IPCC Fifth Assessment Report Synthesis Report

19nd September 2017
Riyadh, Saudi Arabie

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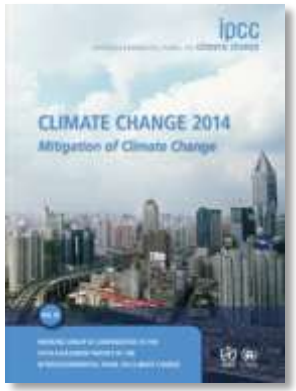
INTERGOVERNMENTAL PANEL ON climate change
WMO UNEP



Human influence on the climate system is clear.

Changes in climate have caused impacts in natural and human systems.

Continued GHG emissions will cause further warming and amplify existing risks.

Multiple pathways exist to *likely* limit warming to below 2° C.

Some of the changes in extreme weather and climate events observed since about 1950 have been linked to human influence

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Impacts are already underway

- Tropics to the poles
- On all continents and in the ocean
- Affecting rich and poor countries




AR5 WGII SPM

Projected climate changes

Continued emissions of greenhouse gases will cause further warming and changes in the climate system

Oceans will continue to warm during the 21st century

Global mean sea level will continue to rise during the 21st century

It is very likely that the Arctic sea ice cover will continue to shrink and thin as global mean surface temperature rises

Global glacier volume will further decrease

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Potential Impacts of Climate Change

Food and water shortages

Increased displacement of people

Increased poverty

Coastal flooding

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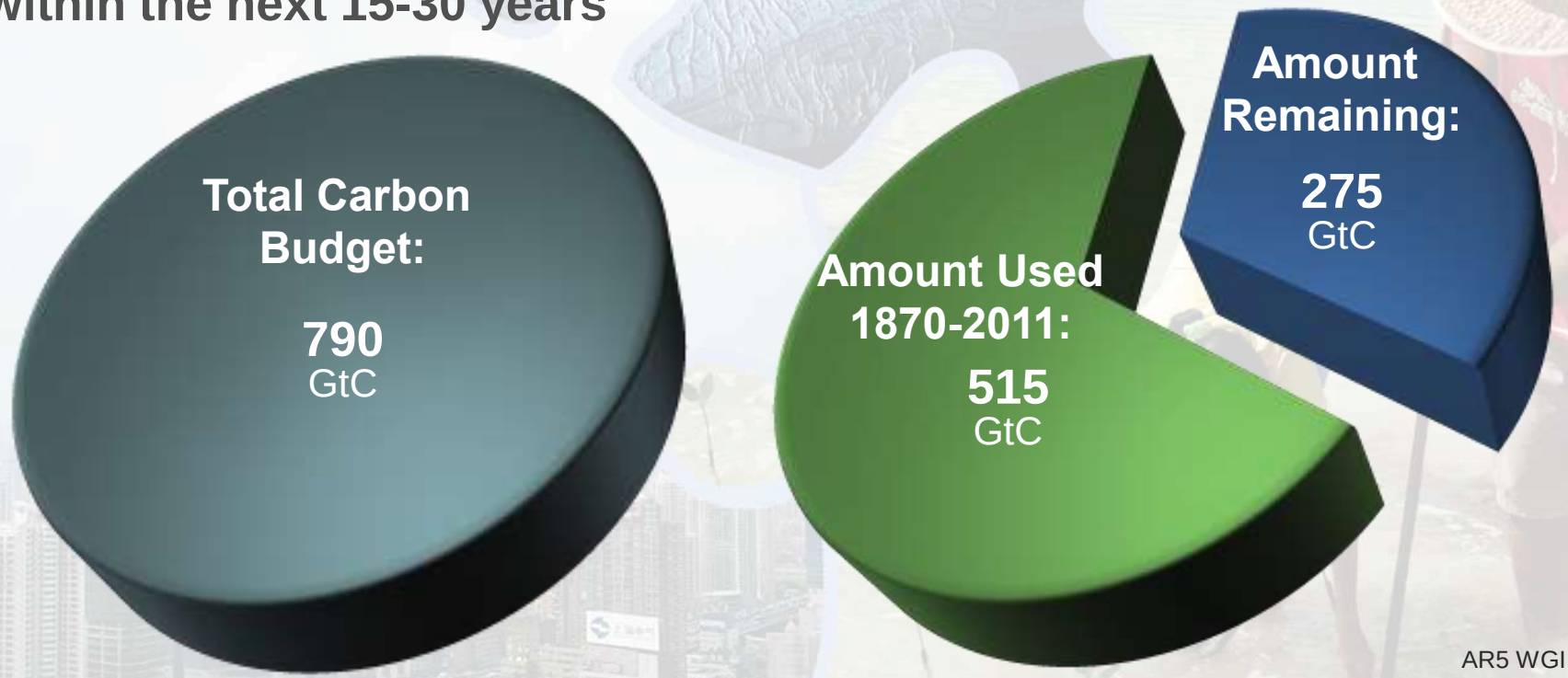
The window for action is rapidly closing

65% of our carbon budget compatible with a 2° C goal already used and continued emissions at current levels will exhaust the budget within the next 15-30 years



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Limiting Temperature Increase to 2˚C

Measures exist to achieve the substantial emissions reductions required to limit likely warming to 2˚ C

A combination of adaptation and substantial, sustained reductions in greenhouse gas emissions can limit climate change risks

Implementing reductions in greenhouse gas emissions poses substantial technological, economic, social, and institutional challenges

But delaying mitigation will substantially increase the challenges associated with limiting warming to 2˚ C

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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

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Ambitious Mitigation Is Affordable

- Economic growth reduced by ~ 0.06%
  (BAU growth 1.6 - 3%)
- This translates into delayed and not forgone growth
- Estimated cost does not account for the benefits of reduced climate change
- Unmitigated climate change would create increasing risks to economic growth

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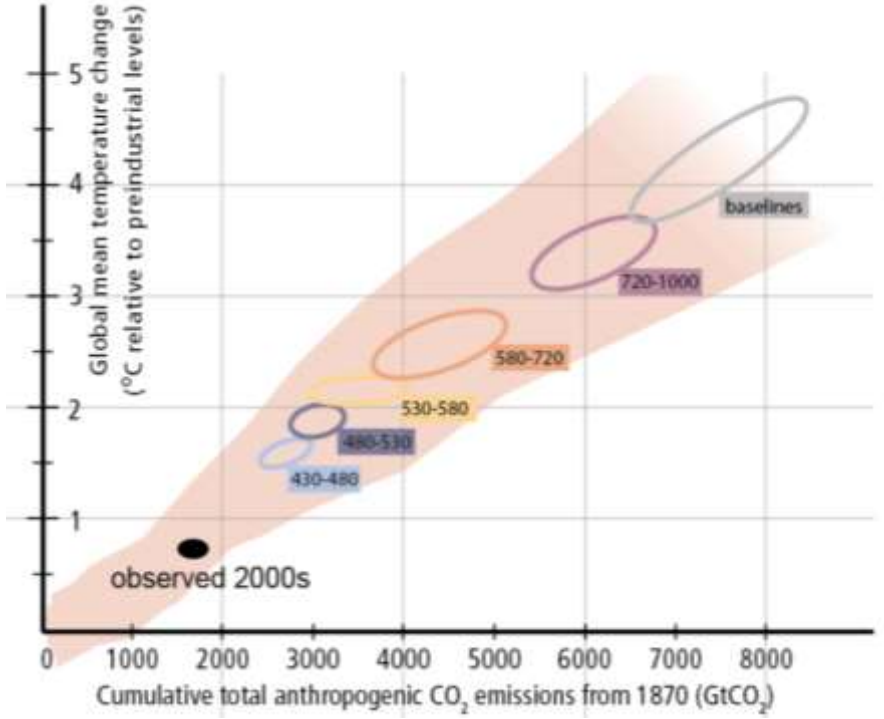
Equity, ethical, value judgment, economic dimensions are important considerations for actions

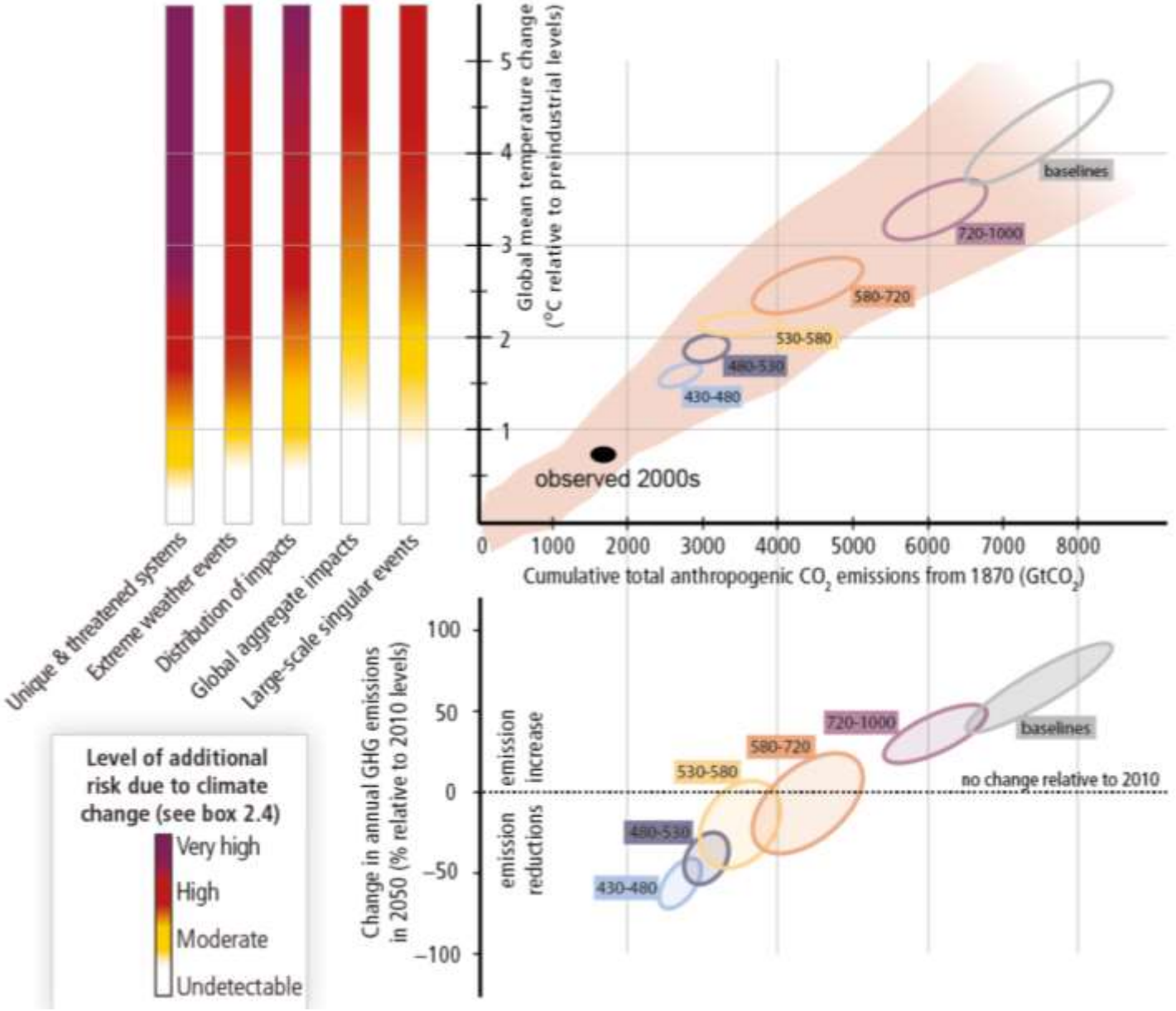
Issues of equity, justice, and fairness arise with respect to mitigation and adaptation:

- Different past and future contributions to the accumulation of GHGs in the atmosphere
- Varying challenges and circumstances
- Different capacities to address mitigation and adaptation.

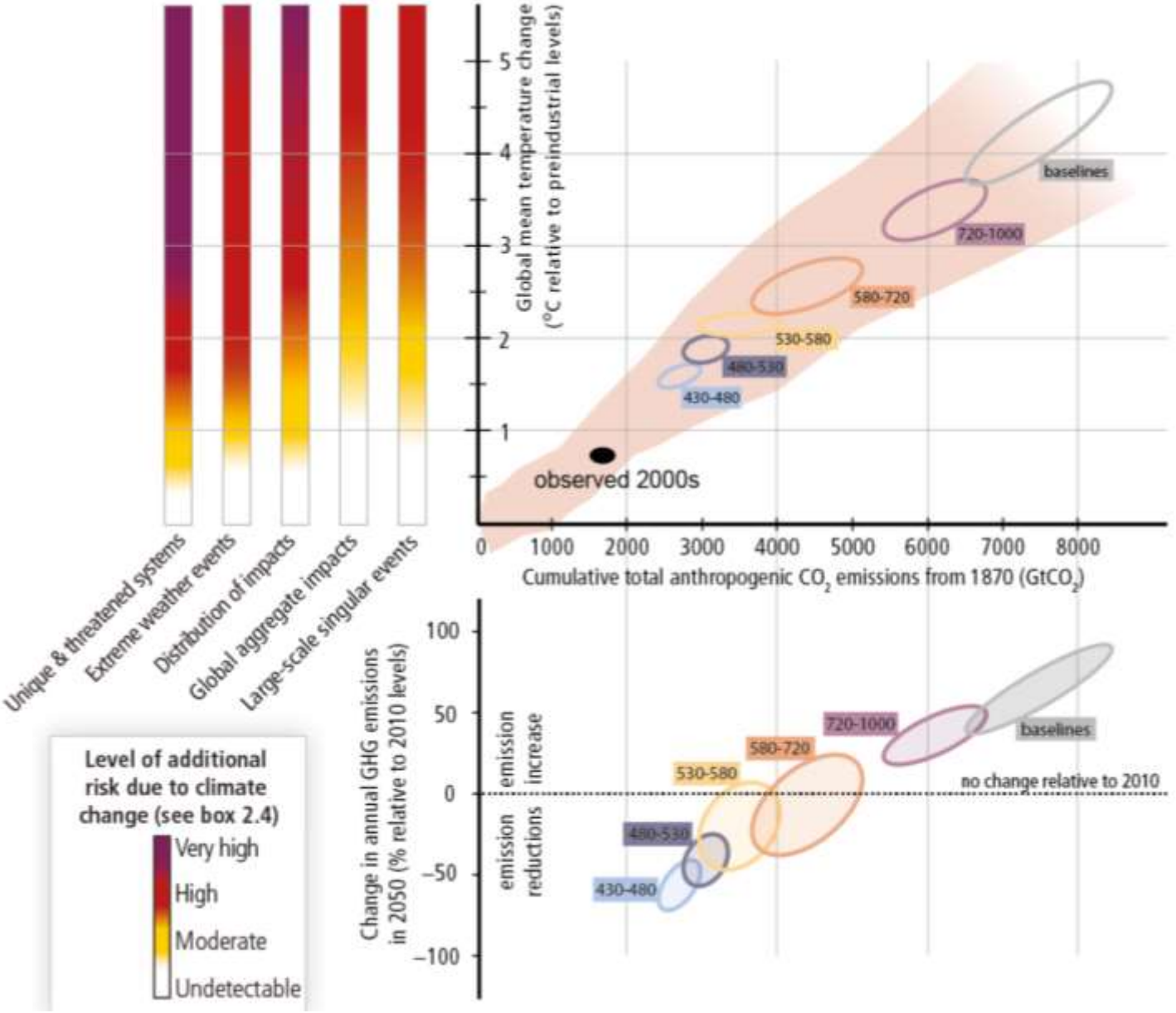
Options for equitable burden-sharing can reduce the potential for the costs of climate action to constrain development.



SYR Fig. SPM.10



SYR Fig. SPM.10



SYR Fig. SPM.10

Unique & threatened systems
Extreme weather events
Distribution of impacts
Global aggregate impacts
Large-scale singular events

Level of additional risk due to climate change (see box 2.4)
Very high
High
Moderate
Undetectable

Global mean temperature change (°C relative to preindustrial levels)

2° C

observed 200 s

baselines
720-1000
580-720
530-580
480-530
430-480

Cumulative total anthropogenic CO_2 emissions from 1870 ($GtCO_2$)

Change in annual GHG emissions in 2050 (% relative to 2010 levels)

emission increase
emission reductions
no change relative to 2010

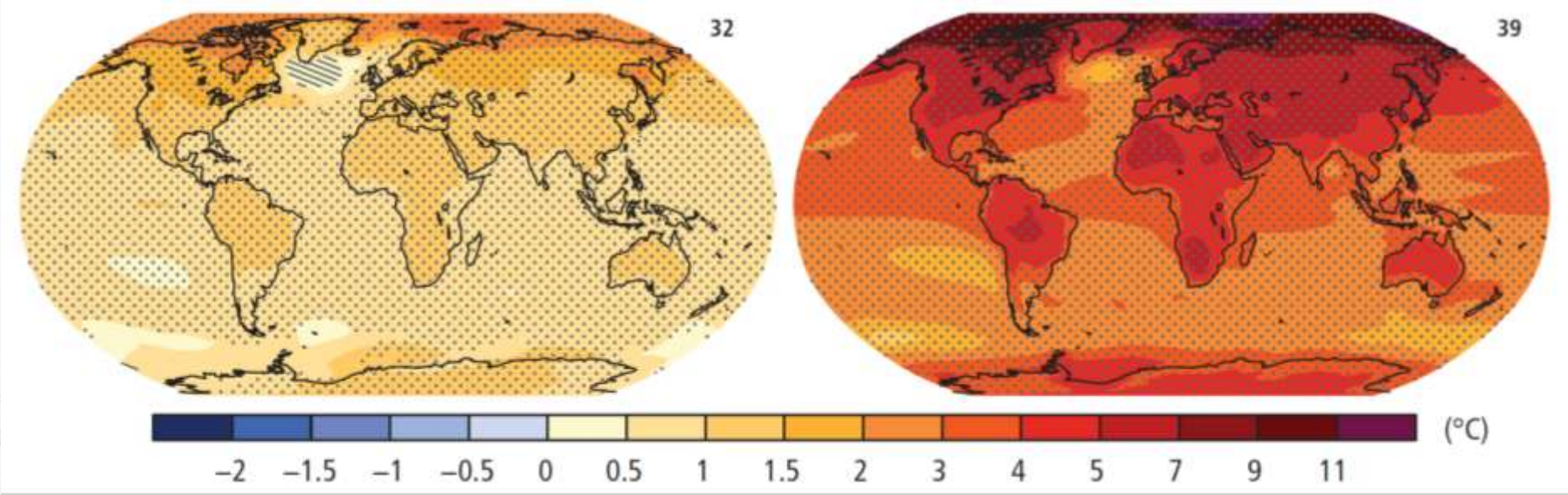
–40 to –70% by 2050 (relative to 2010)

SYR Fig. SPM.10

The Choices We Make Will Create Different Outcomes

With substantial mitigation

Without additional mitigation



Change in average surface temperature (1986–2005 to 2081–2100)

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