



IPCC Fifth Assessment Report Synthesis Report

29nd April 2017
Addis Ababa, Ethiopia

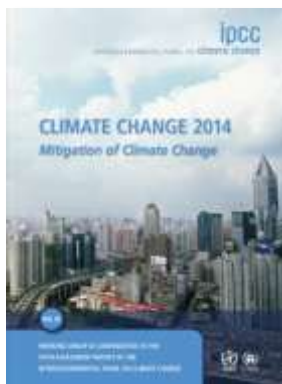
IPCC AR5 Synthesis Report



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



AR5 WGI SPM

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

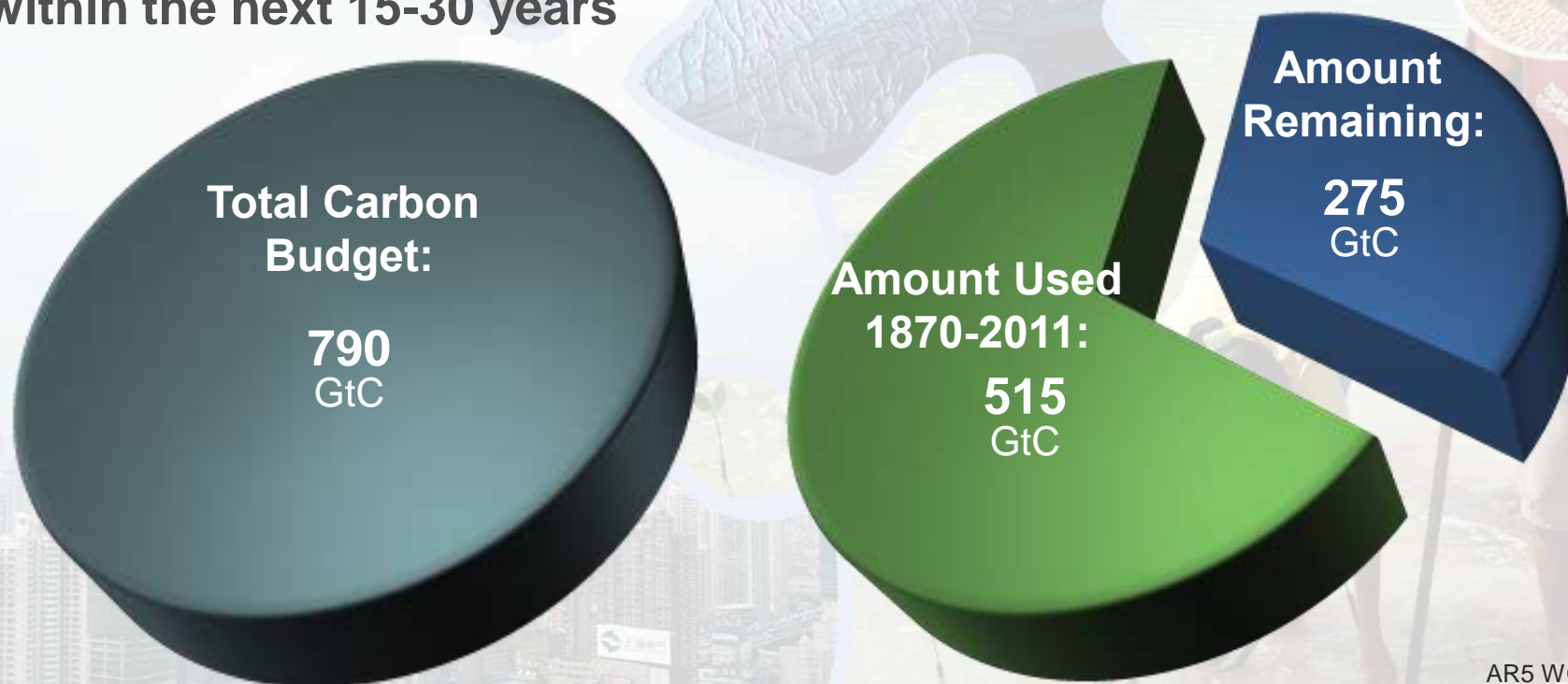


Coastal flooding

AR5 WGII SPM

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

AR5 WGI SPM, AR5 WGII SPM, AR5 WGIII SPM

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

Ambitious Mitigation Is Affordable

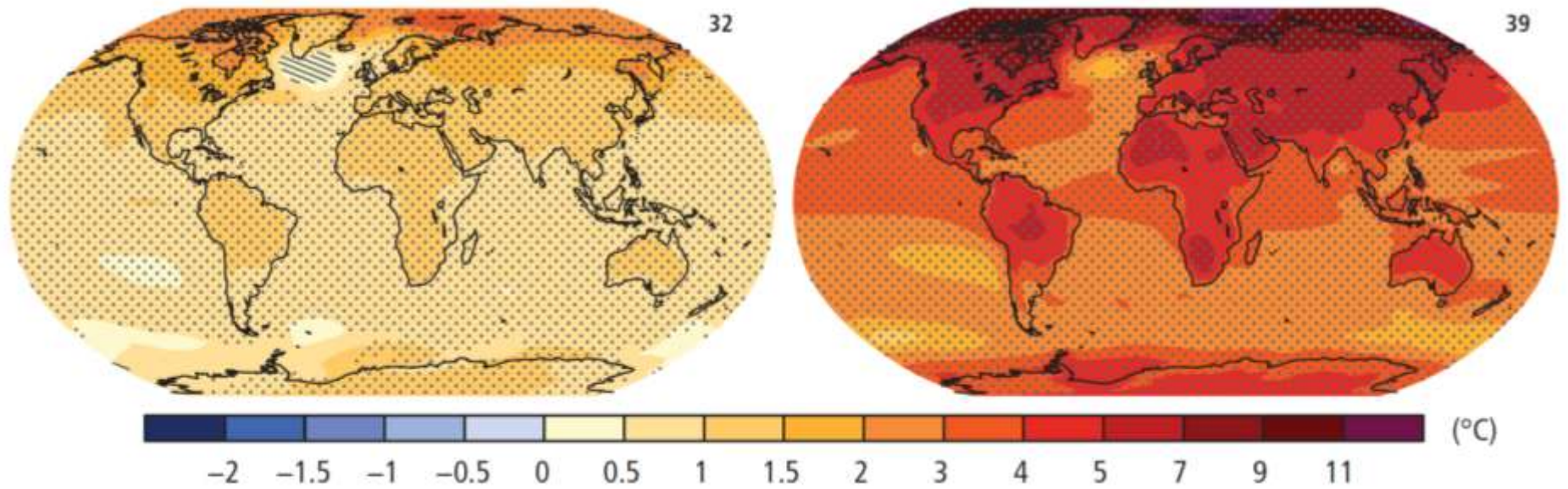
- Economic growth reduced by ~ 0.06% (BAU growth 1.6 - 3%)
- This translates into delayed and not forgone growth
- Estimated cost does not account for the benefits of reduced climate change
- Unmitigated climate change would create increasing risks to economic growth

AR5 WGI SPM, AR5 WGII SPM

The Choices We Make Will Create Different Outcomes

With substantial mitigation

Without additional mitigation



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

AR5 WGI SPM

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.



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Synthesis Report