



An Environmental Outlook to 2050: focussing on Climate Change

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Set-up of the presentation



Introduction



Baseline projections



Pathways for limiting
climate change

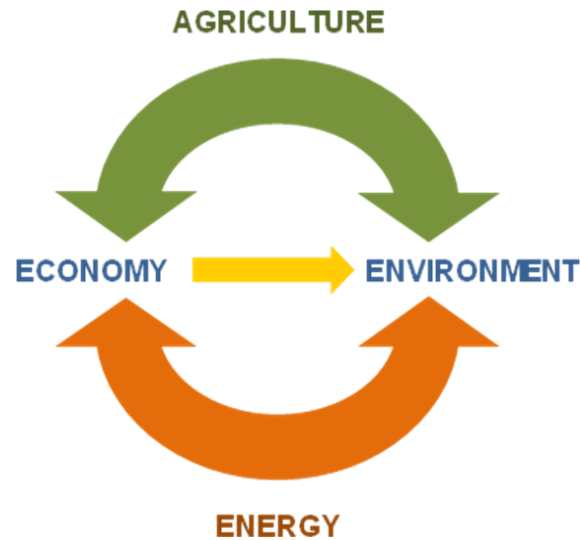


Policy steps for a low-carbon,
climate resilient economy

Structure of the Report

- Executive Summary
- 1. Introduction
- 2. Socioeconomic Developments
- 3. Climate Change
- 4. Biodiversity
- 5. Freshwater
- 6. Health and Environment
- Annex on the Modelling Framework

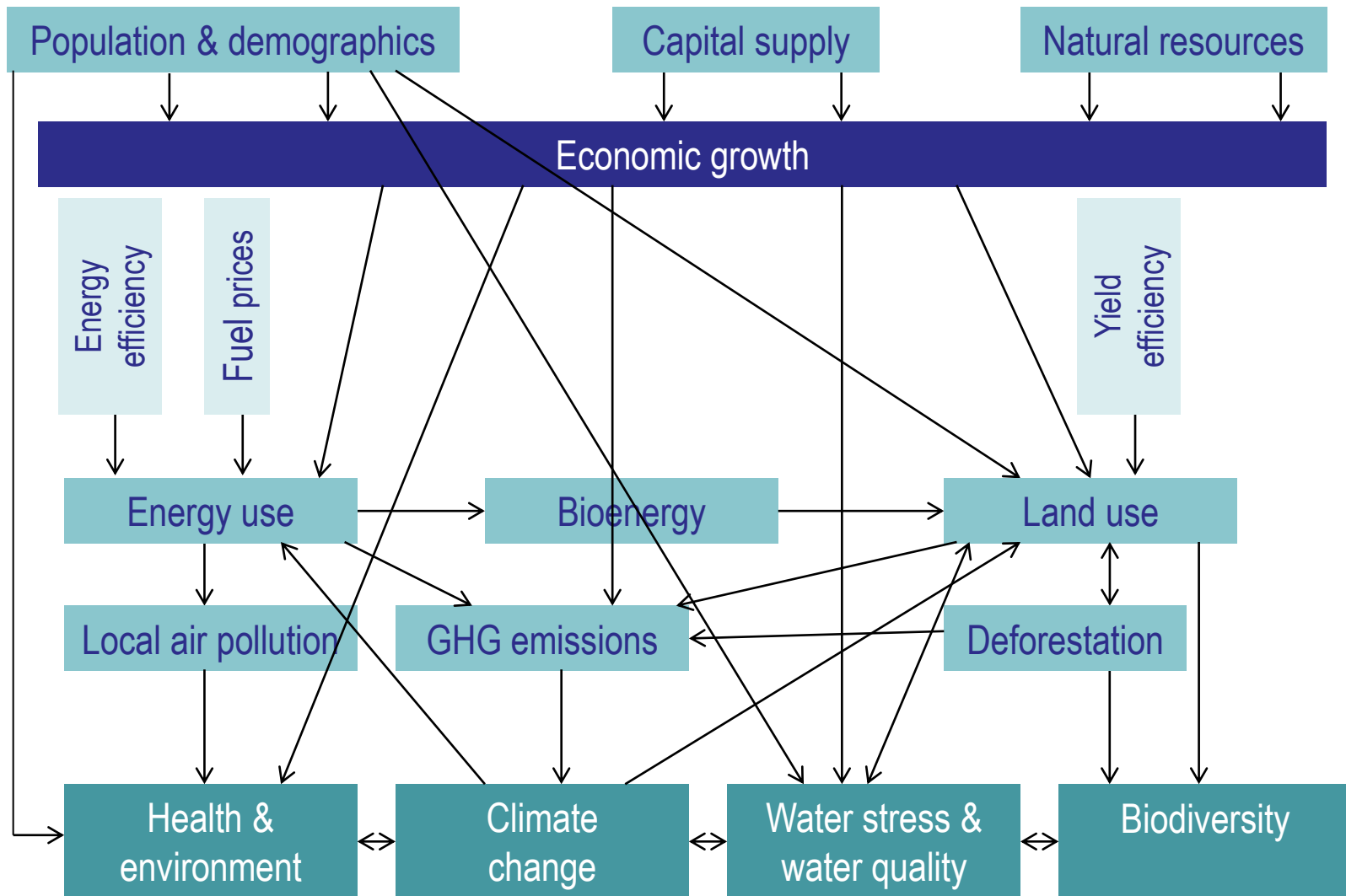
Approach and modelling methodology



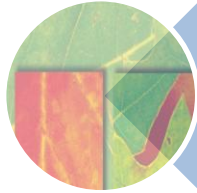
Linking economic and environmental modelling

- a general equilibrium economic modelling framework (ENV-LINKAGES at the OECD/ENV)
- a comprehensive environmental modelling framework (IMAGE suite of models at the Netherlands Environmental Assessment Agency)

Linking economy and environment



Set-up of the presentation



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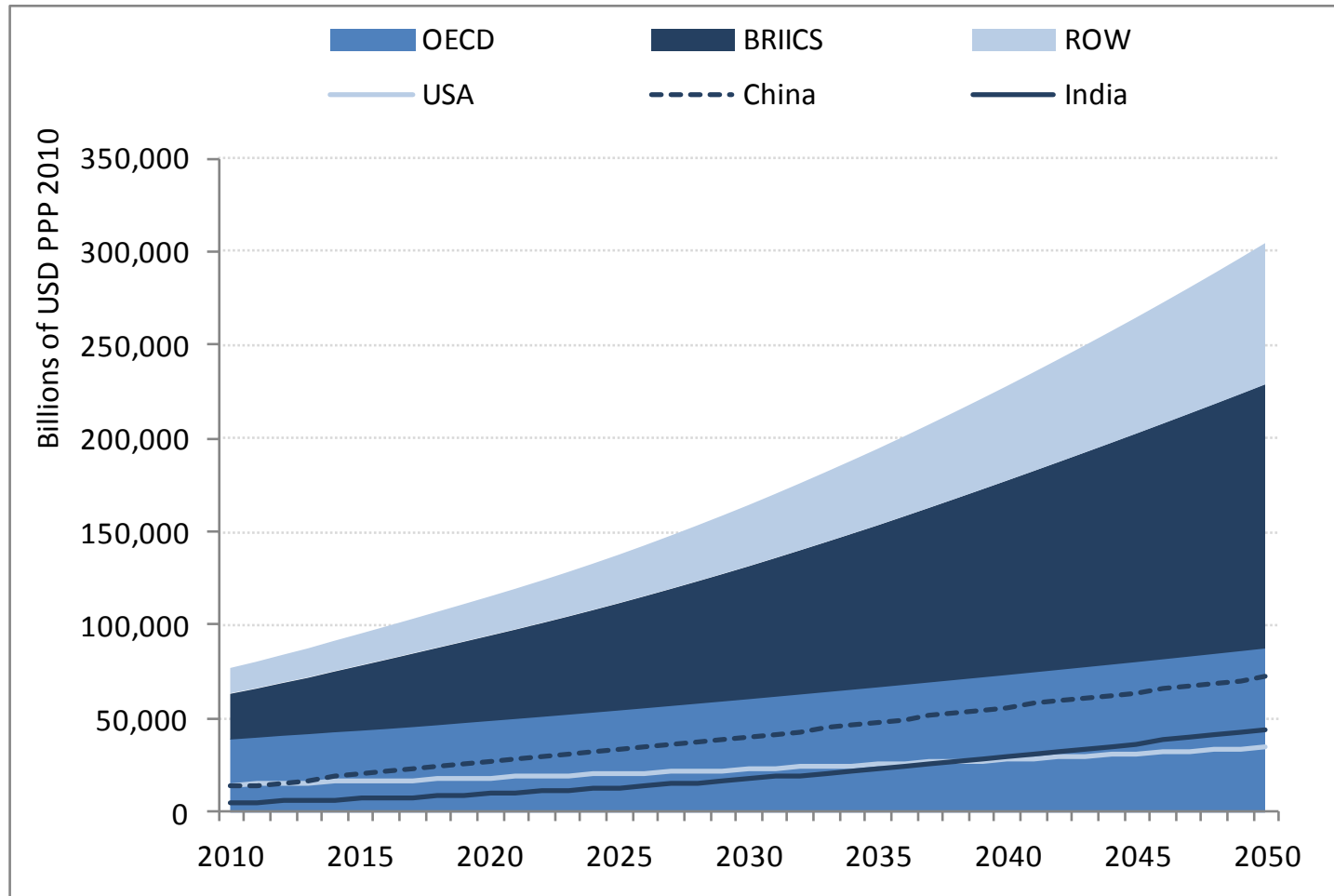
Pathways for limiting
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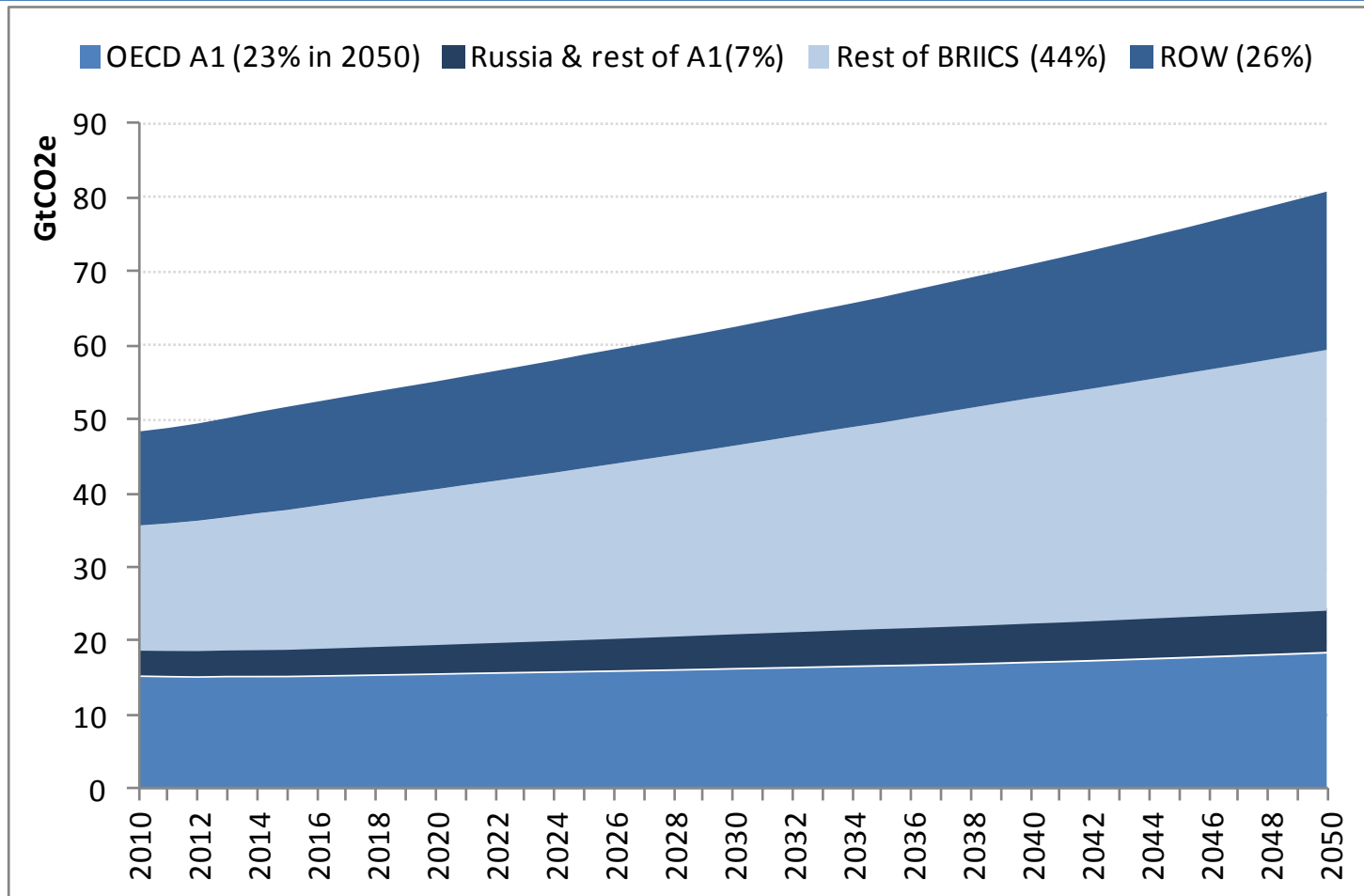
Projections for GDP

Global GDP is projected to quadruple by 2050; GDP growth is especially high in regions with growing population and that are far from their 'frontier', i.e. that have large scope for productivity improvements



Environmental state and pressures (1)

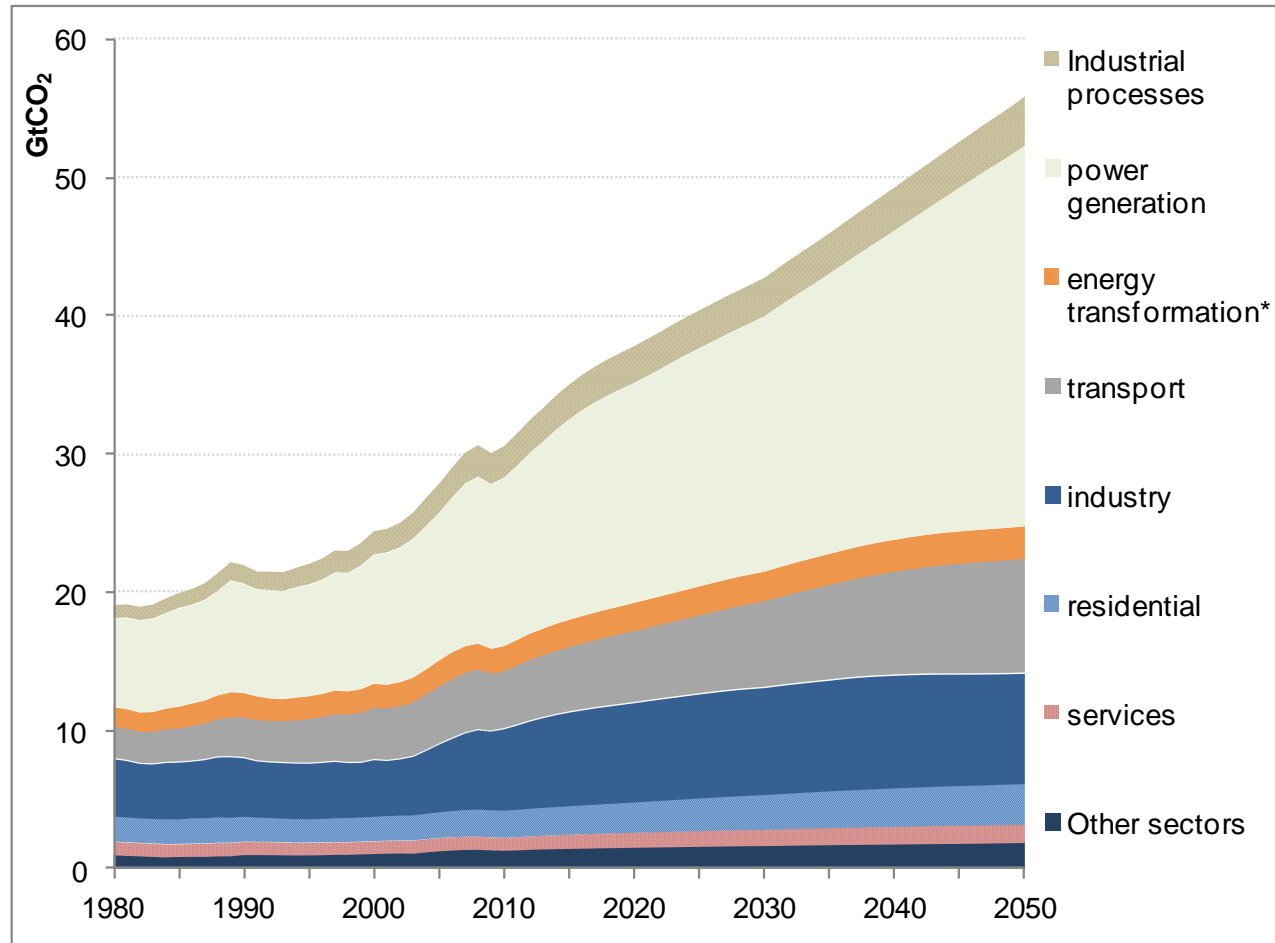
Global GHG emissions are expected to grow by 50% between now and 2050, mostly driven by GDP growth in Brazil, Indonesia, India and China and South Africa.



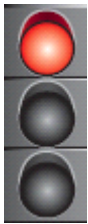
Environmental state and pressures (2)

Energy-related CO₂ emissions were at an all-time high in 2010 and - despite energy efficiency improvements - energy use and associated emissions are projected to continue to increase

CO₂ emissions from energy and industry to 2050, baseline

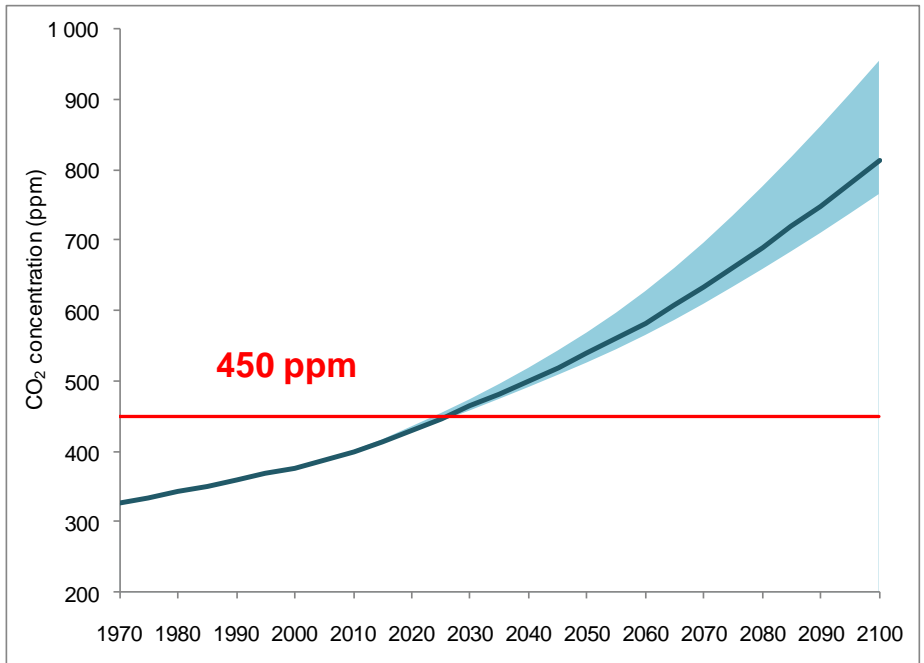


Environmental state and pressures (3)

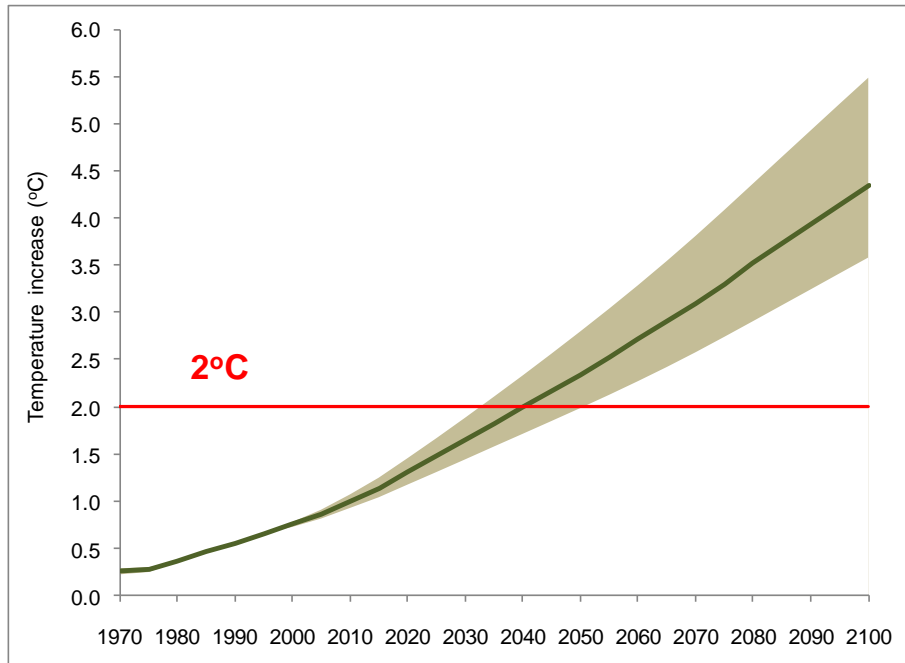


In the Baseline projection, atmospheric concentration of GHGs could reach almost 685 ppm CO₂ equivalent by 2050 (and CO₂ only 530 ppm), and global temperature could increase by 3-6°C above pre-industrial by 2100
We are WAY OFF TRACK

CO₂ concentrations



Regional temperature increase by 2050



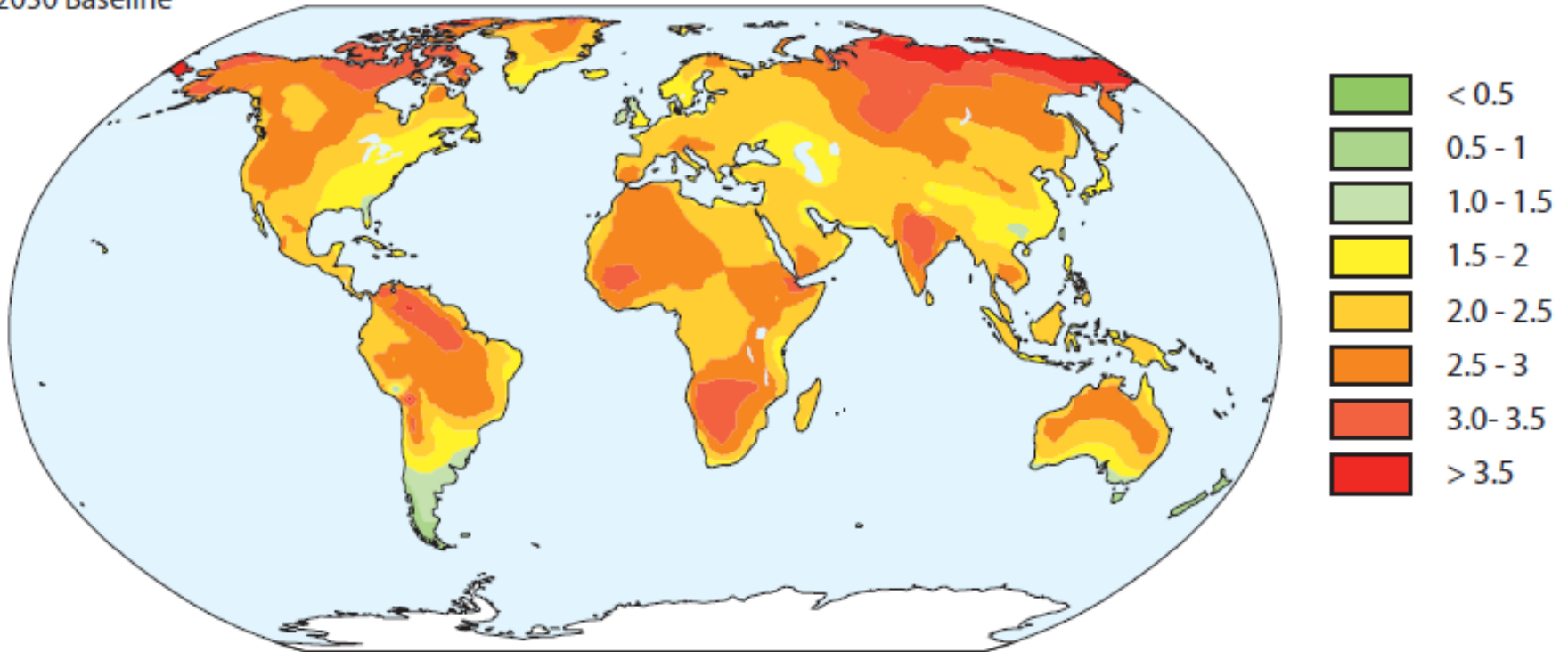
Environmental state and pressures (4)



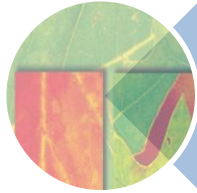
Cost of damages are likely to be high if you miss the target.
The world is looking at potentially large scale social, economic
and environmental damages

Change of annual temperature between 1990-2050

2050 Baseline



Set-up of the presentation



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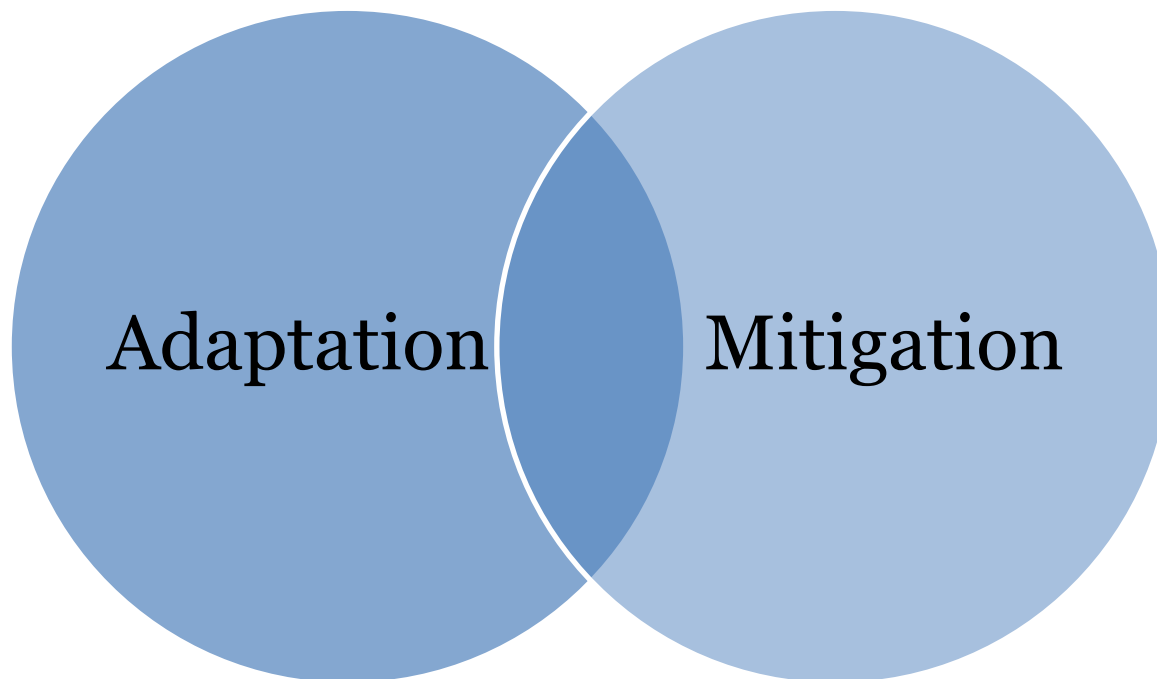


Pathways for limiting
climate change



Policy steps for a low-carbon,
climate resilient economy

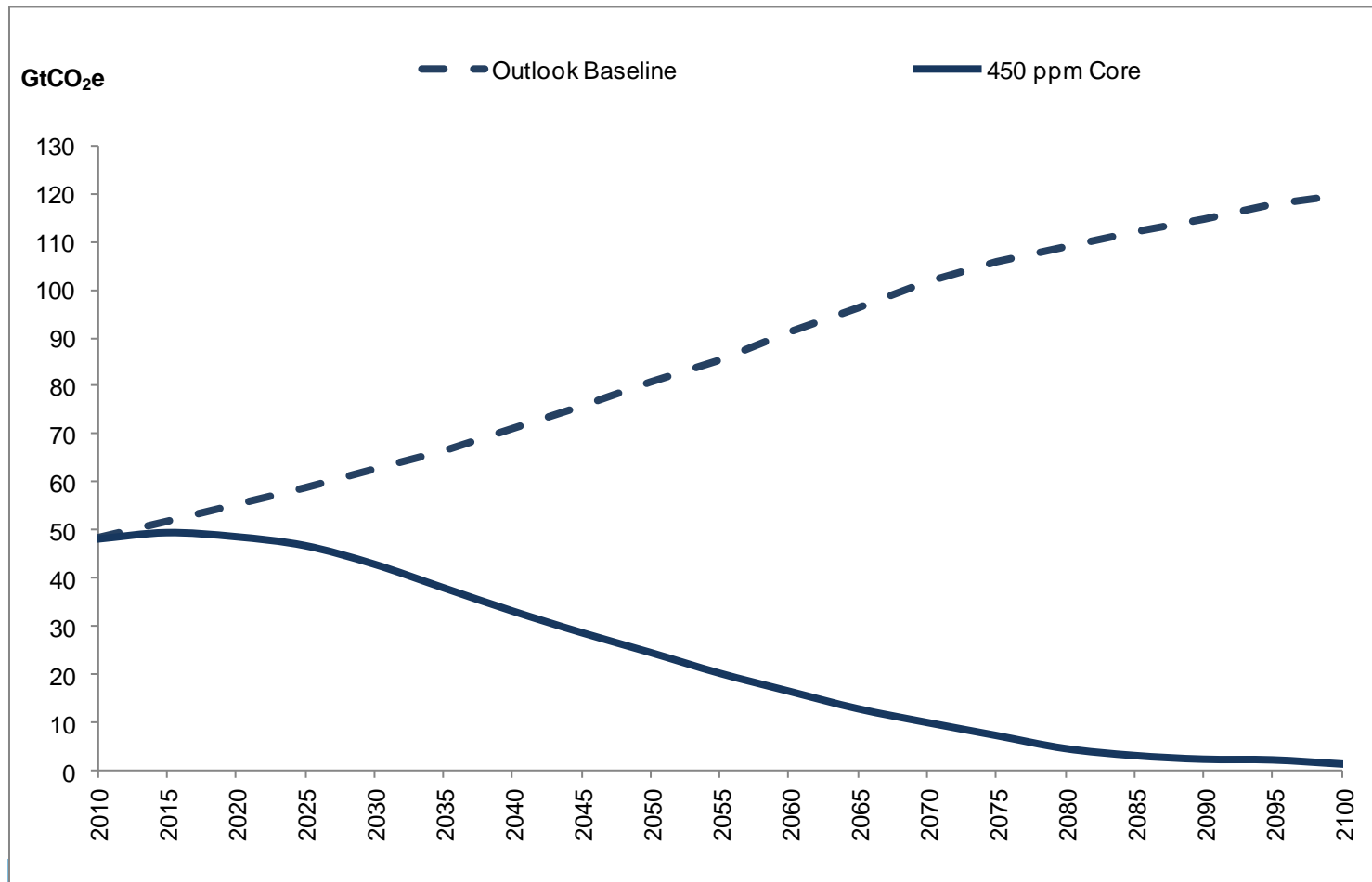
Two necessary policies



**Adaptation policies are needed to safeguard the well-being of current and future generations worldwide.
Integrating adaptation in development co-operation is critical**

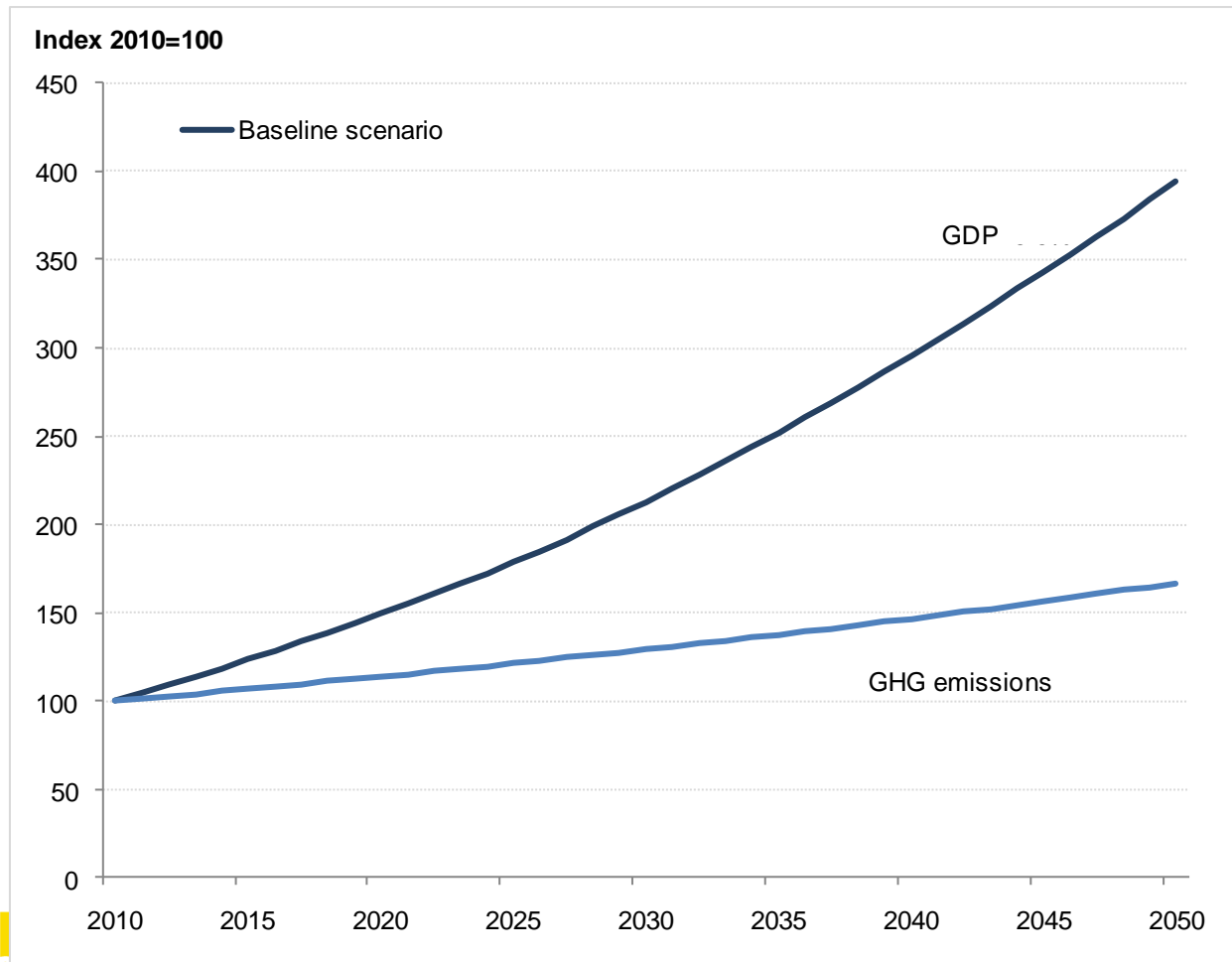
Reverse GHG emission trends

The 450ppm core scenario: start pricing carbon in 2013;
least cost timing of action: cheap options first, use low cost technologies,
rely on BECCS at the end of the century



The cost of action is affordable...for now

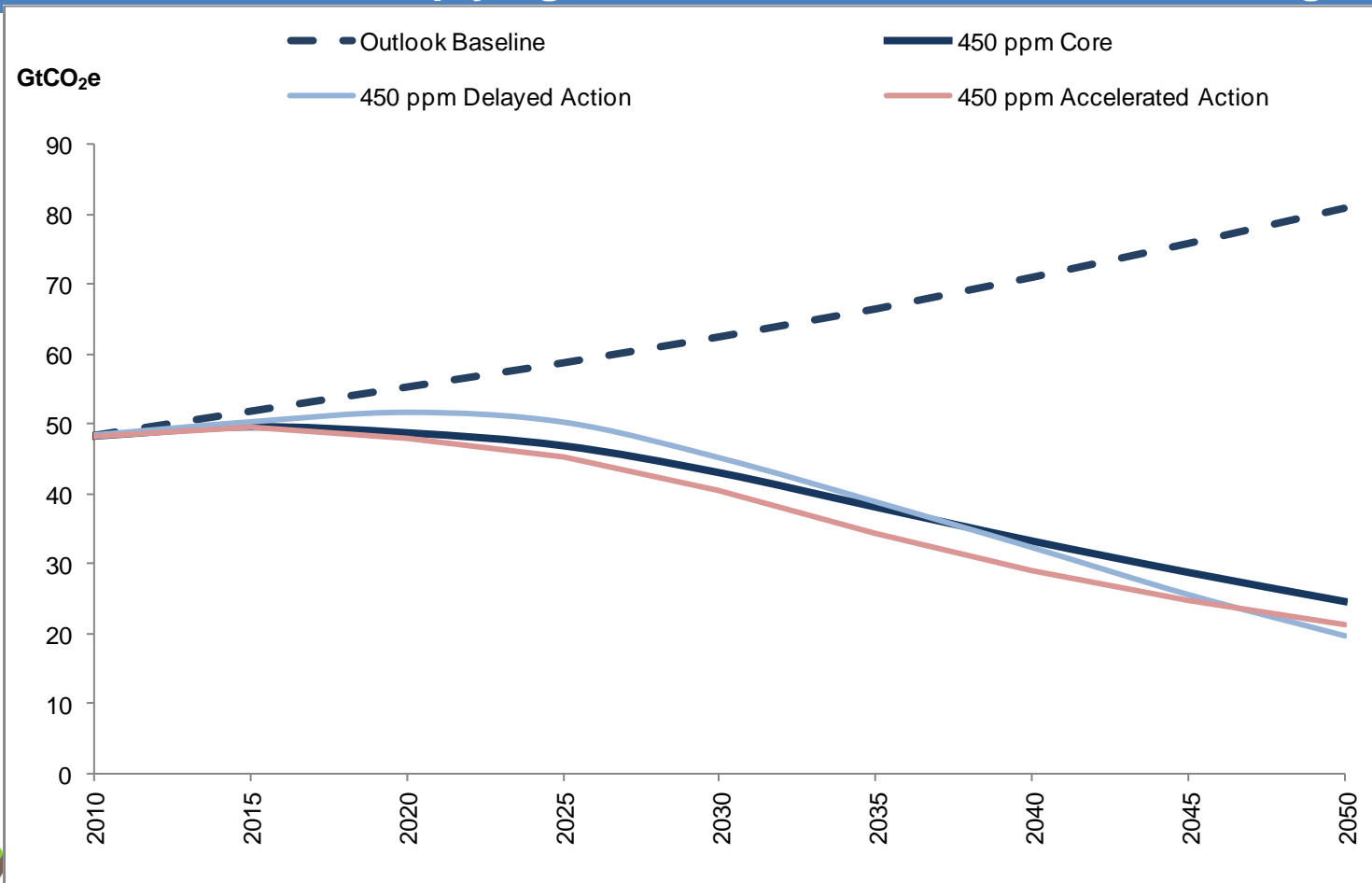
The average GDP growth rate would slow by 0.2 percentage point between 2010 and 2050, from 3.5% to 3.3% in a context of quadrupling of world GDP. Benefits of action are not included in GDP projection



There are other pathways

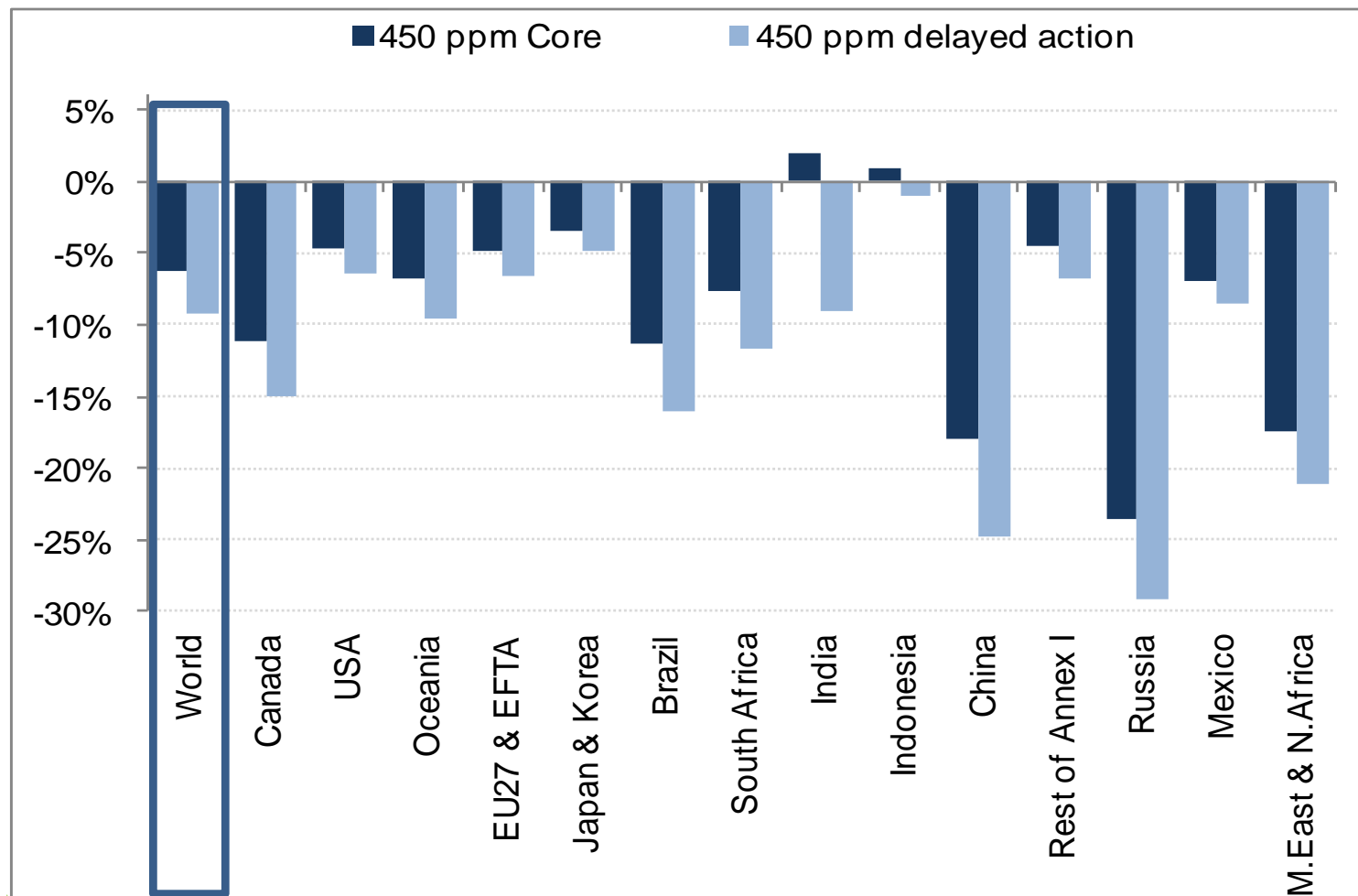
Three scenarios for the same objective:

- The 450ppm core scenario, based on least cost timing of action
- « Delayed action », based on Copenhagen pledges
- « Accelerated action », implying reduced reliance on new technologies

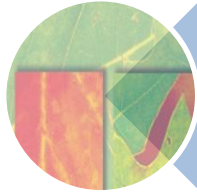


Act now, delay is costly

Delaying action would increase the global cost of mitigation by nearly 50% by 2050, and could make it unaffordable



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Policy steps for a low-carbon,
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Policy steps to build a low-carbon economy

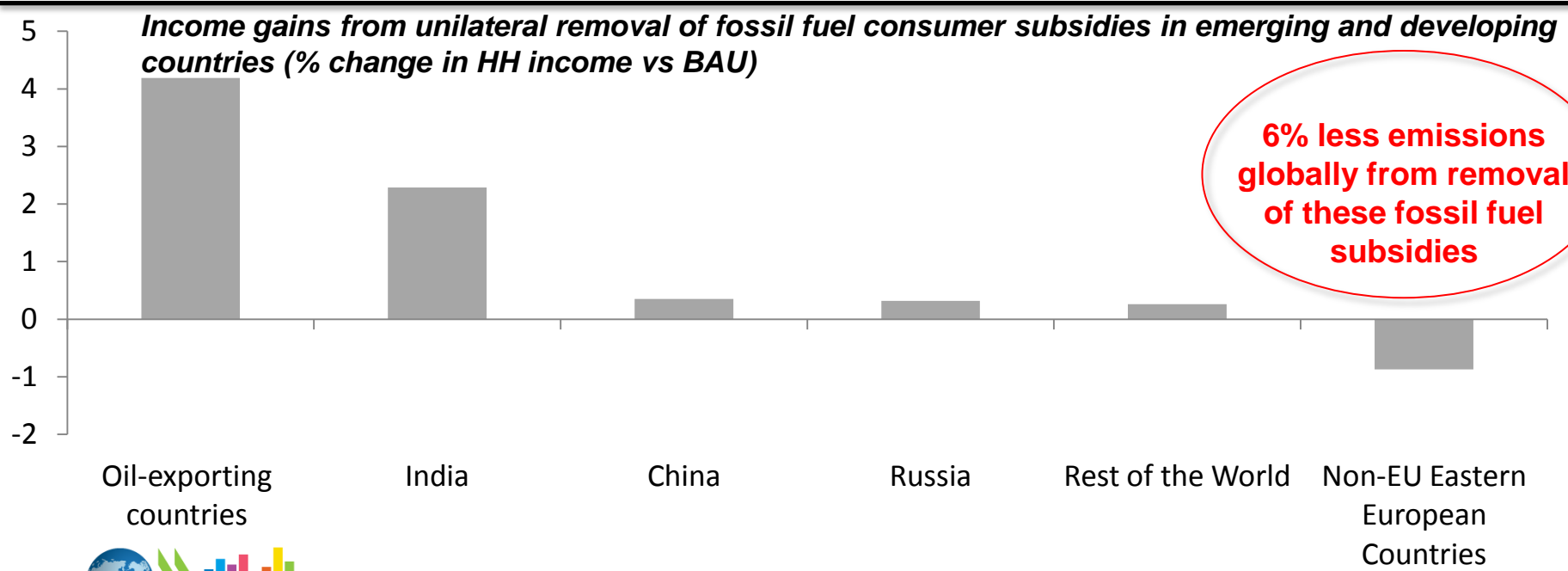
- 1. Set clear, long-term, more stringent and economy-wide GHG mitigation targets**
- 2. Put a price on carbon**, preferably through market-based instruments
- 3. Reform fossil fuel support policies**

Why make CO2 cheaper if you're trying to make it scarcer?

USD \$409 billion
 2010, developing country fossil fuel consumption subsidies

\$45-75 billion
 2010, in fossil fuel support in OECD countries

\$ 44 billion,
 2010, global renewable electricity subsidies

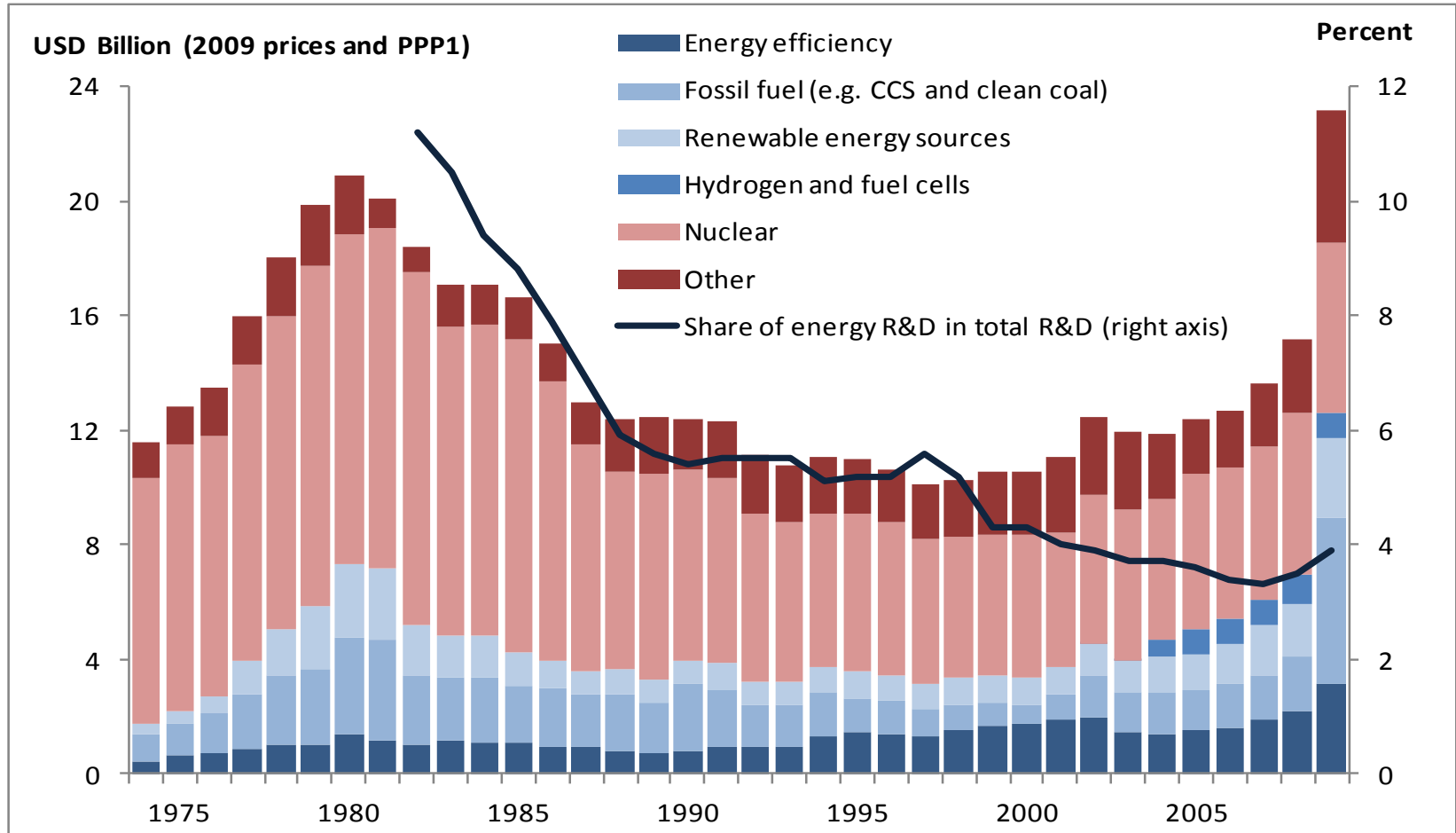


Policy steps to build a low-carbon economy

- 1. Set clear, long-term, more stringent and economy-wide GHG mitigation targets**
- 2. Put a price on carbon**, preferably through market-based instruments
- 3. Reform fossil fuel support policies**
- 4. Foster innovation and support new clean technologies** in a « technology-neutral » way

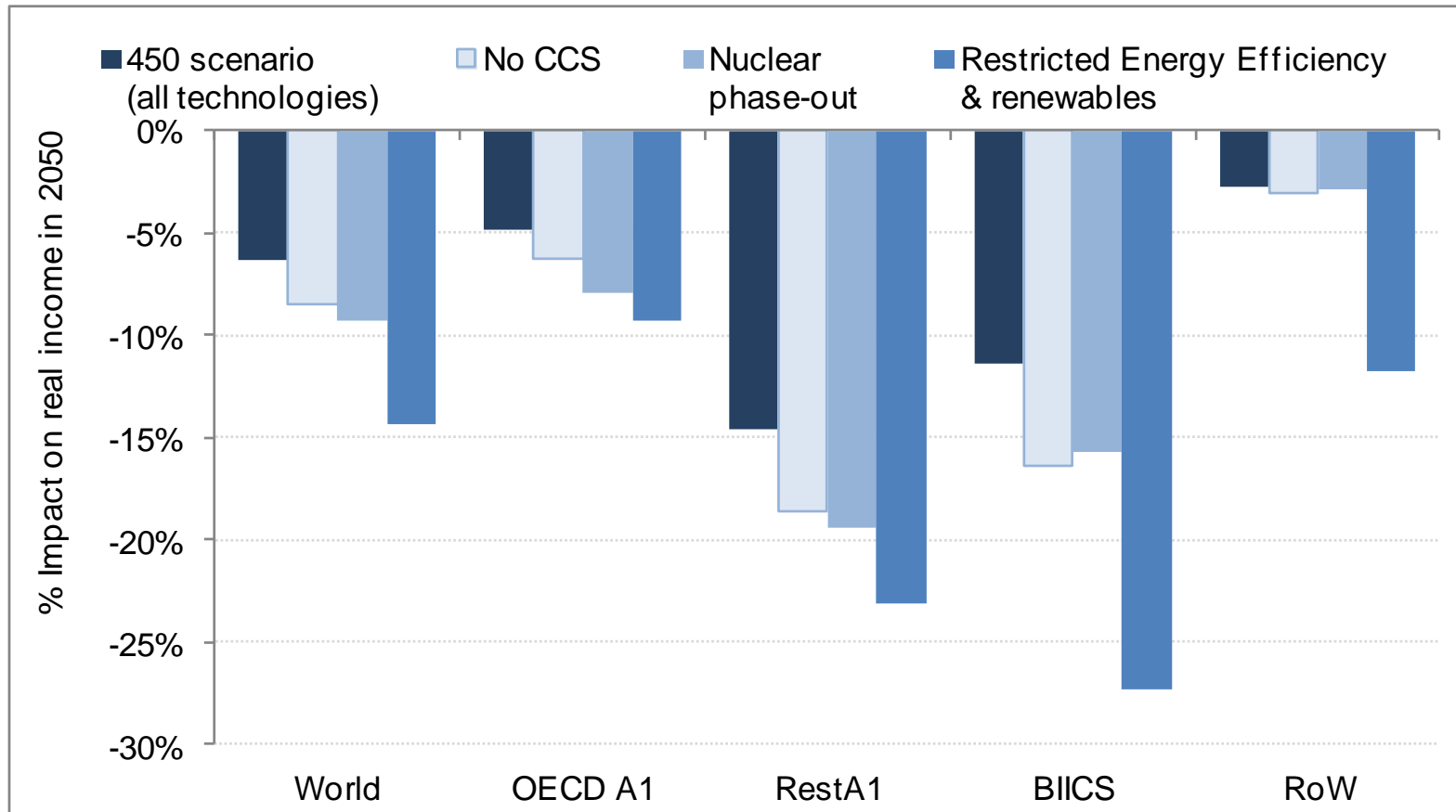
4. Foster innovation and support new clean technologies in a « neutral » way

Except in 2009 for the green stimulus, public RD&D on energy as share of total R&D budgets has declined in real terms over the last 35 years (IEA).



4. Foster innovation and support new clean technologies in a « neutral » way

Leaving out any single technology – such as nuclear or carbon capture and storage (CCS) – will make the costs of the transition higher



Policy steps to build a low-carbon economy

- 1. Set clear, long-term, more stringent and economy-wide GHG mitigation targets**
- 2. Put a price on carbon**, preferably through market-based instruments
- 3. Reform fossil fuel support policies**
- 4. Foster innovation and support new clean technologies** in a « technology-neutral » way
- 5. Complement carbon pricing with well-designed regulations**

An Environmental Outlook to 2050

Thank you!

More information on the OECD Environmental Outlook to 2050:
www.oecd.org/environment/outlookto2050

More information on the OECD modelling work:
www.oecd.org/environment/modelling

Directly contact me at:
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