

CLIMATE CHANGE 2014

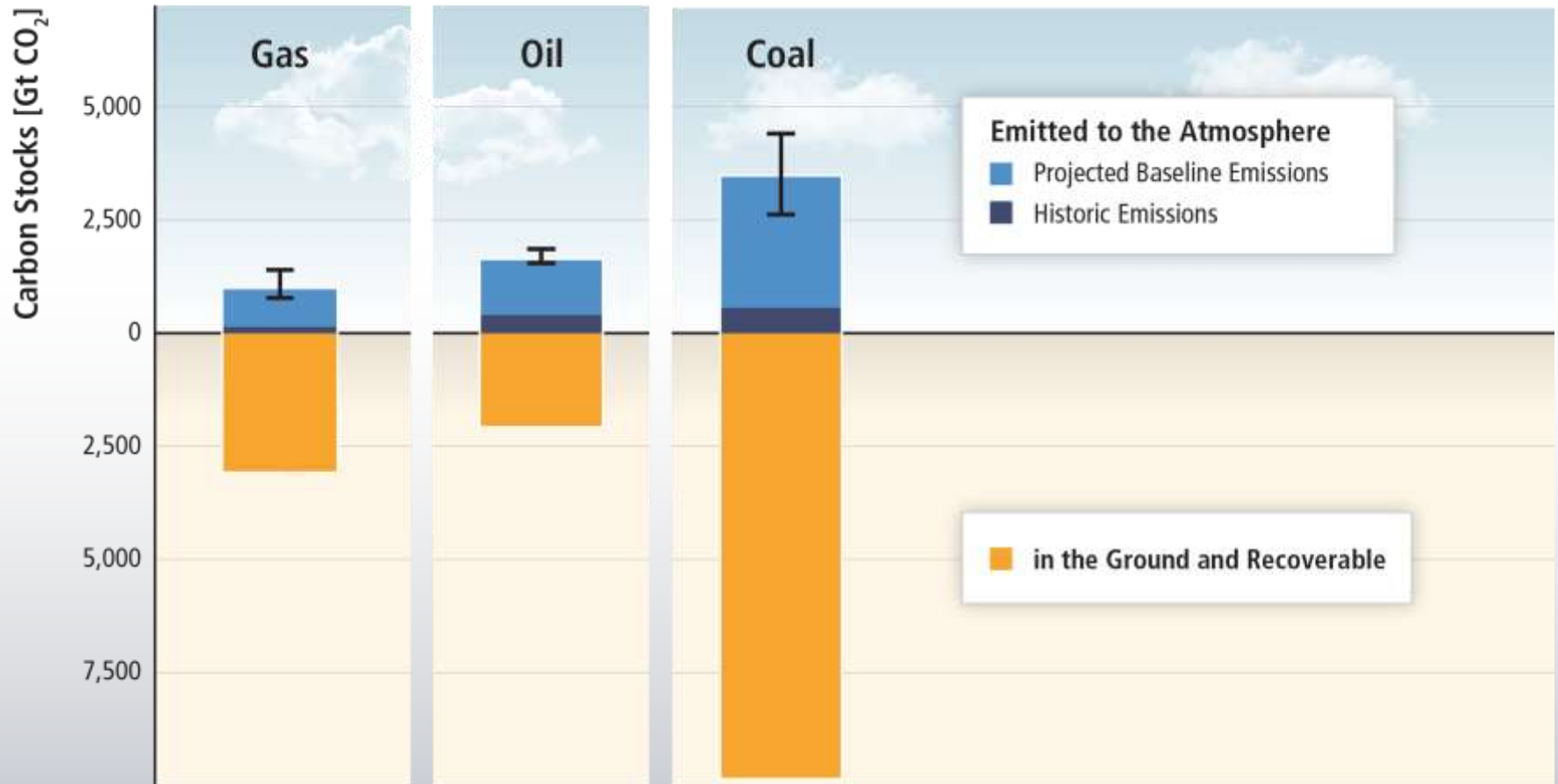
Mitigation of Climate Change

key messages of the AR5 WGIII contribution

M. Messouli

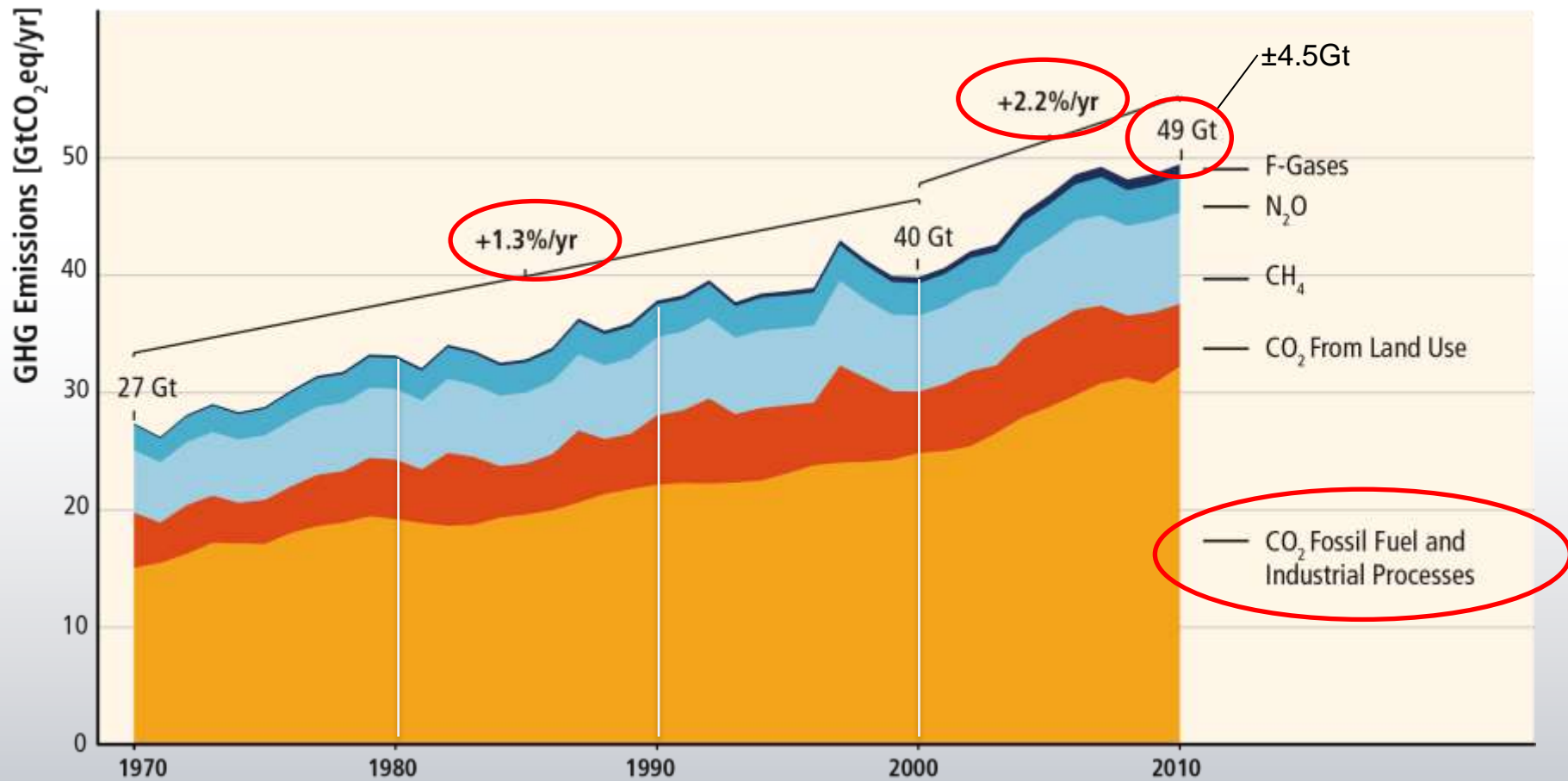
IPCC Lead Author

There is far more carbon in the ground than emitted in any baseline scenario

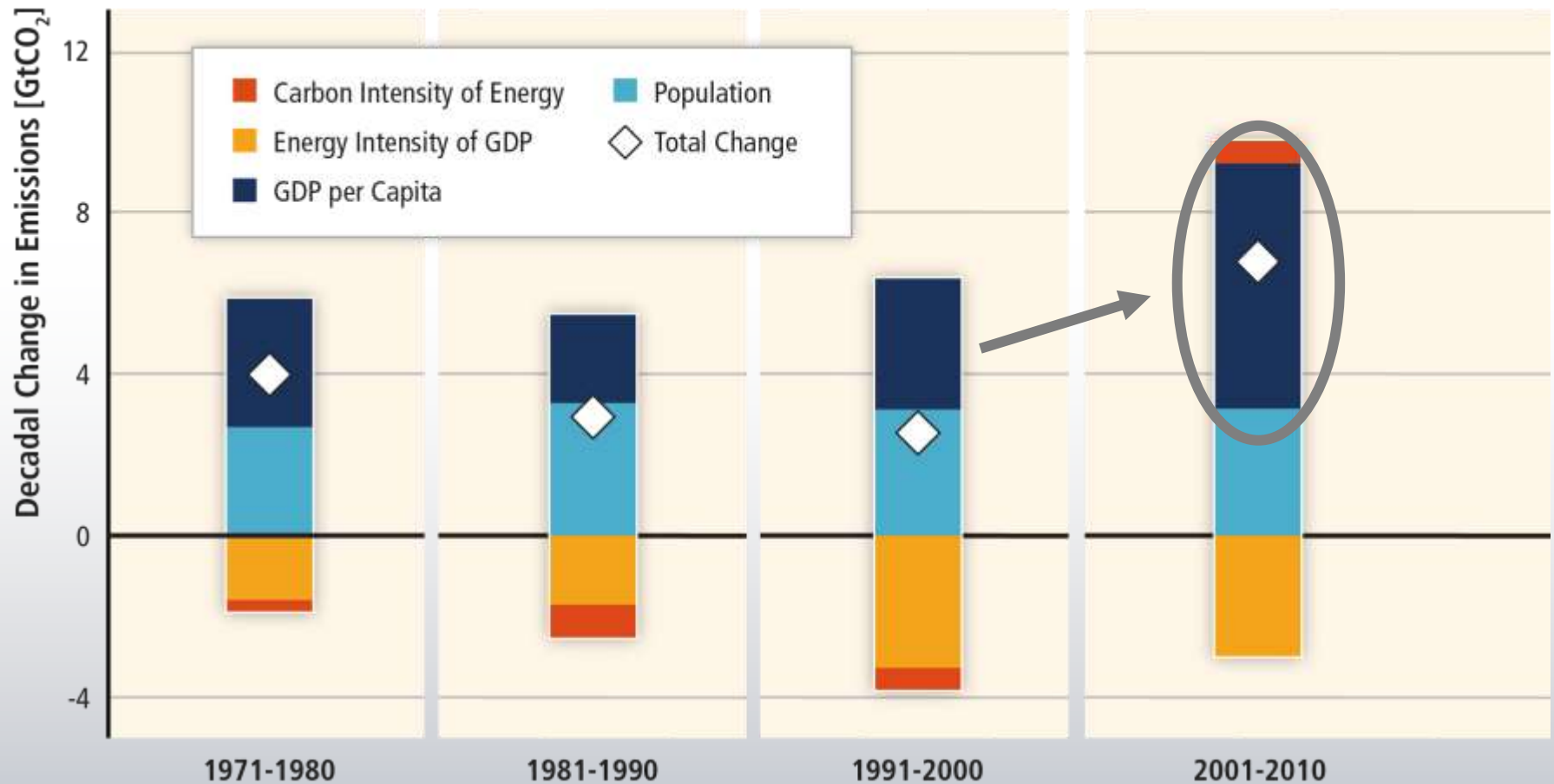


Based on SRREN Figure 1.7

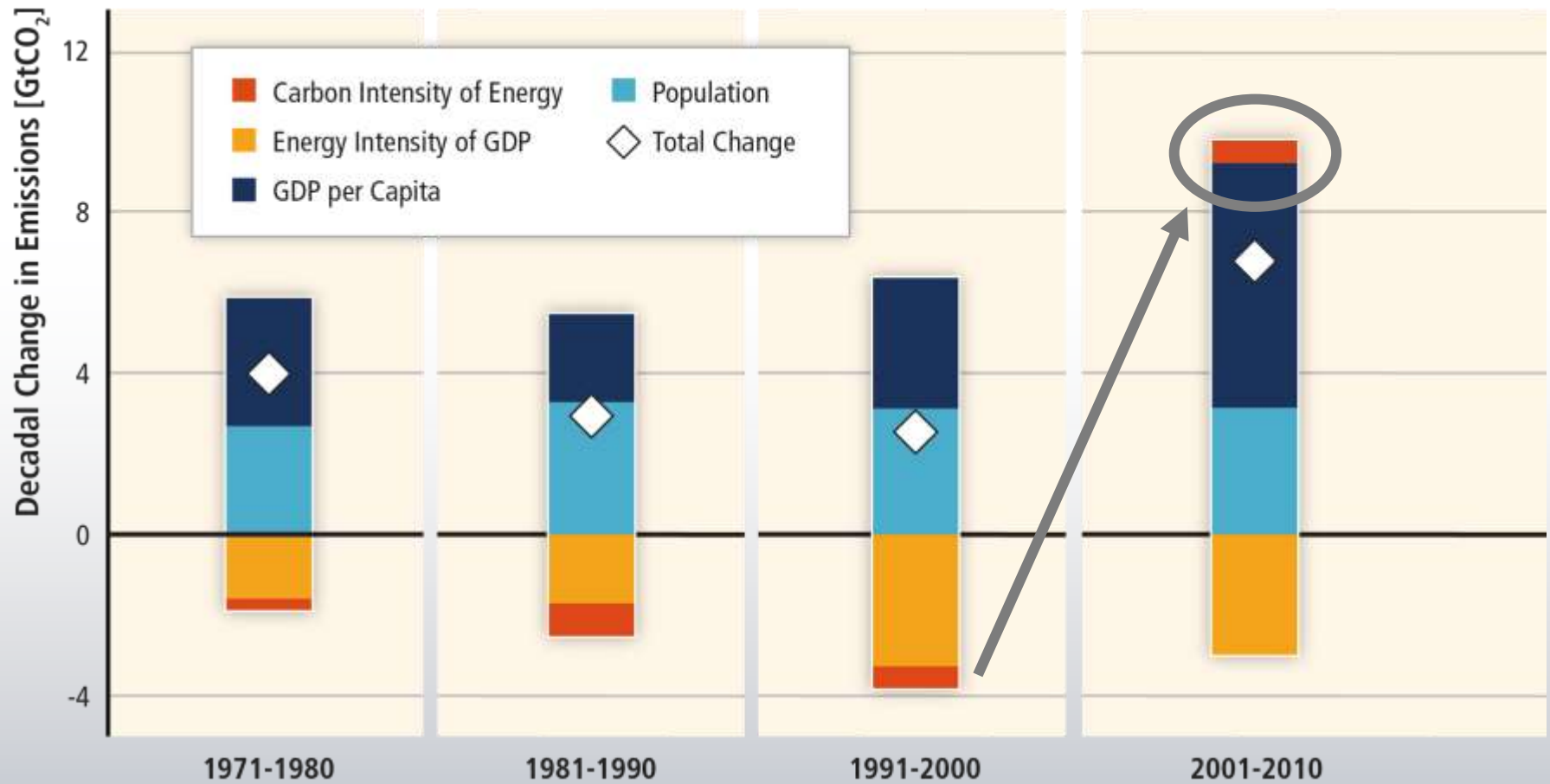
GHG emissions growth between 2000 and 2010 has been larger than in the previous three decades



Most of the recent GHG emission growth has been driven by growth in economic activity.



The long-standing trend of gradual decarbonisation of energy has reversed recently.

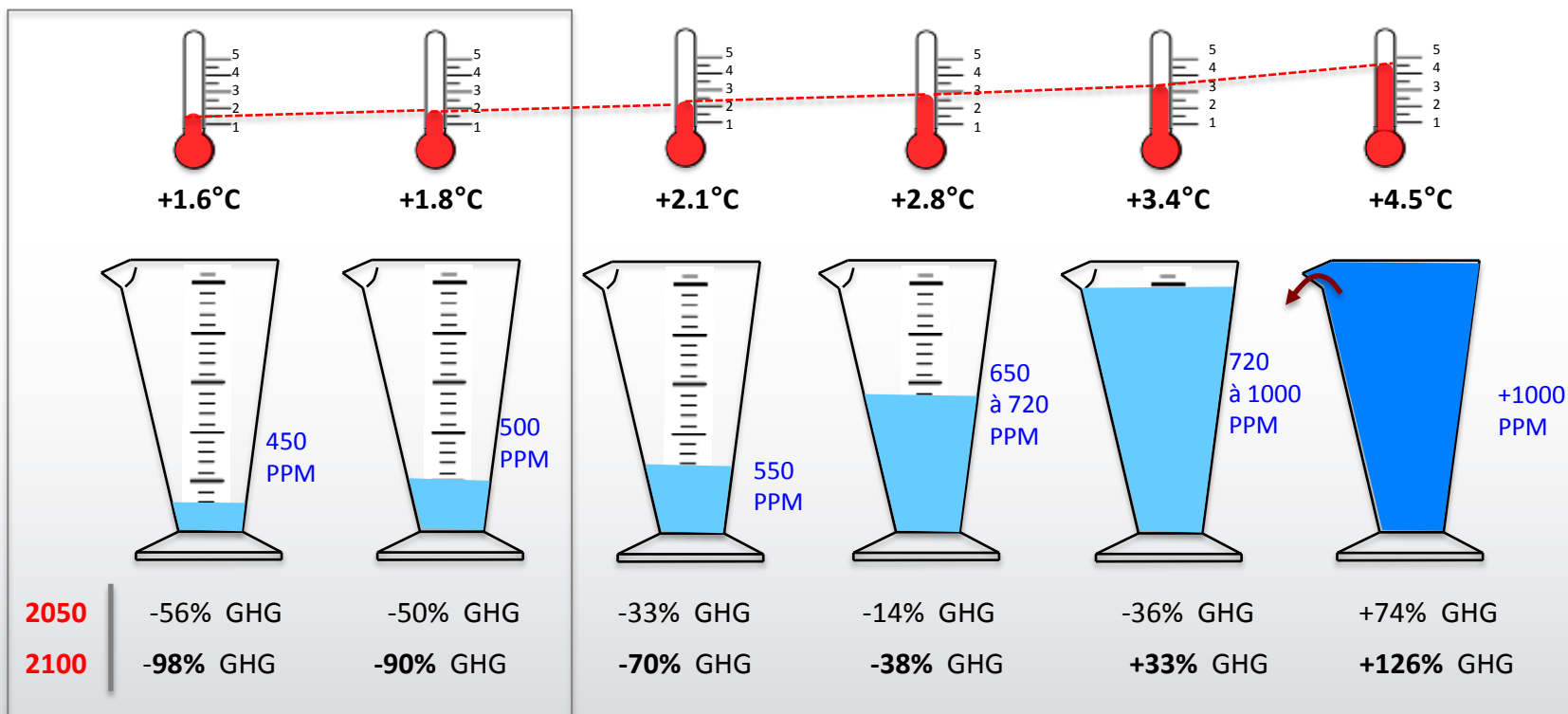


An aerial photograph of a dense urban landscape, likely Hong Kong, featuring a complex multi-level highway interchange in the foreground and a dense cluster of skyscrapers in the background under a blue sky with light clouds. The text is overlaid in the center of the image.

Limit warming to 2°C relative to pre-industrial levels involves substantial technological, economic and institutional challenges.

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

Average temperature increase by 2100 relative to pre-industrial level

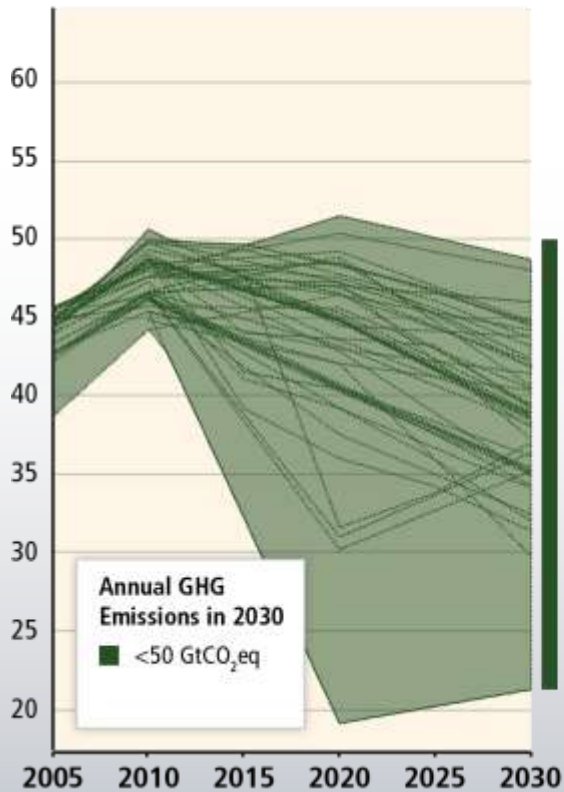


Evolution of average emissions of greenhouse gases relative to 2010 in 2050 and in 2100

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

Before 2030

GHG Emissions Pathways [GtCO₂eq/yr]

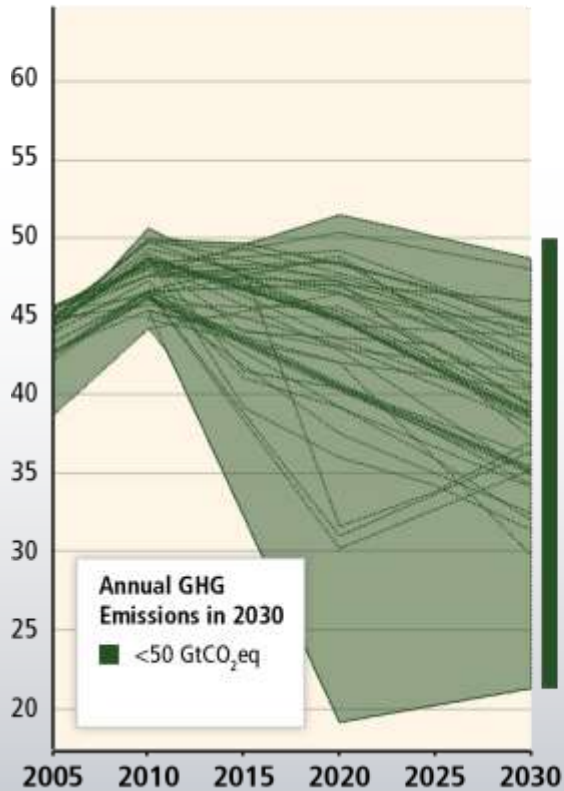


„immediate action“

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

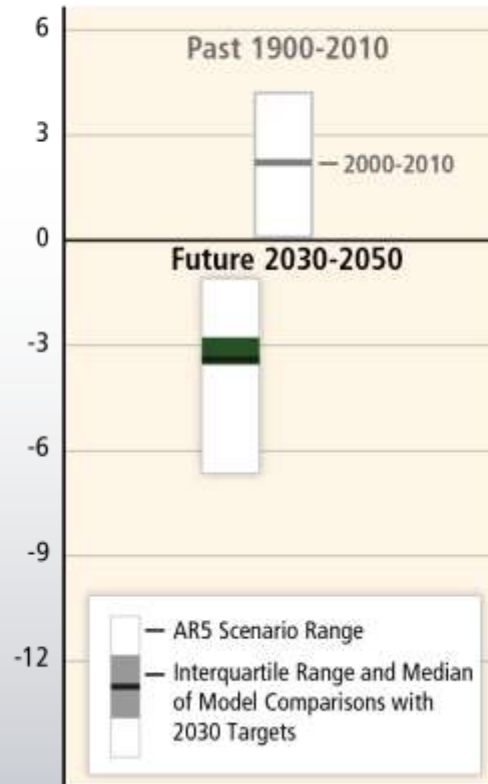
Before 2030

GHG Emissions Pathways [GtCO₂eq/yr]



After 2030

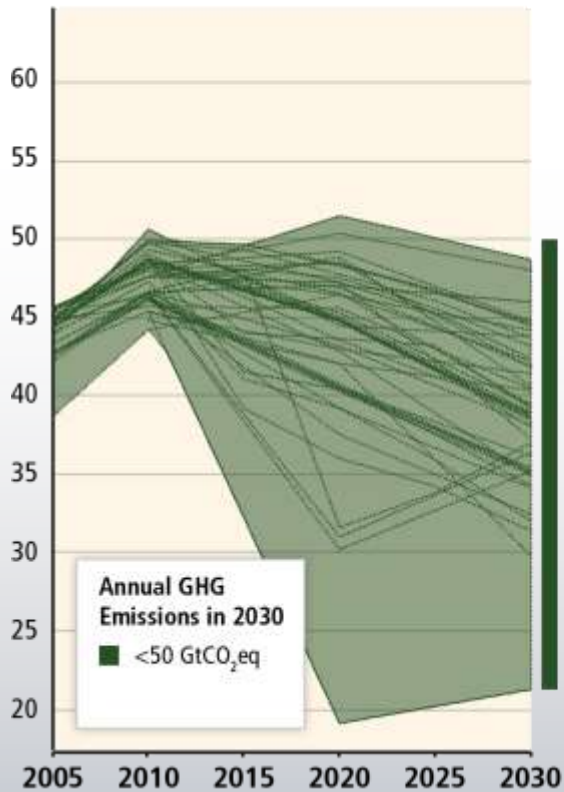
Rate of CO₂ Emission Change [%/yr]



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

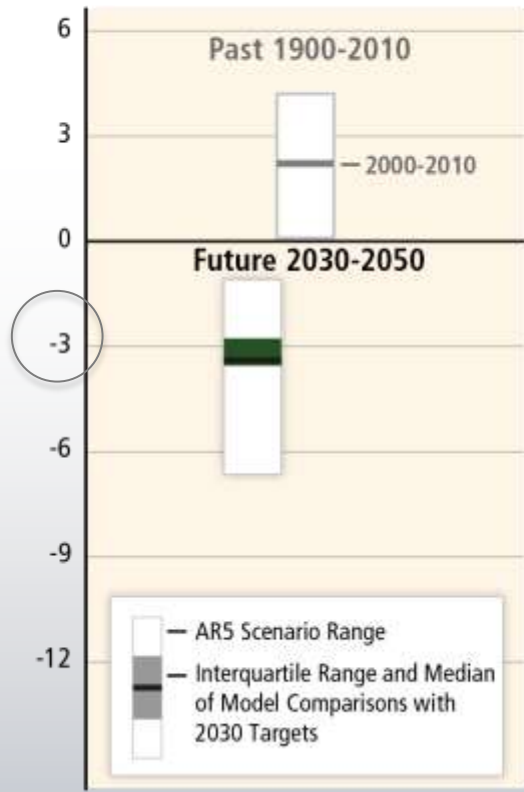
Before 2030

GHG Emissions Pathways [GtCO₂eq/yr]

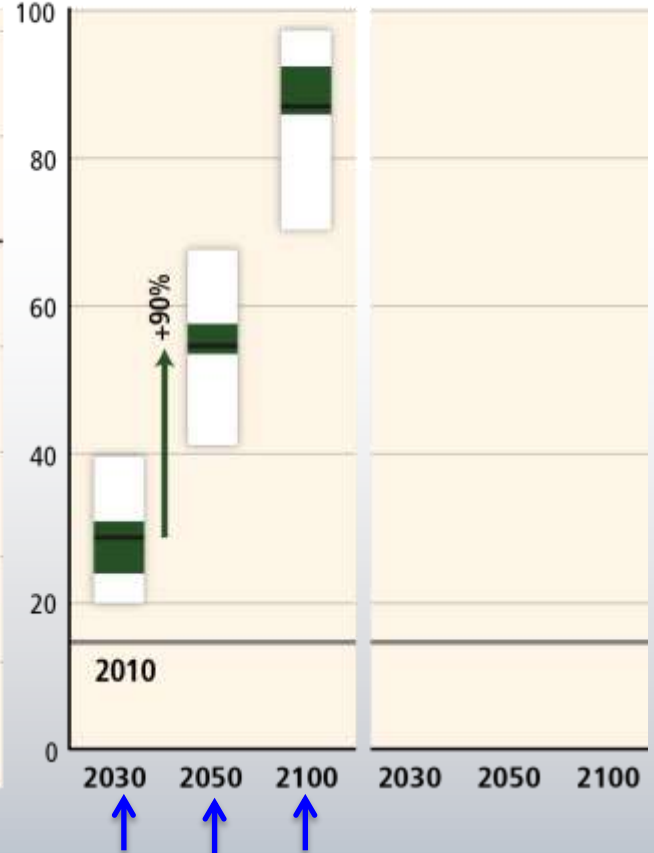


After 2030

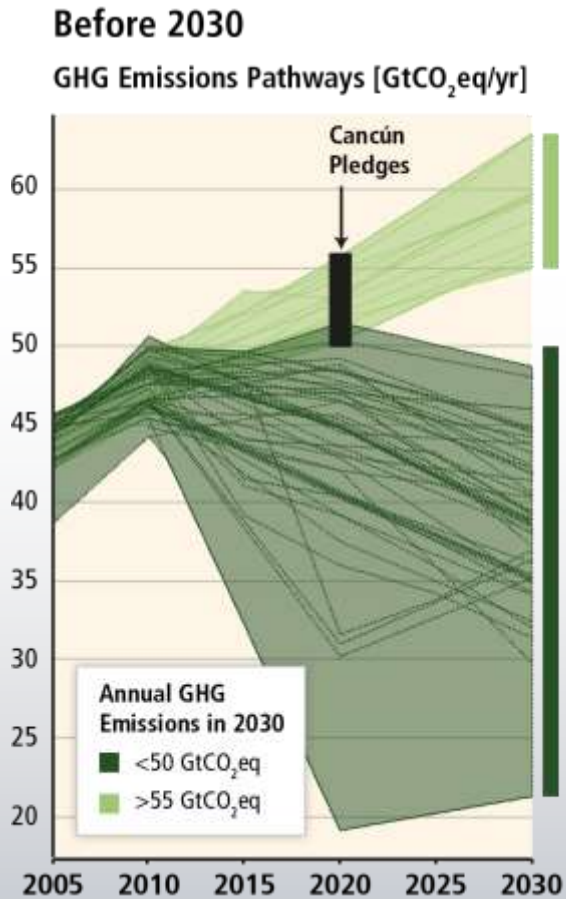
Rate of CO₂ Emission Change [%/yr]



Share of Low Carbon Energy [%]



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



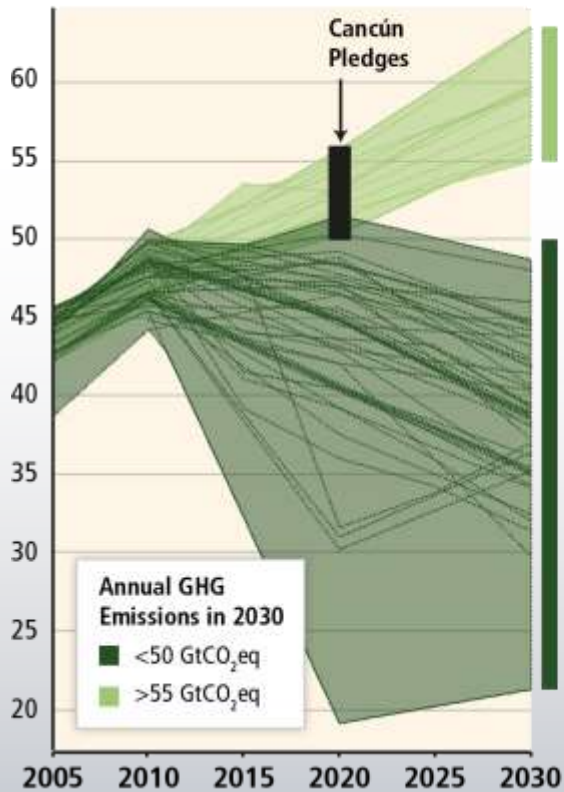
„delayed mitigation“

„immediate action“

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

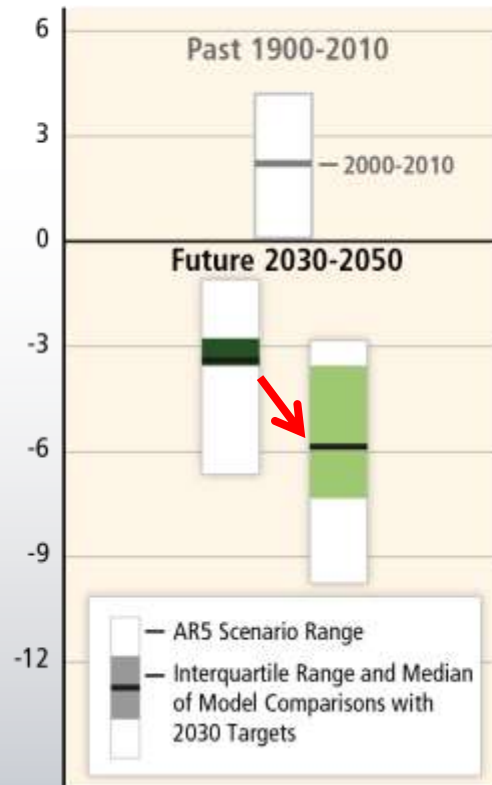
Before 2030

GHG Emissions Pathways [GtCO₂eq/yr]

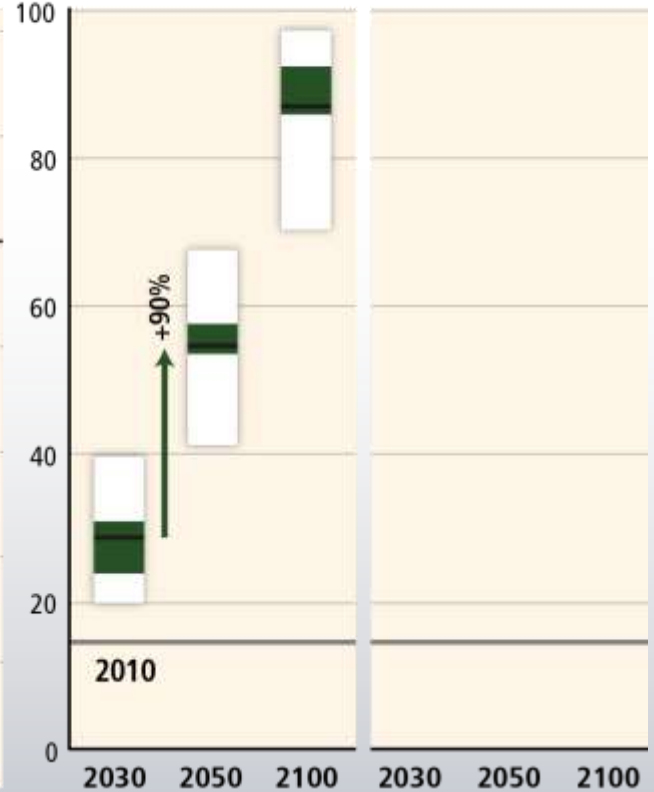


After 2030

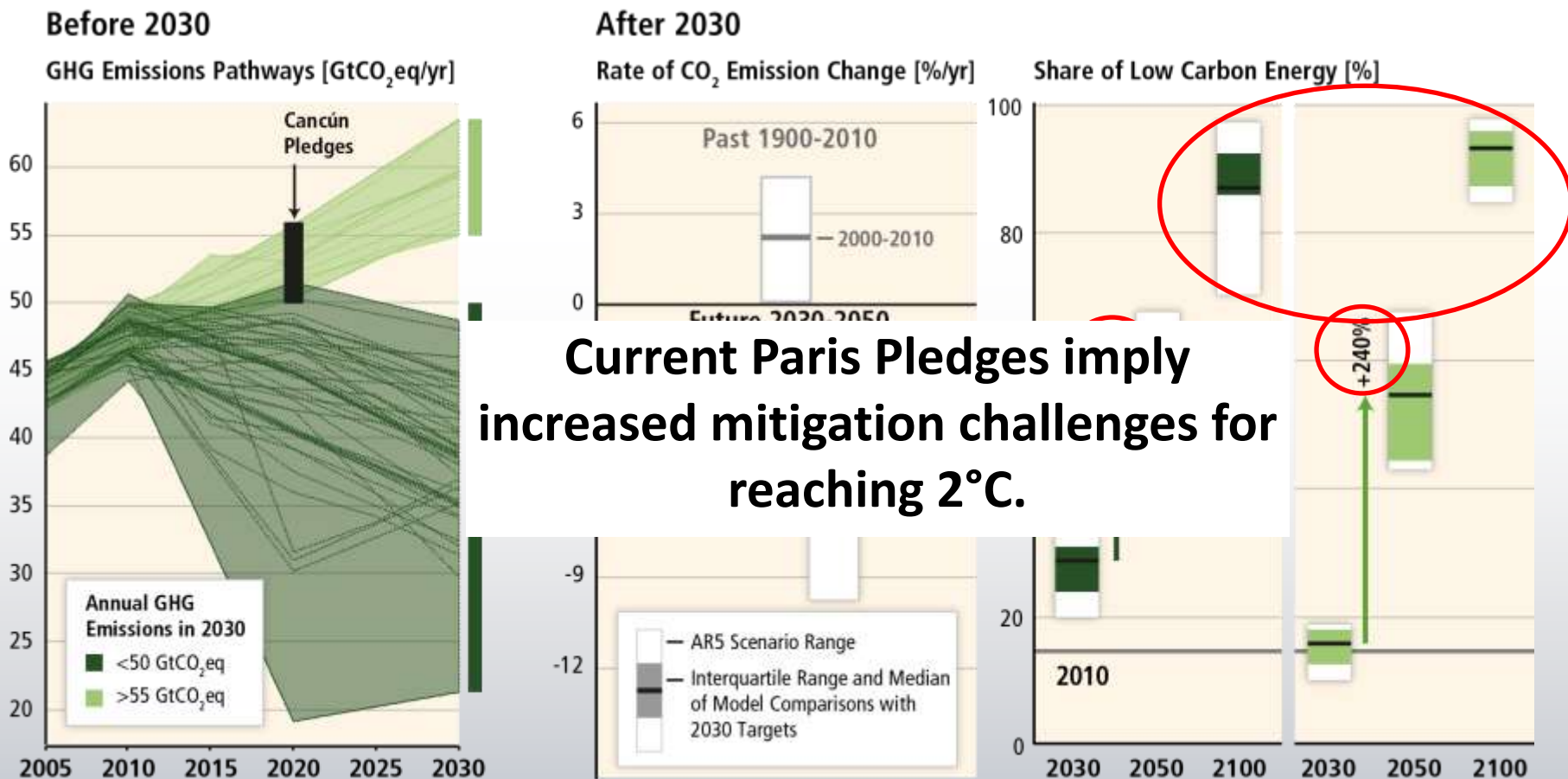
Rate of CO₂ Emission Change [%/yr]




Share of Low Carbon Energy [%]



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



An aerial photograph of a dense urban landscape, likely a major city like Hong Kong or Singapore, featuring a complex multi-level highway interchange and numerous high-rise buildings. The image is overlaid with a semi-transparent blue filter. Centered on the image is a large block of white text.

Climate change mitigation is a global commons problem that requires international cooperation and coordination across scales.

Mitigation measures



More efficient use of energy



Greater use of low-carbon and no-carbon energy

- Many of these technologies exist today



Improved carbon sinks

- Reduced deforestation and improved forest management and planting of new forests
- Bio-energy with carbon capture and storage



Lifestyle and behavioural changes

AR5 WGIII SPM

CLIMATE CHANGE 2014

Mitigation of Climate Change

Overview of findings of AR5 WGIII

www.mitigation2014.org