CLIMATE CHANGE 2014

Mitigation of Climate Change

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

Based on Figure 1.3
GHG emissions rise with growth in GDP and population; long-standing trend of decarbonisation of energy reversed.
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Limiting warming to 2°C relative to pre-industrial levels involves substantial technological, economic and institutional challenges.
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Before 2030
GHG Emissions Pathways [GtCO₂ eq/yr]

After 2030
Rate of CO₂ Emission Change [%/yr]

Share of Low Carbon Energy [%]

Annual GHG Emissions in 2030
- <50 GtCO₂ eq
- >55 GtCO₂ eq

Cancún Pledges

Past 1900-2010
Future 2030-2050

ARS Scenario Range
Interquartile Range and Median of Model Comparisons with 2030 Targets

2010
2030 2050 2100
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Current Cancun Pledges imply increased mitigation challenges.
Mitigation cost estimates vary, but do not strongly affect global GDP growth.
Global costs rise with the ambition of the mitigation goal.
Climate change mitigation is a global commons problem that requires international cooperation and coordination across scales.
There is far more carbon in the ground than emitted in any baseline scenario.
Substantial reductions in emissions would require substantial changes in investment patterns.
Regions are starting to cooperate.
Mitigation can result in large co-benefits for human health and other societal goals.

Based on Figures 6.33 and 12.23