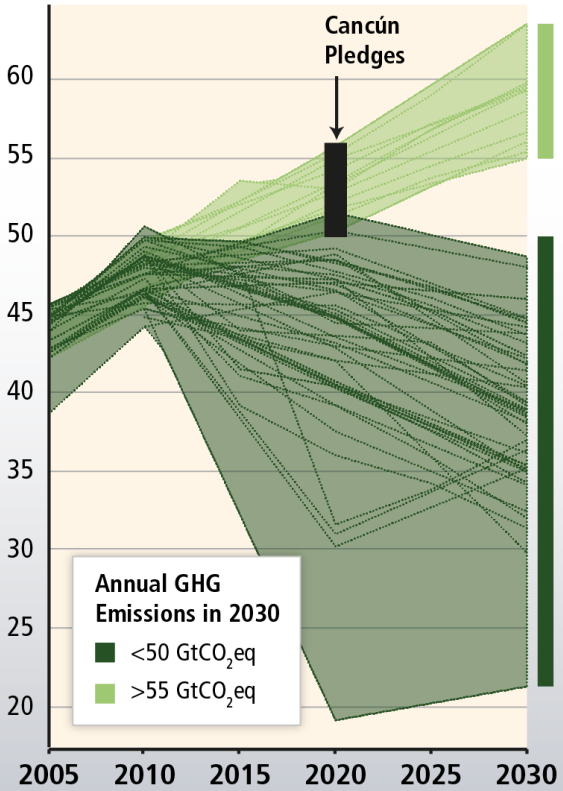


Based on Figure 6.7

Delaying mitigation is estimated to increase the difficulty and narrow the options for limiting warming to 2°C.

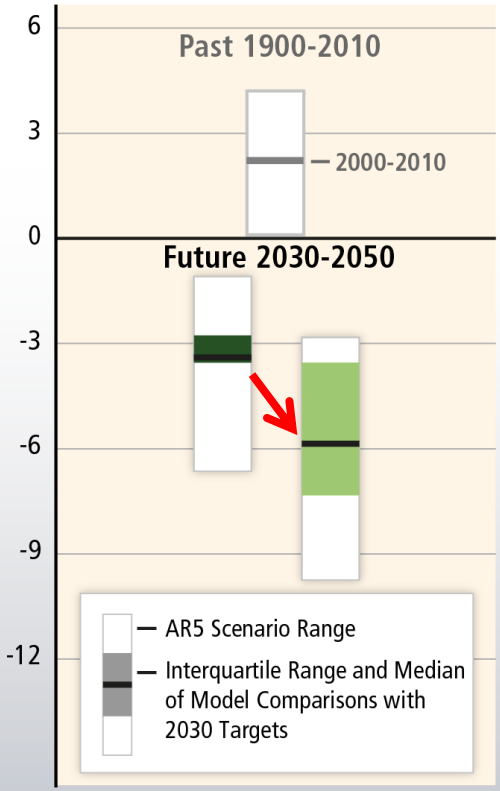
Before 2030

GHG Emissions Pathways [$GtCO_2eq/yr$]

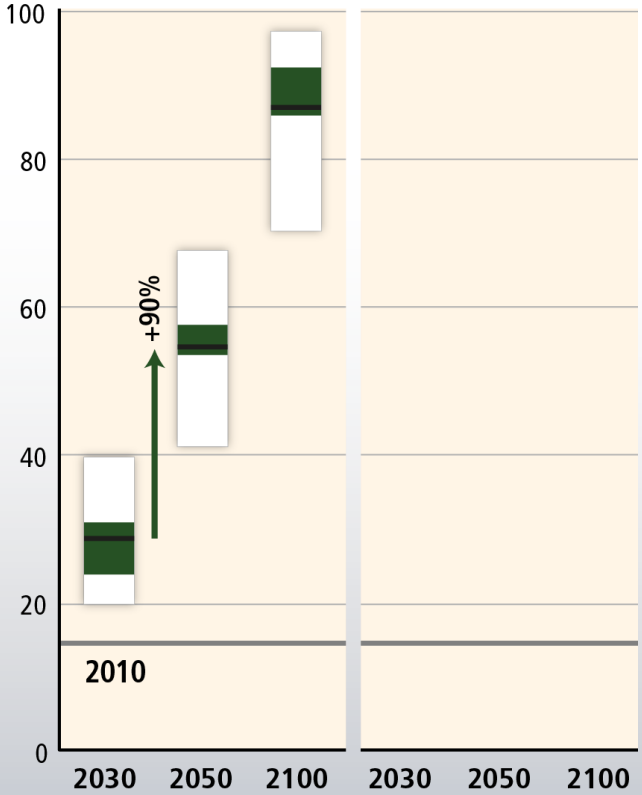


After 2030

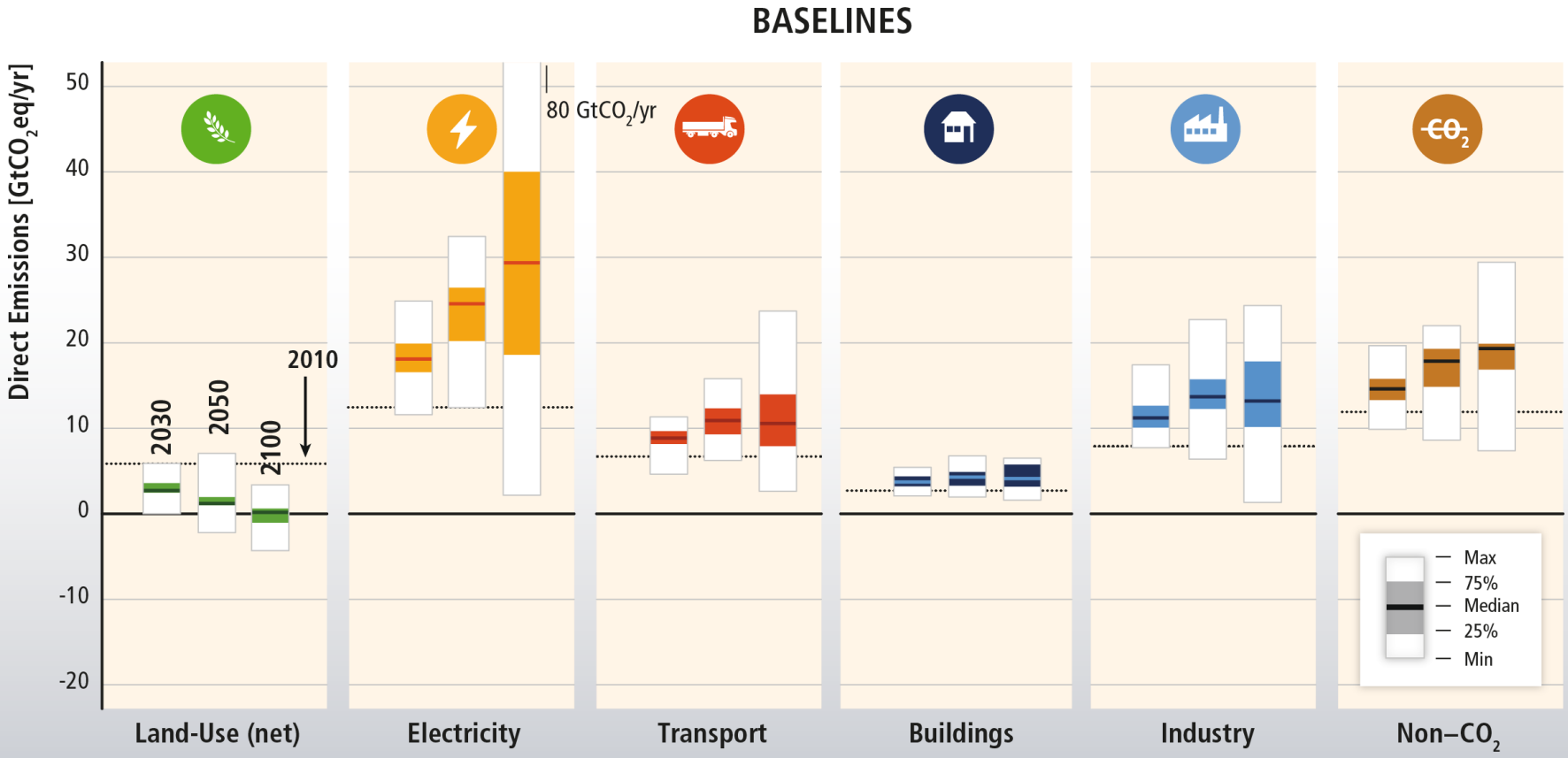
Rate of CO_2 Emission Change [%/yr]



Share of Low Carbon Energy [%]

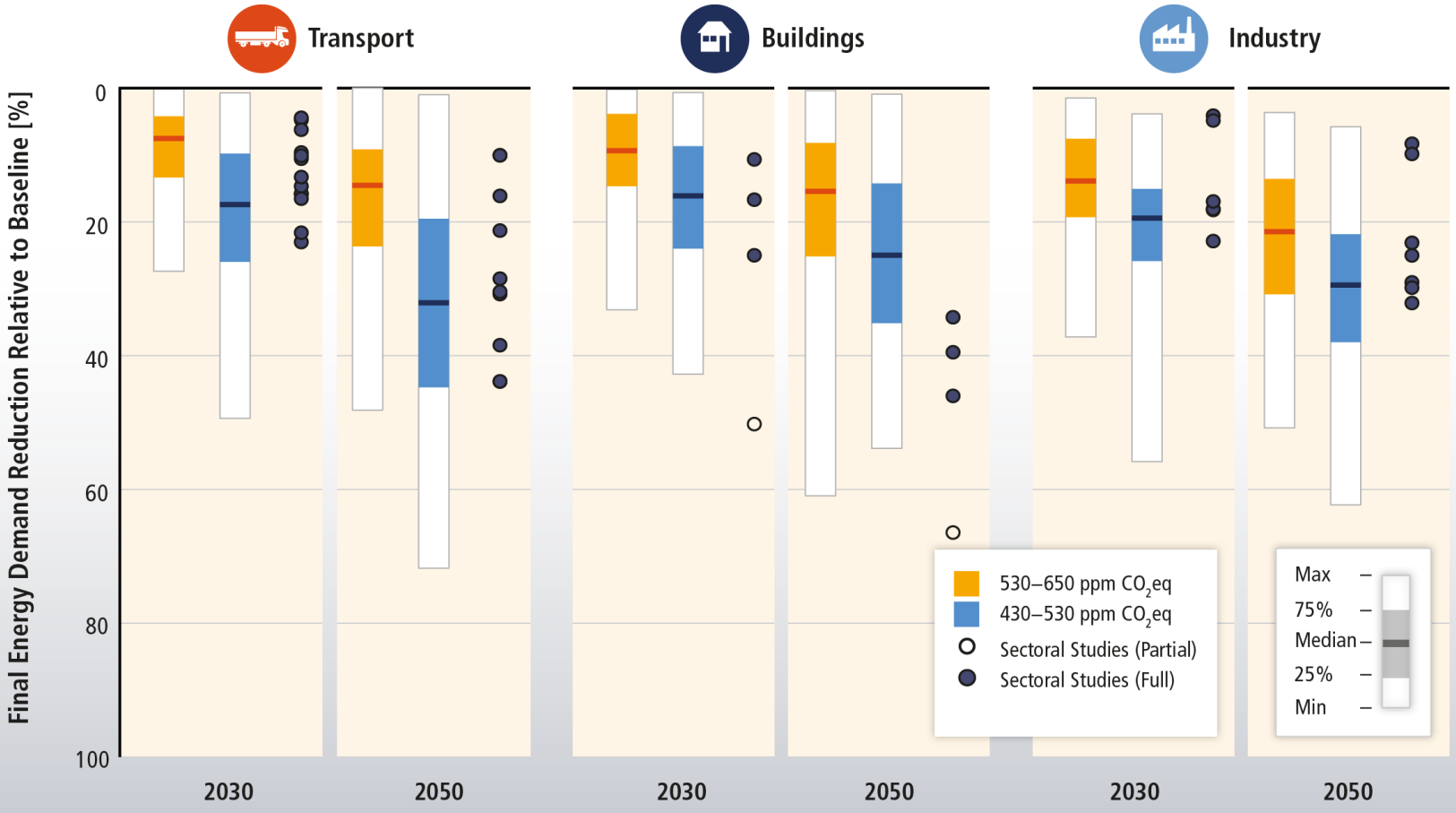


Baseline scenarios suggest rising GHG emissions in all sectors, except for CO_2 emissions in the land-use sector.



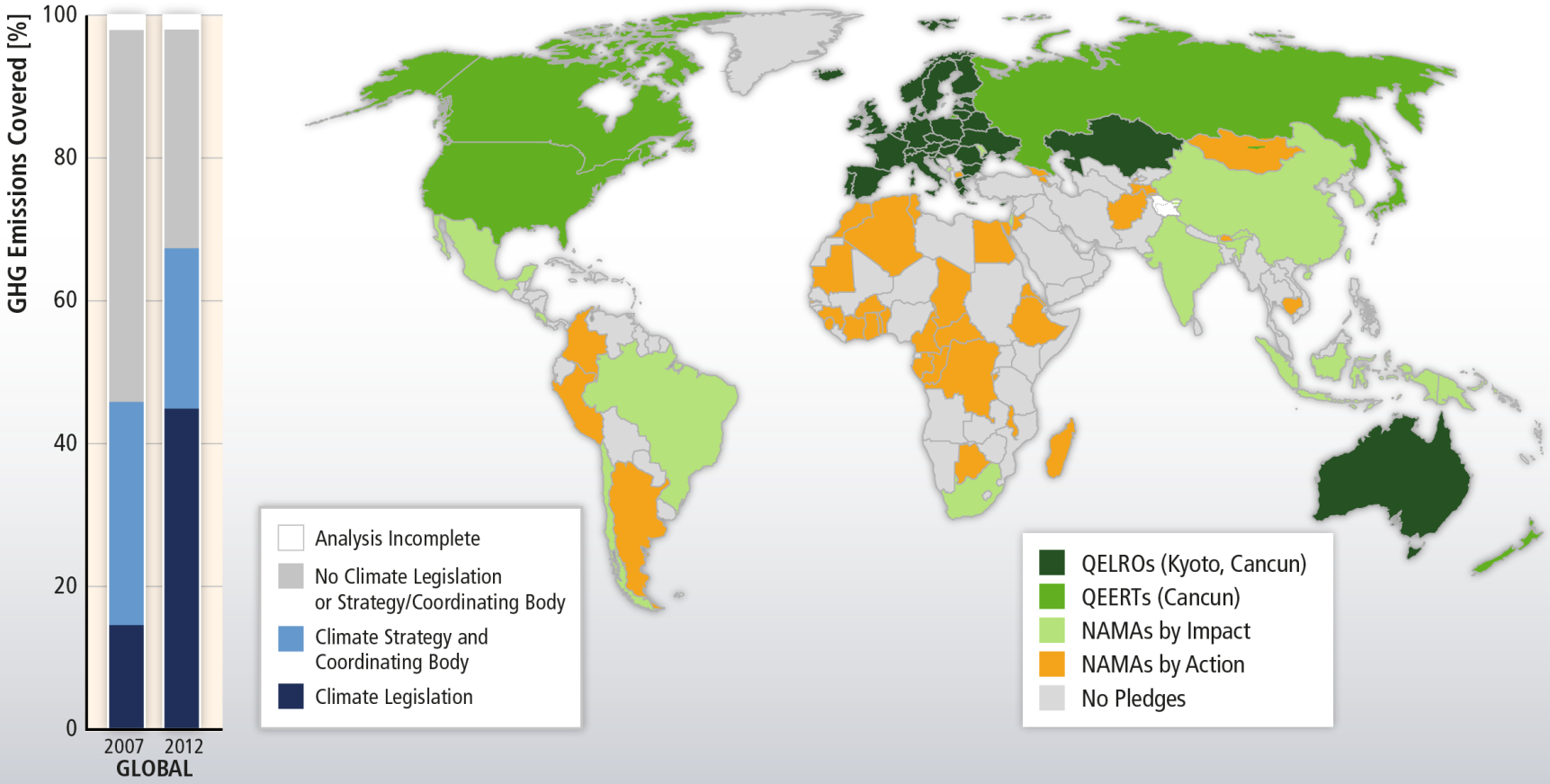
Based on Figure TS.17

Reducing energy demand through efficiency enhancements and behavioural changes are a key mitigation strategy.



Based on Figure 6.37

There has been a considerable increase in national and sub-national mitigation policies since AR4.



Based on Figures 15.1 and 13.3

Where is the ocean?

Searched for “ocean”, “marine”, “ and coastal
Zero hits in Chapters 1,2,3, 9, 10, 12, 14 ,15, 16

Shipping - 9 hits in chapters 5 and 8, and Annexes on methods and costs
Bio-energy and food source – 3 hits in chapter 11

Fertilization – 14 hits in chapters 4, 6, and 13 and annex on methods

Acidification- 18 hits in chapters 4, 6, 7, and 13 and annex on methods

Carbon capture and Storage (other) – 6 hits in chapters 6, 7 and methods0

Energy Source – 10 hits in chapters 6, and 7 and annex on methods

SO - the future is bleak and we are running out of time….

Problem is reducing emissions – which to maintain our lifestyle are still growing.

Technology AND behaviour hold the solution (if it exists)

Ocean Fertilization as CCS NOT the answer

Not giving high credibility to coastal wind, tidal or wave energy. Or to coastal CCS in other ways.
SHOULD THEY?

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