



GLOBAL IQ

IMPACT QUANTIFICATION OF GLOBAL CHANGES

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EUROPEAN COMMISSION
European Research Area



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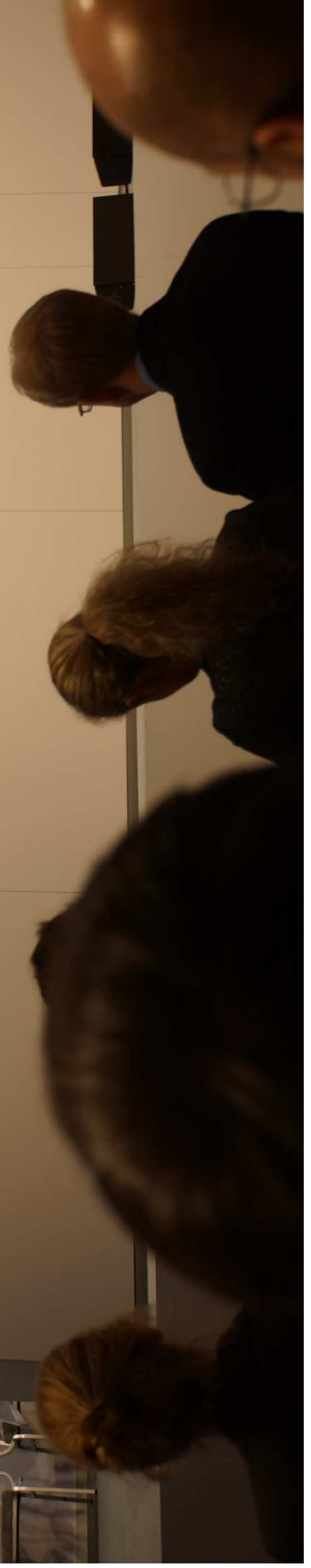
Managing global changes

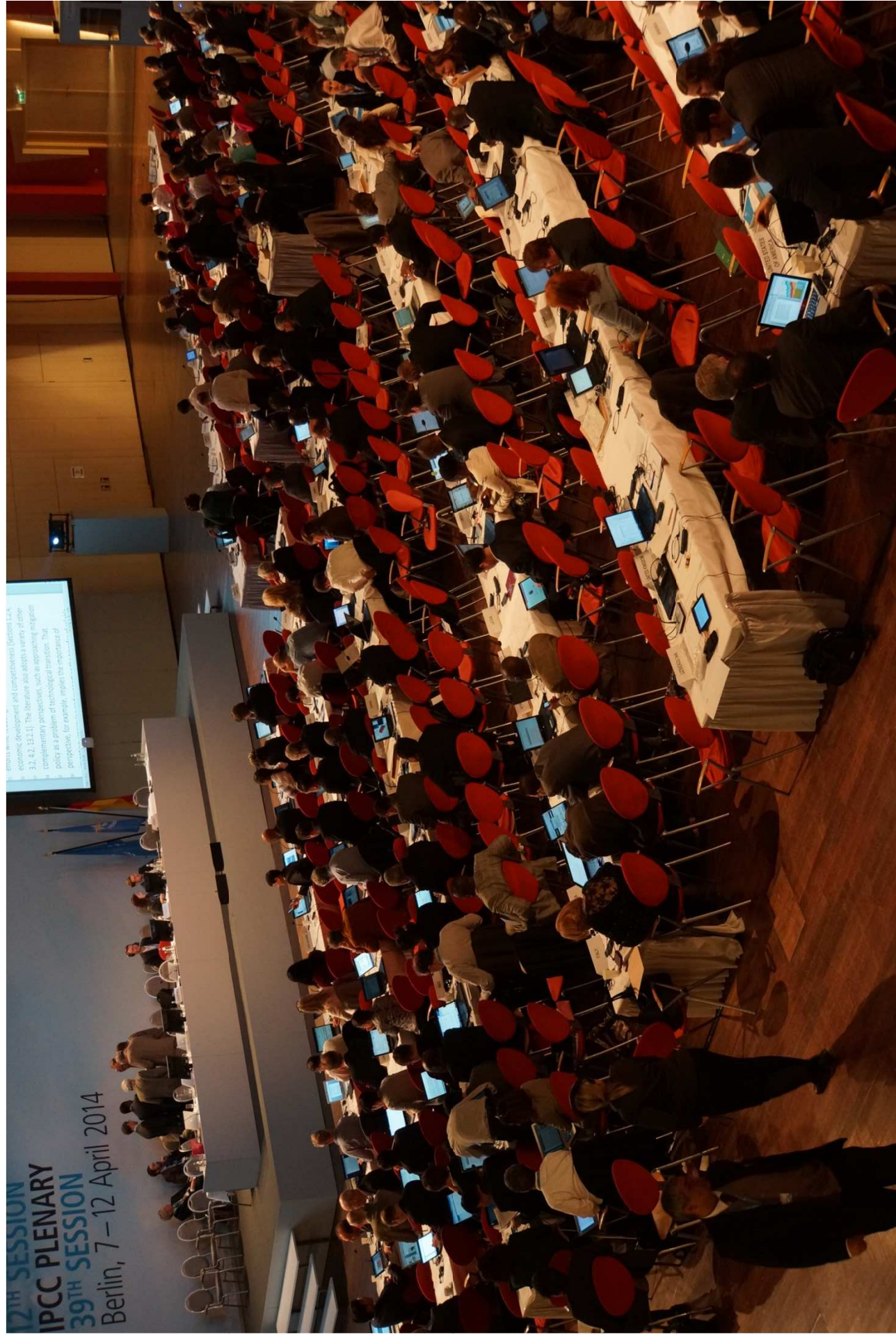
National and subnational policies and institutions. Some reflections based on the IPCC AR5



IPCC WORKING GROUP III 12TH SESSION IPCC PLENARY 39TH SESSION Berlin, 7 – 12 April 2014

ipcc
INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE
WHO UNFCCC





IPCC ...The most ambitious overview

1 Summary for Policymakers

1 Technical Summary

16 Chapters

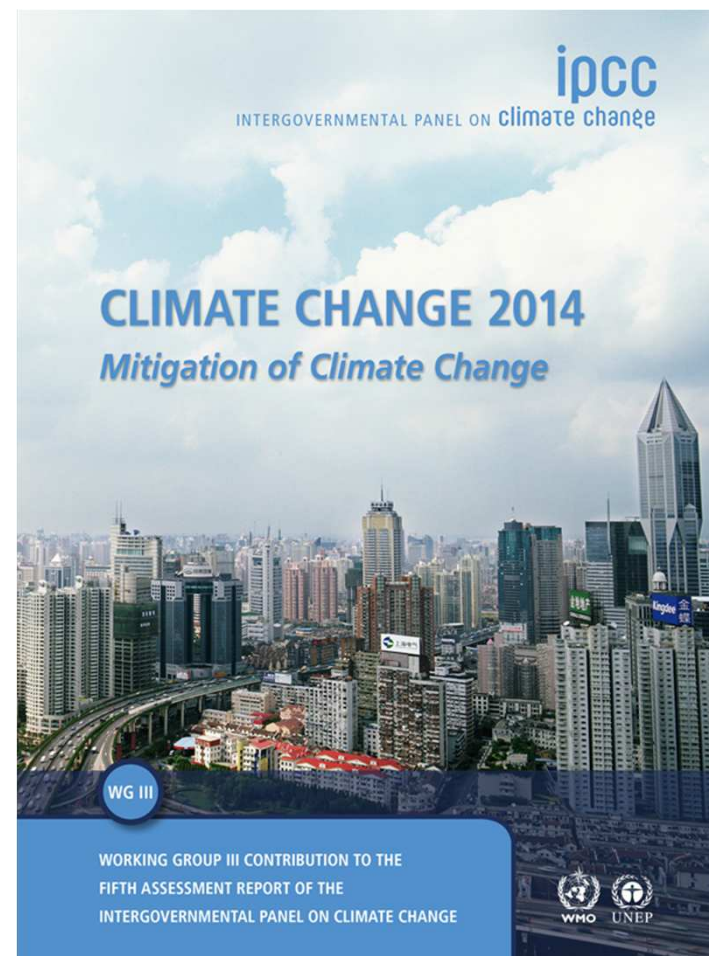
235 Authors

900 Reviewers

More than **2000** pages

Close to **10,000** references

More than **38,000** comments



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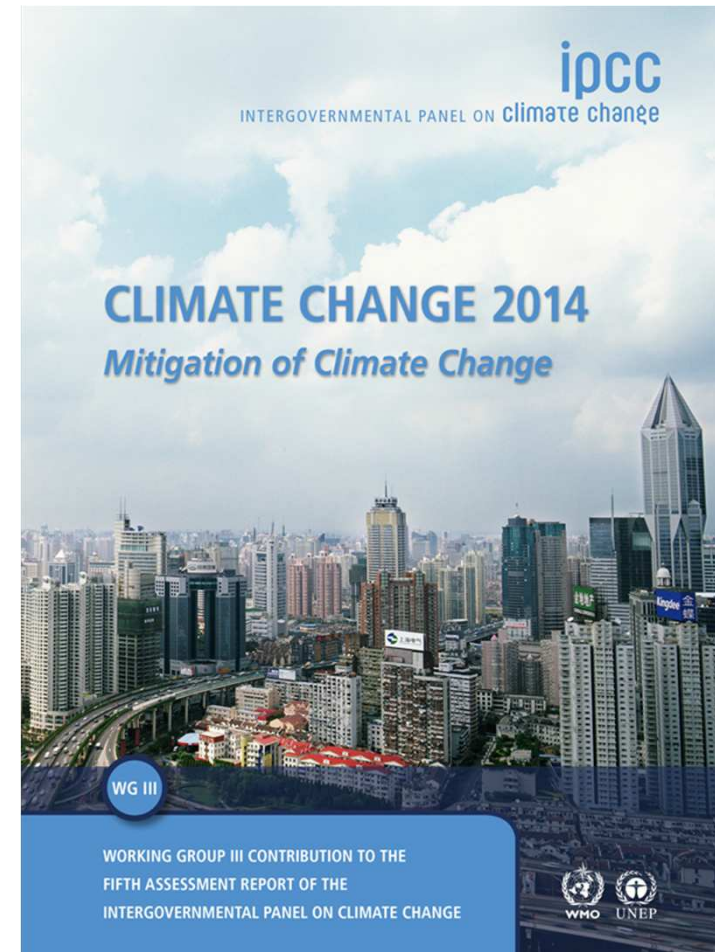
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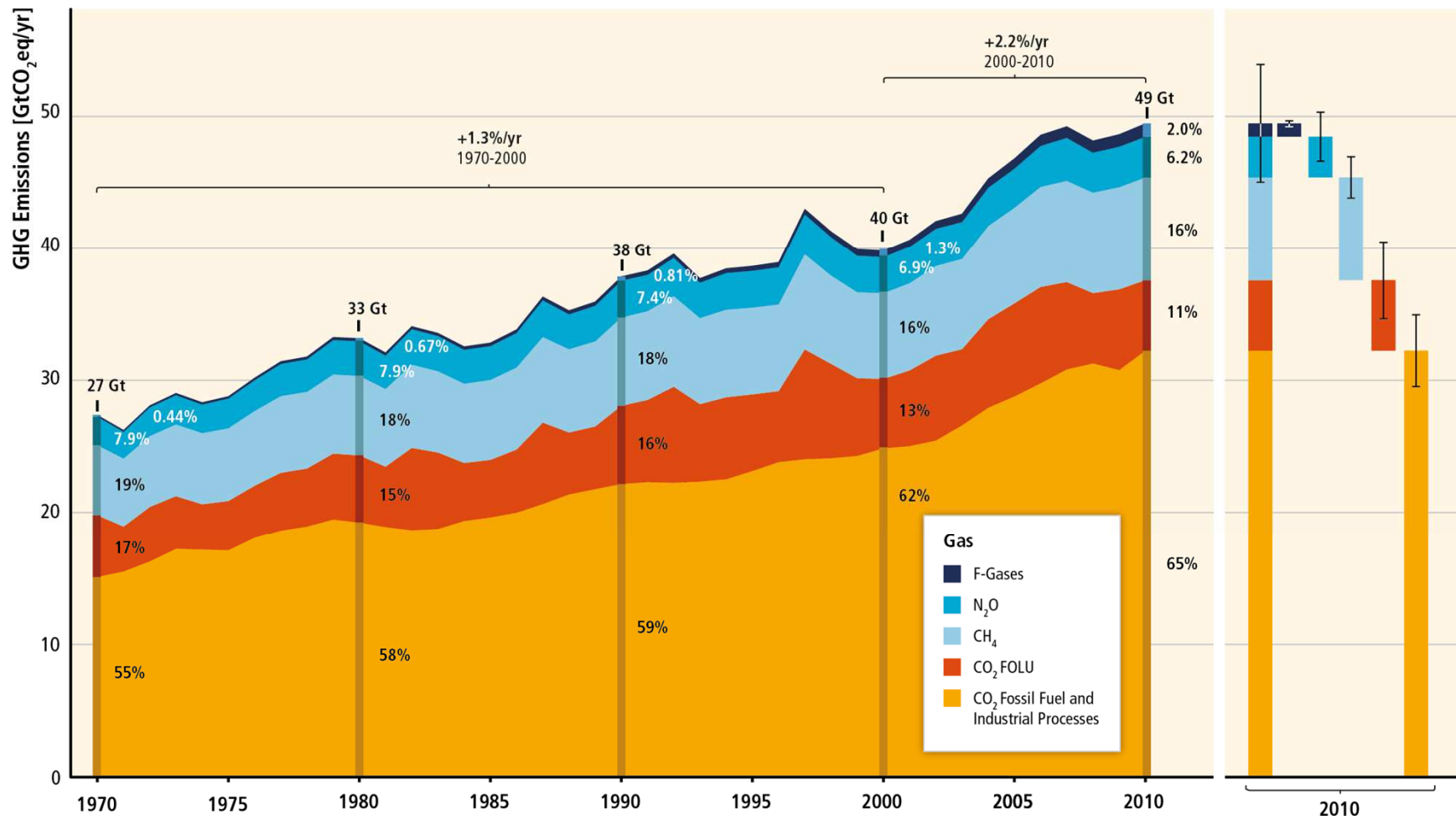
What is NEW?

What do you Recommend?



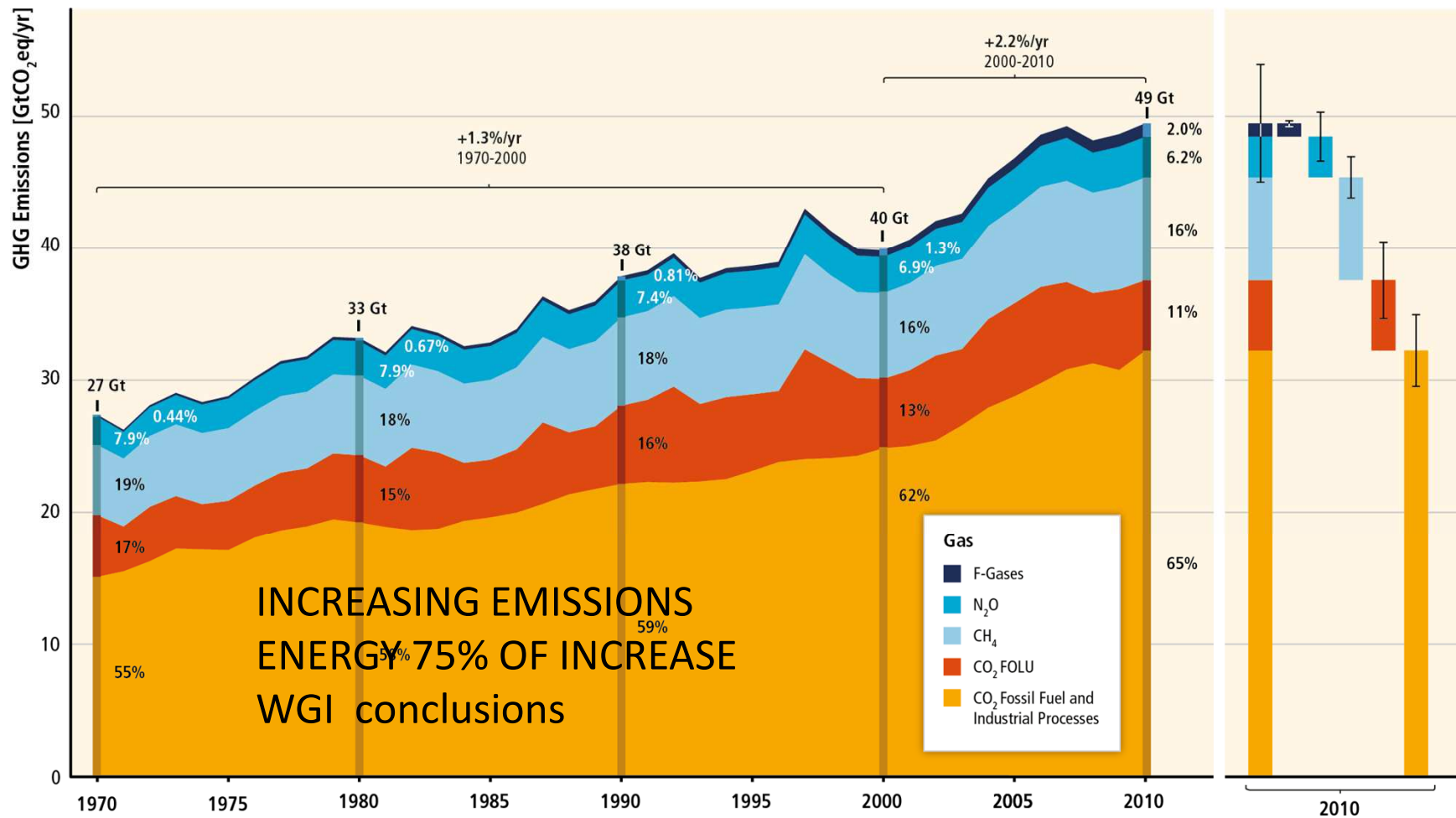
GHG emissions accelerate despite reduction efforts. Most emission growth is CO₂ from fossil fuel combustion.

Total Annual Anthropogenic GHG Emissions by Groups of Gases 1970-2010

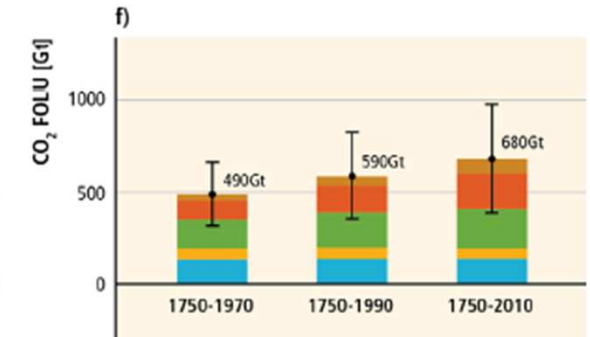
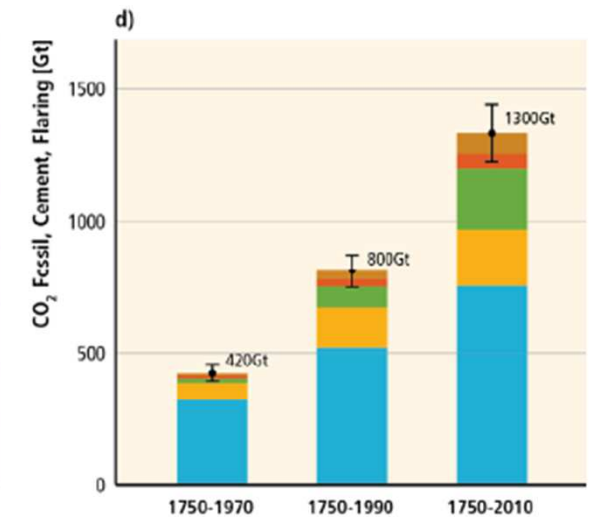
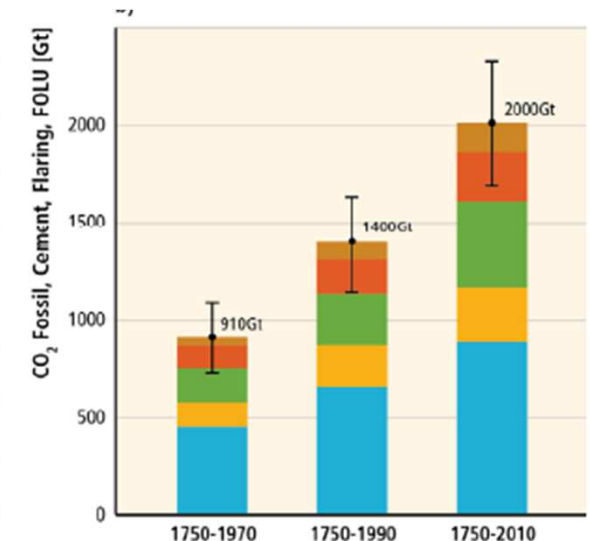
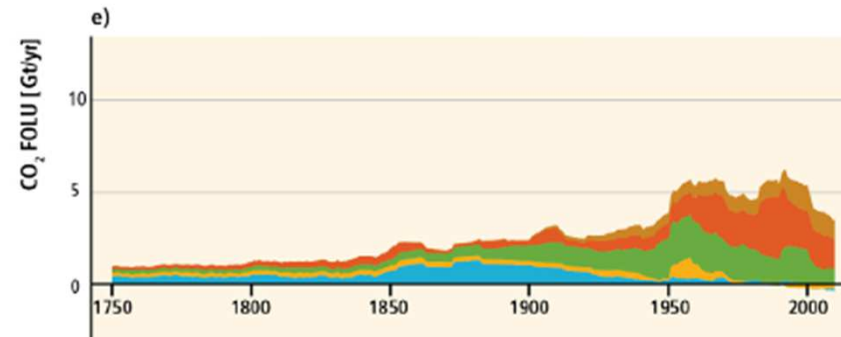
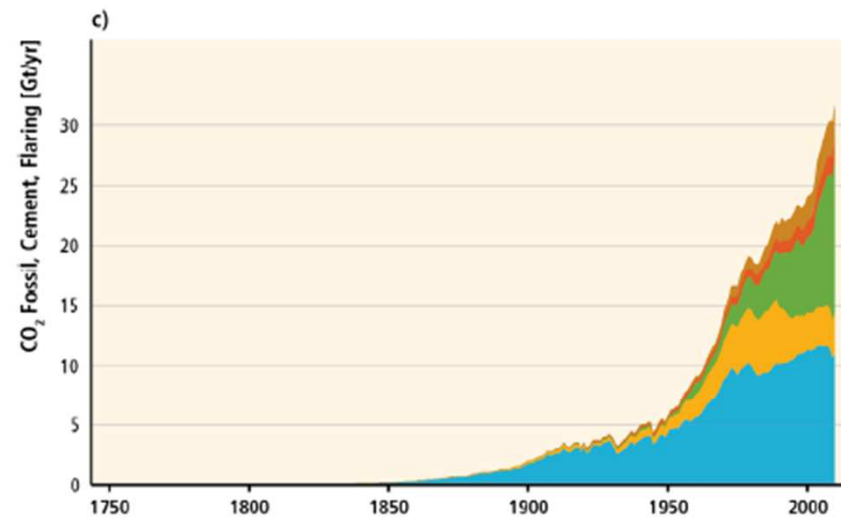
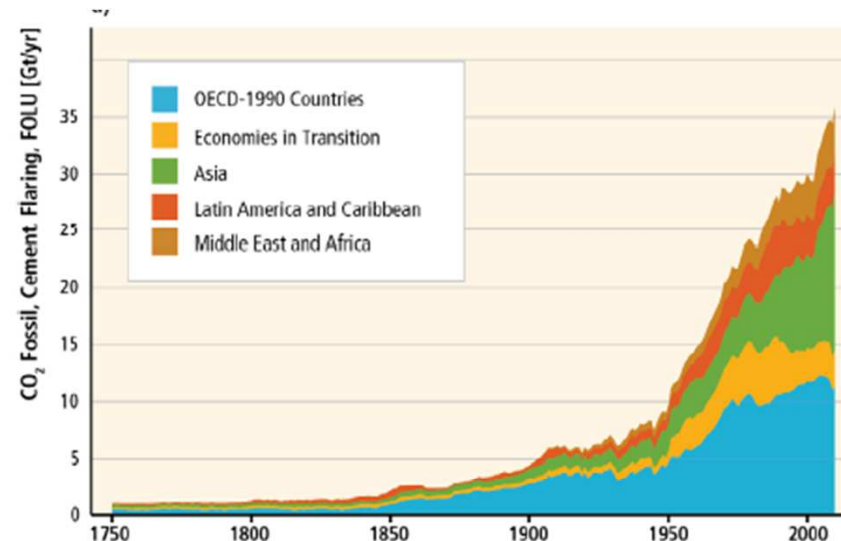


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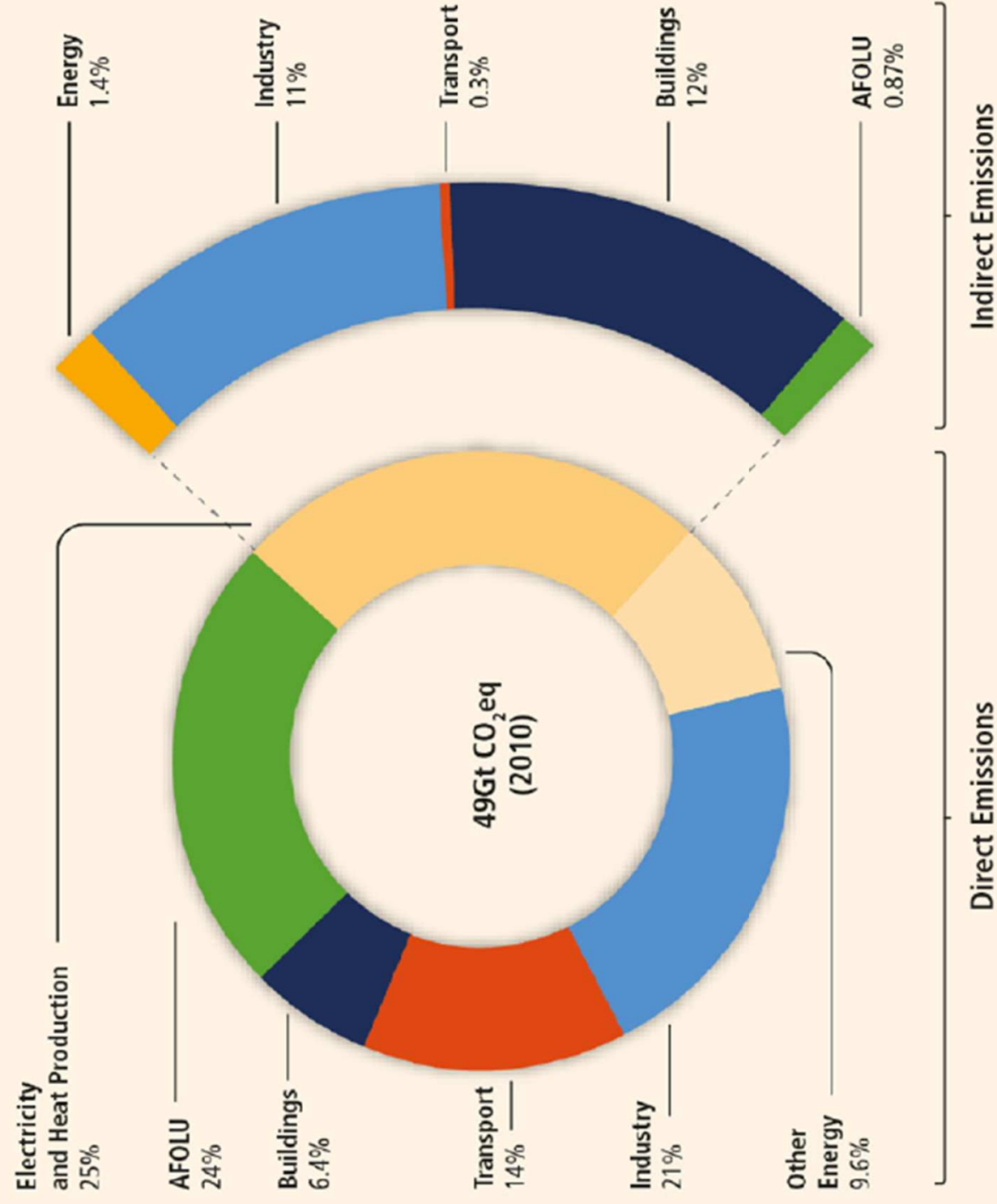
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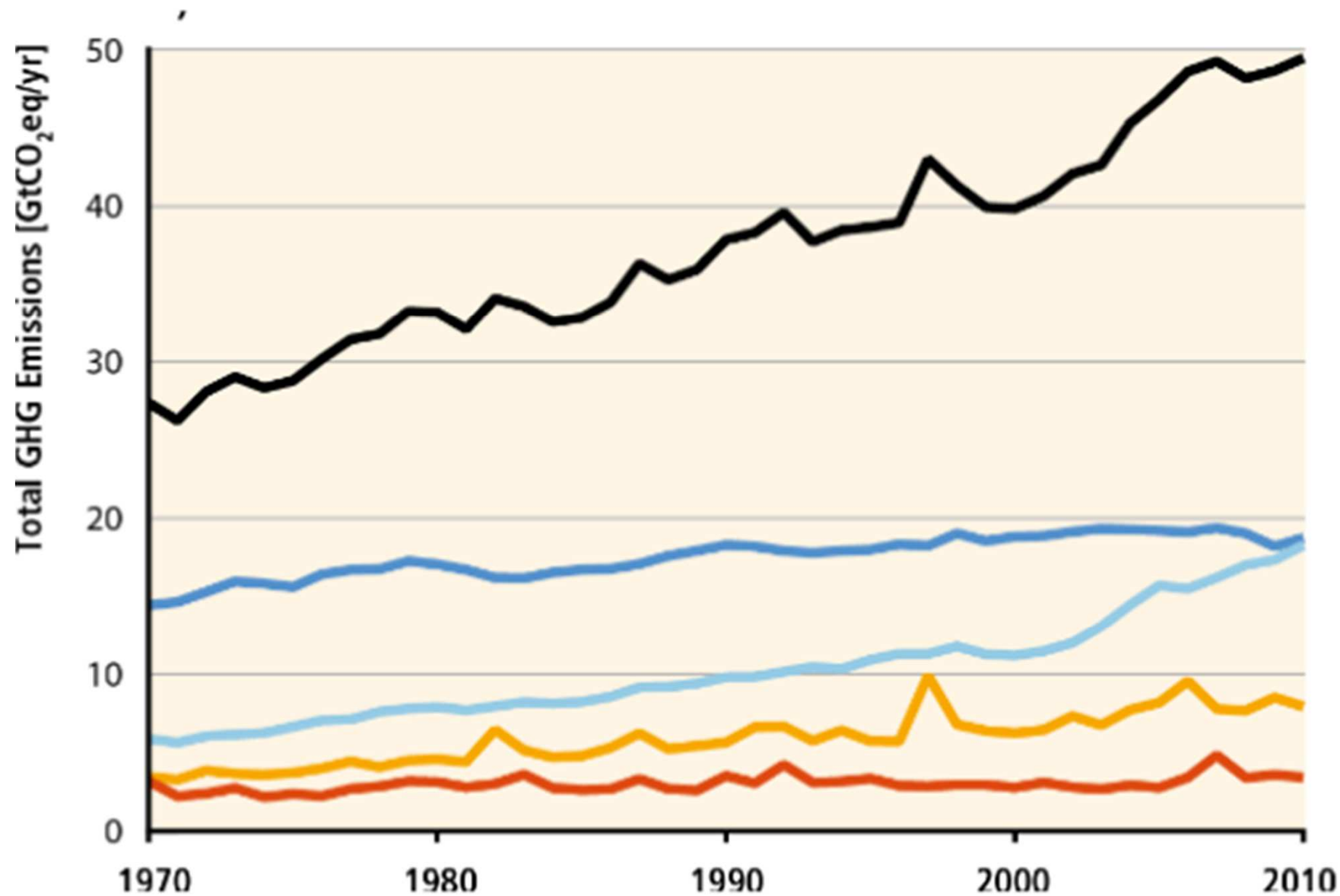
Total Antropogenic CO₂ Emissions from Fossil fuel combustion, flaring, Cement, Forestry and other land use (FOLU)



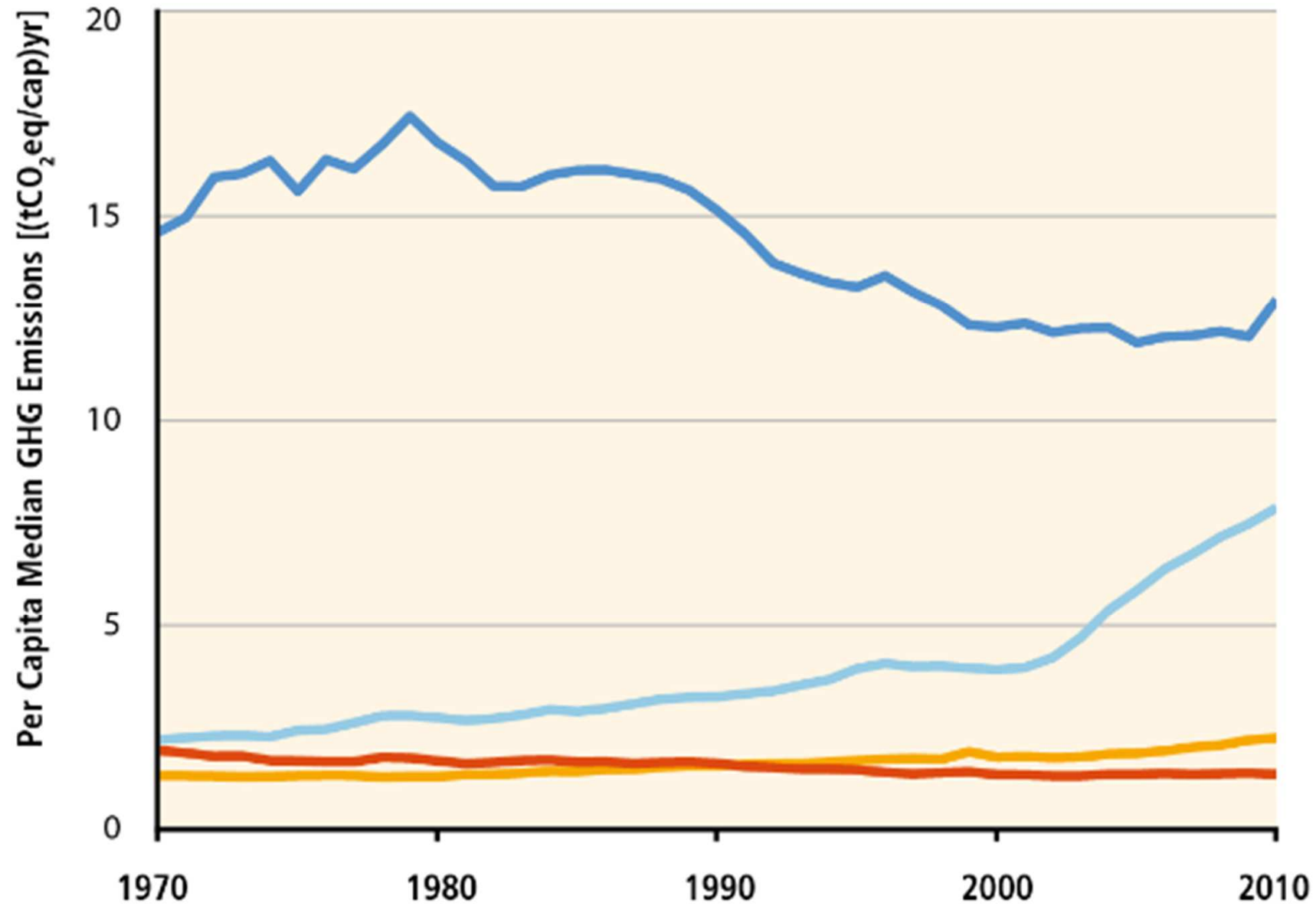
Greenhouse Gas Emissions by Economic Sectors and Country Income Groups



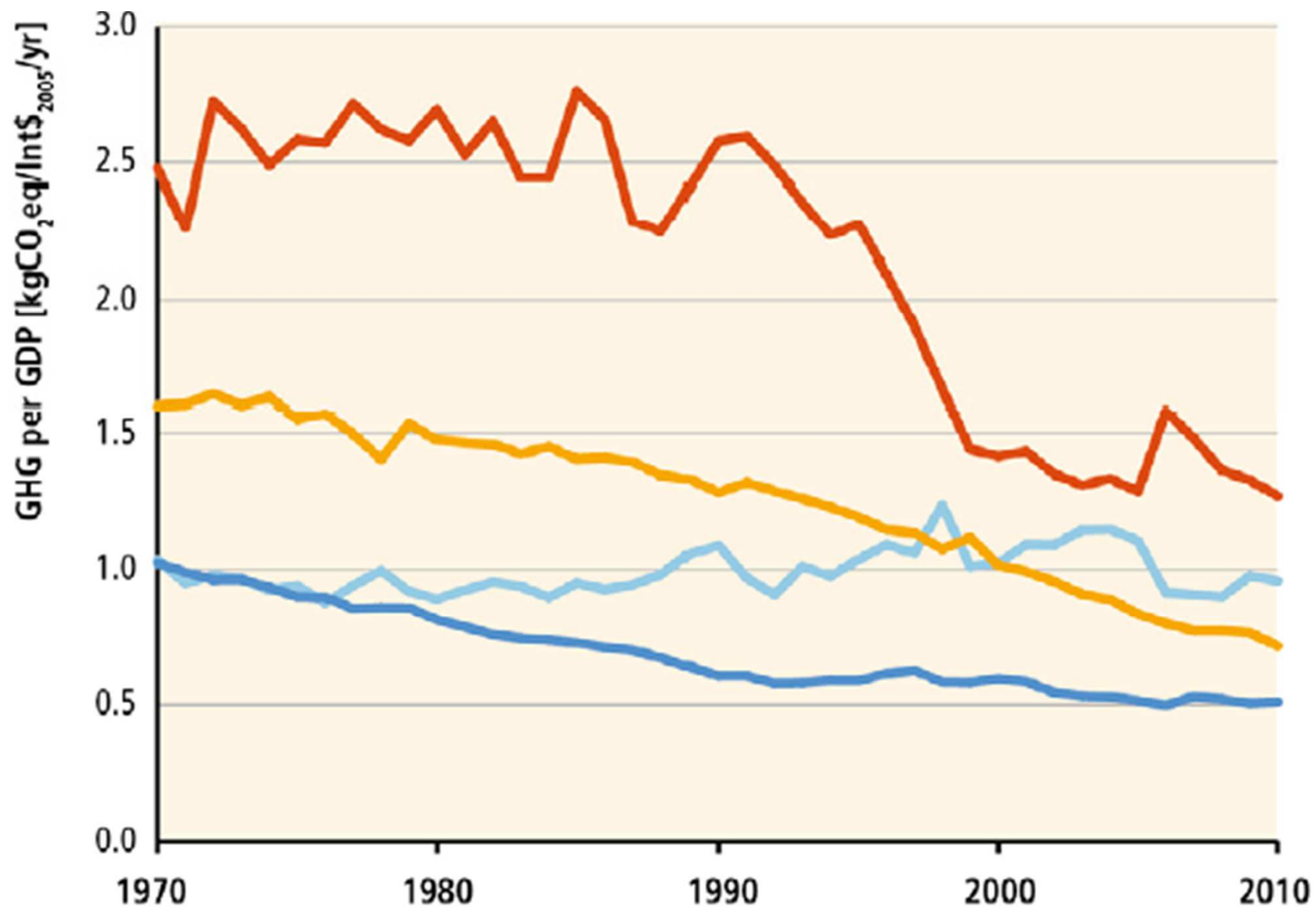
TOTAL GHG GtCO₂eq, Total, High Y, Upper M, Lower M Low

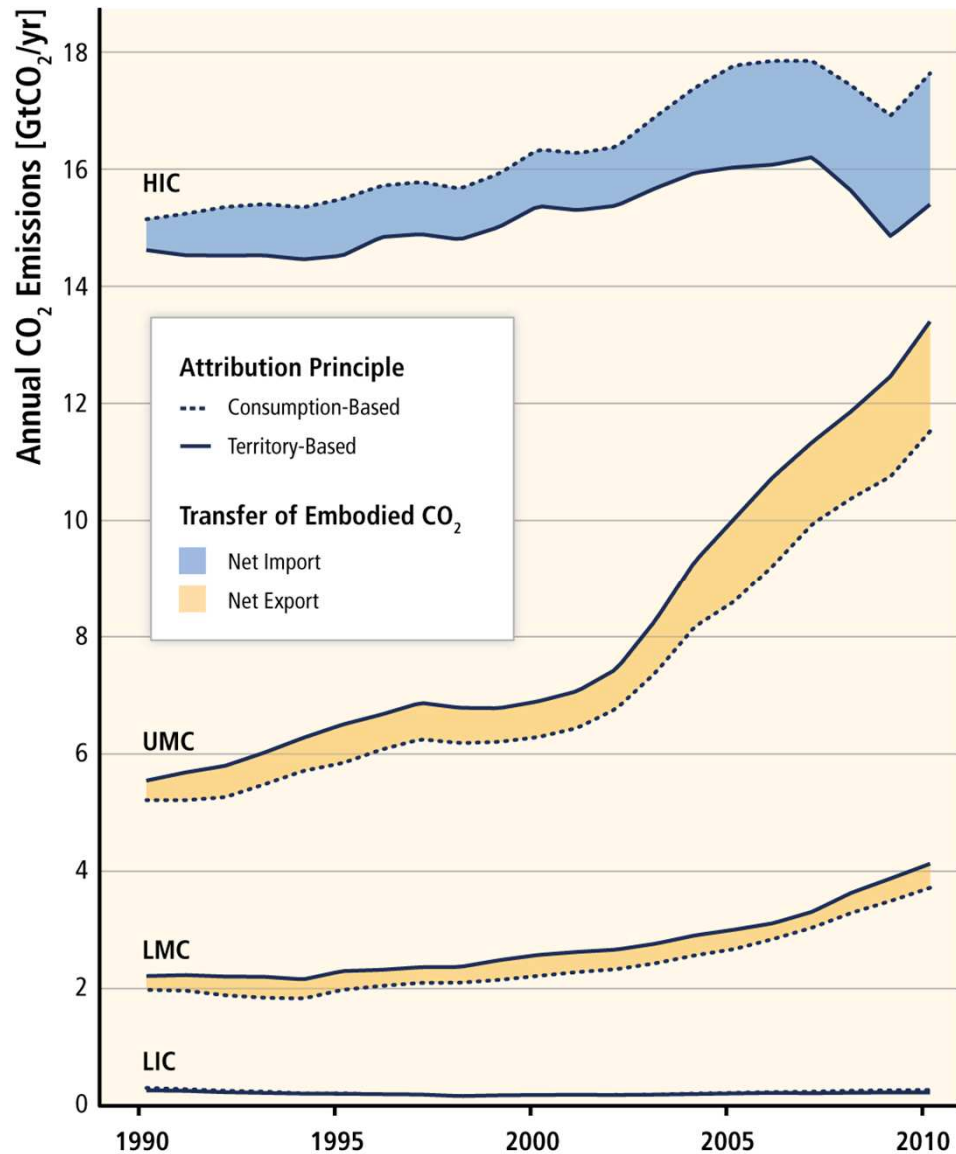


Per Capita emissions High, Upp M. Low M and Low



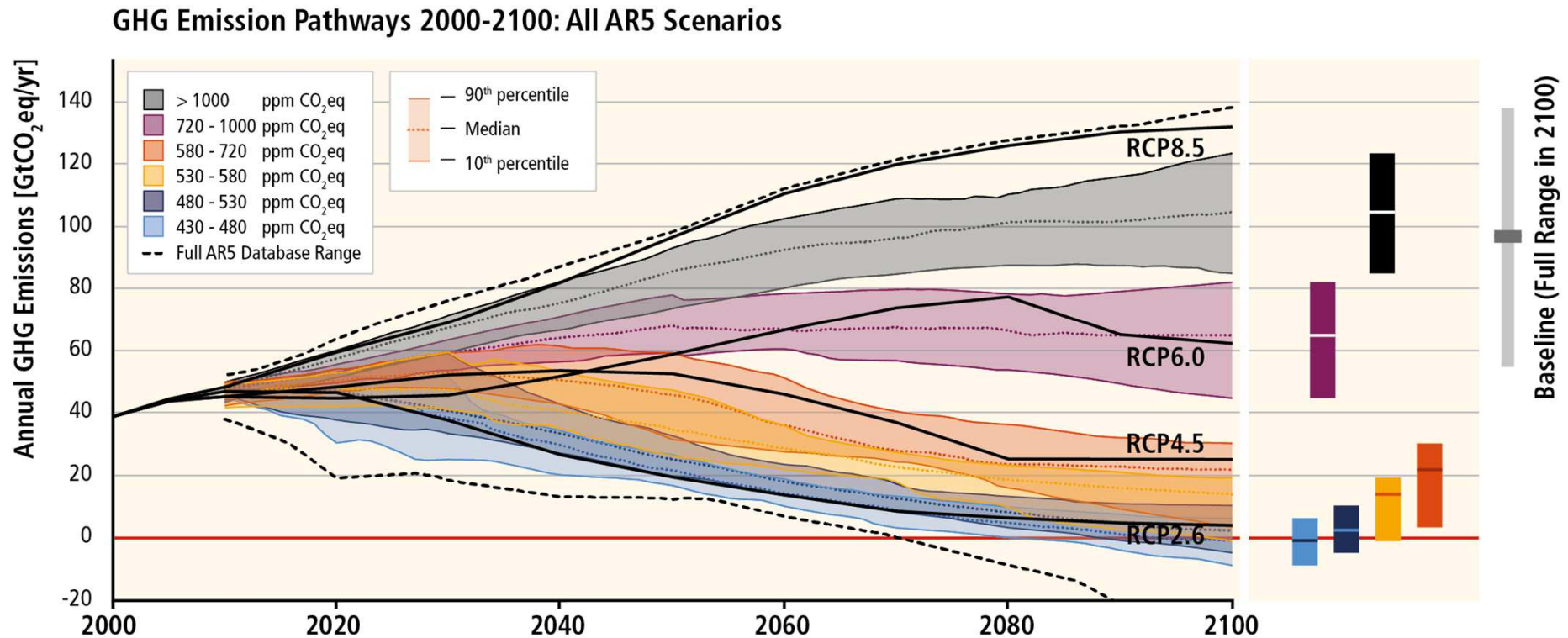
Emissions per \$ GDP Low, LowM, UppM, High Income





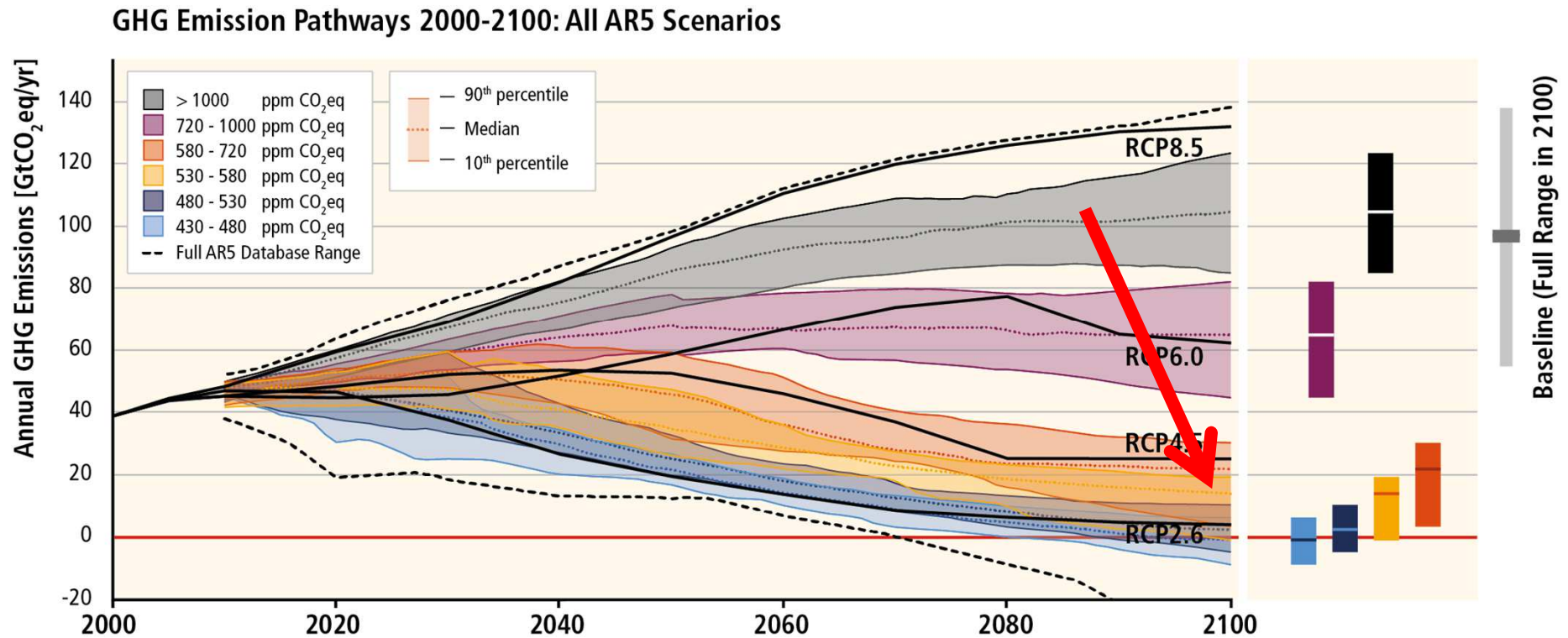
A growing share of CO₂ emissions from fossil fuel combustion and industrial processes in low and middle income countries has been released in the production of goods and services exported, notably from upper-middle income countries to high income countries.

Without more mitigation, global mean surface temperature might increase by 3.7° to 4.8°C over the 21st century.

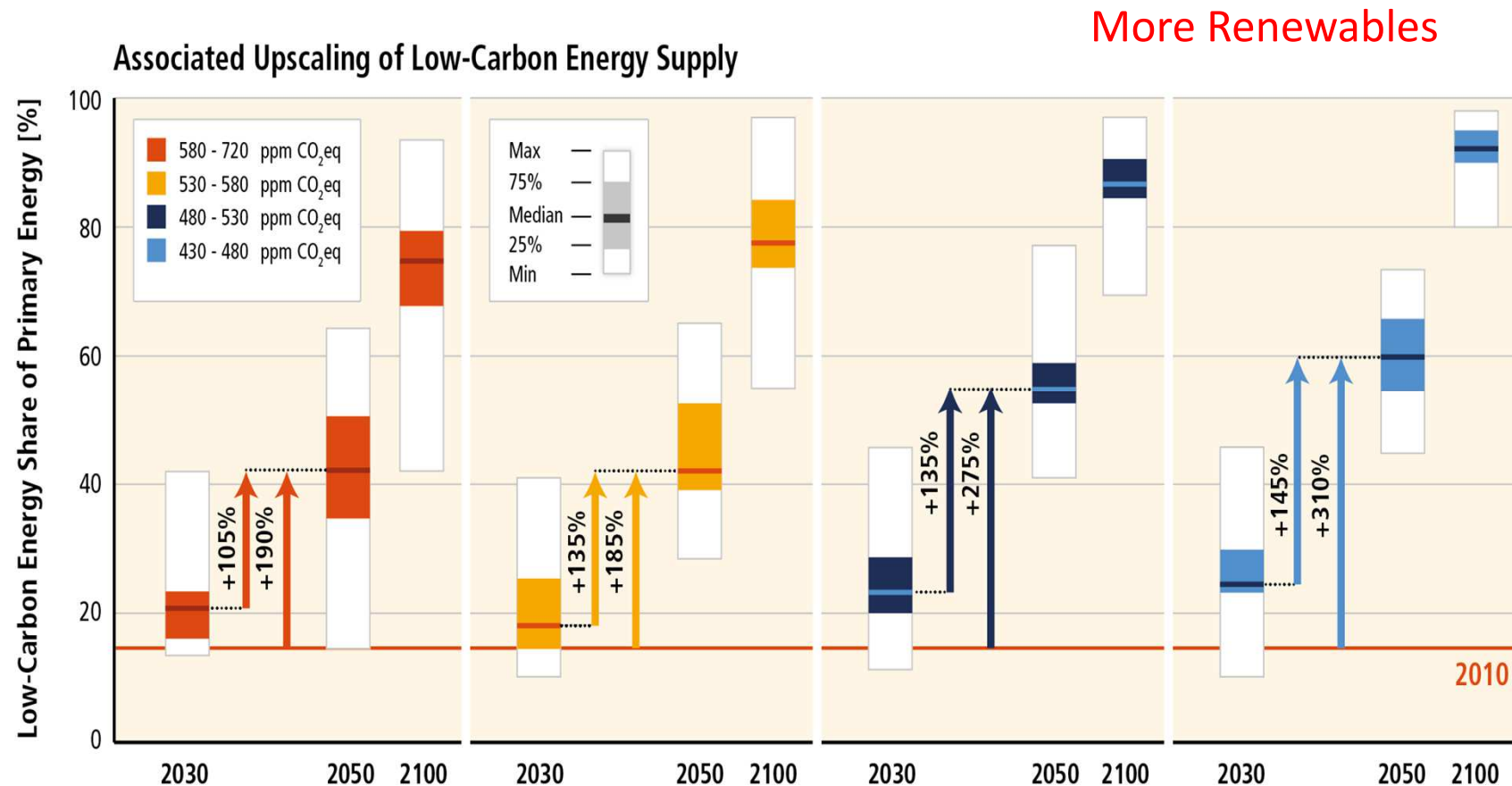


**What needs to be done
to stay below 2K?**

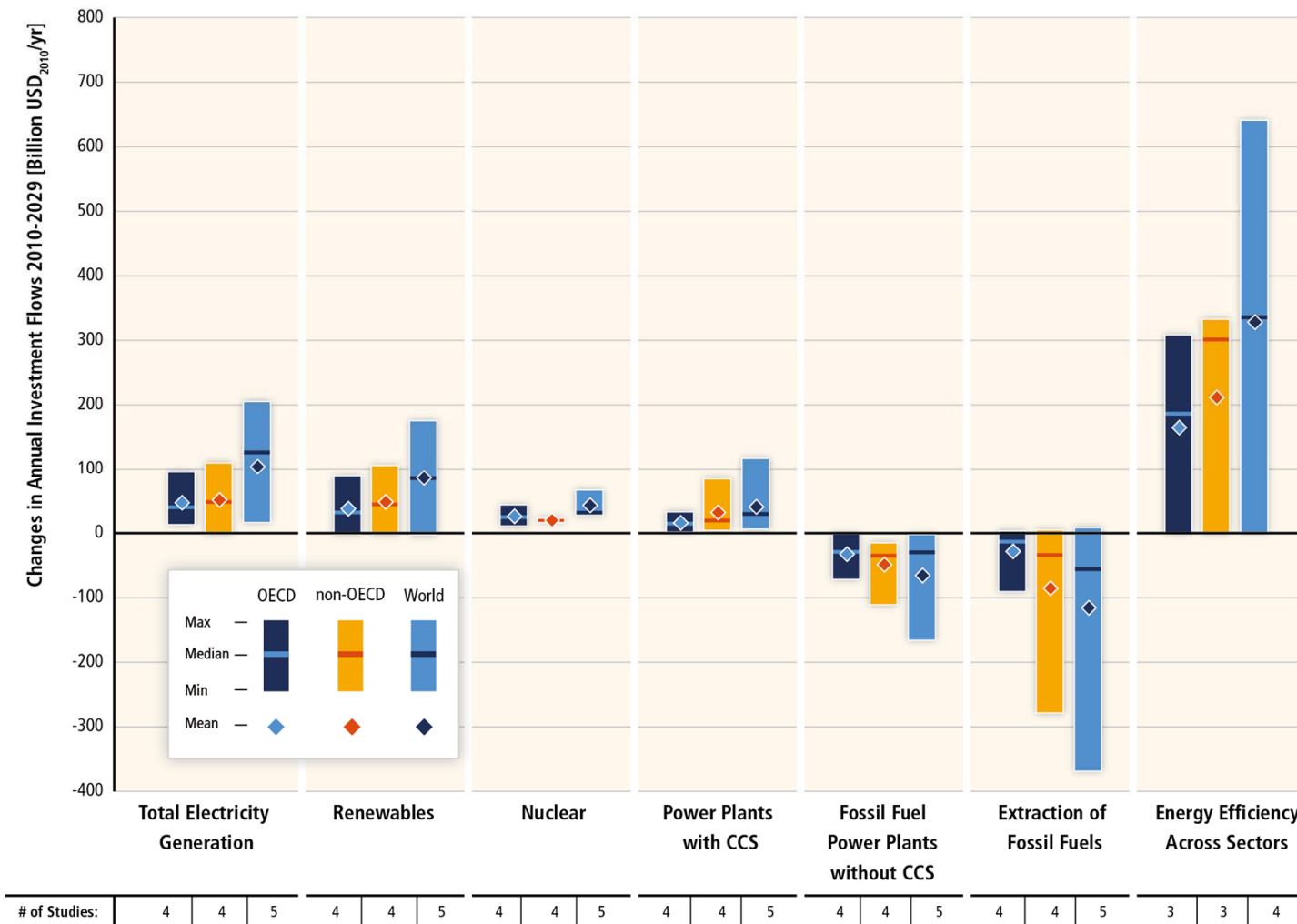
Without more mitigation, global mean surface temperature might increase by 3.7° to 4.8°C over the 21st century.



Mitigation requires major technological and institutional changes including the upscaling of low- and zero carbon energy.



Substantial reductions in emissions would require large changes in investment patterns.



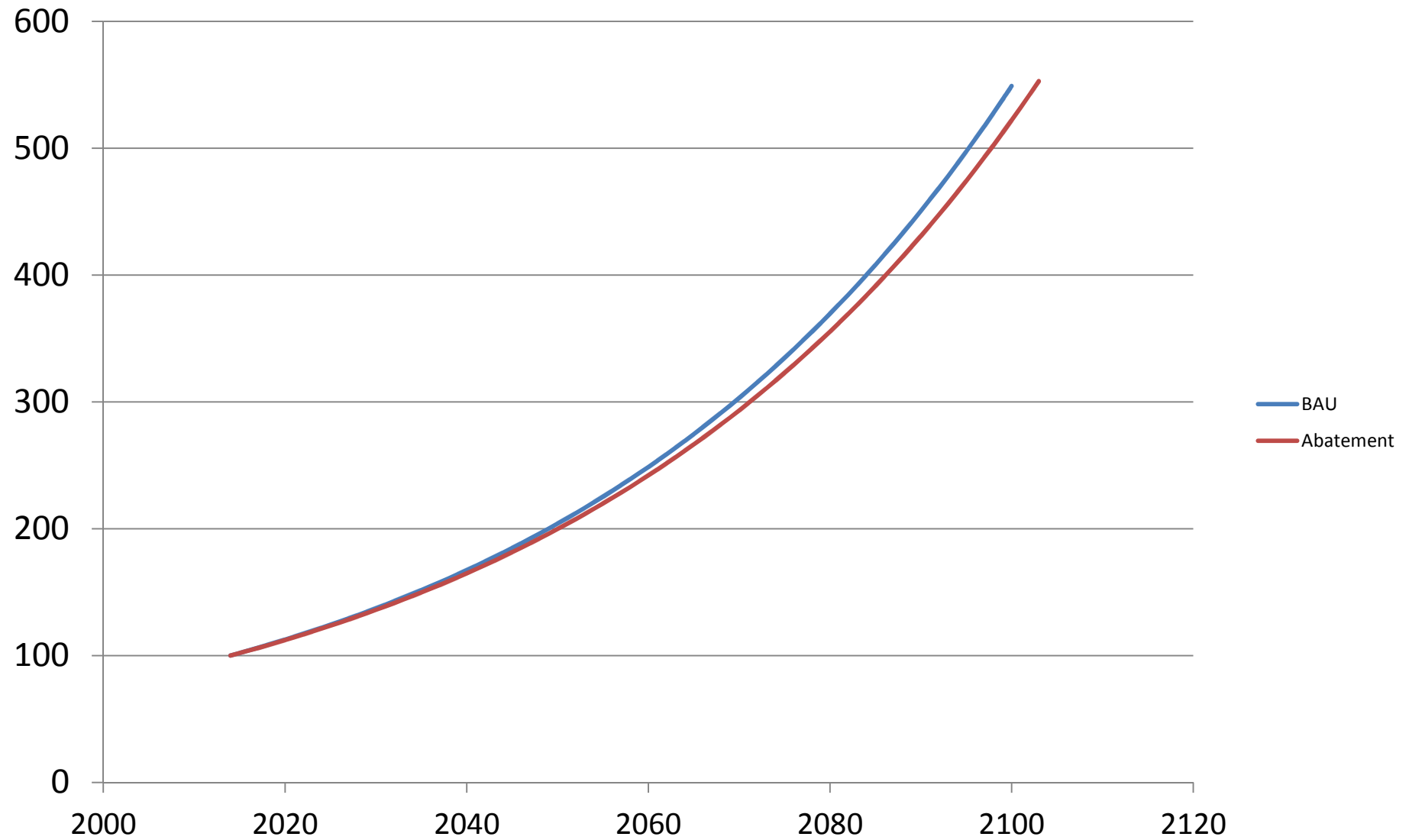
The Cost of action

- To stay below 450ppm CO₂eq costs 1.7% (1%-4%) as lost Consumption 2030, 4.8% (3%-11%) 2100
- Corresponds to a lowering in the rate of growth by 0.06% (compared to 1.6% - 3%)
- With 2% growth we get 5,5 times richer 2100.
- With costs of action this is lowered to 5,2 x
- Wait till July 2102...

A lot of \$

- GDP now 10^{14} \$
- 2100 ca $5 \cdot 10^{14}$ \$
- Loss ca $2 \cdot 10^{13}$ \$
- **20 000 000 000 000 000** \$ in 2100.
- 10 000 SEK per capita 2100
- Or 30 kr/day

-but - not back to stone age



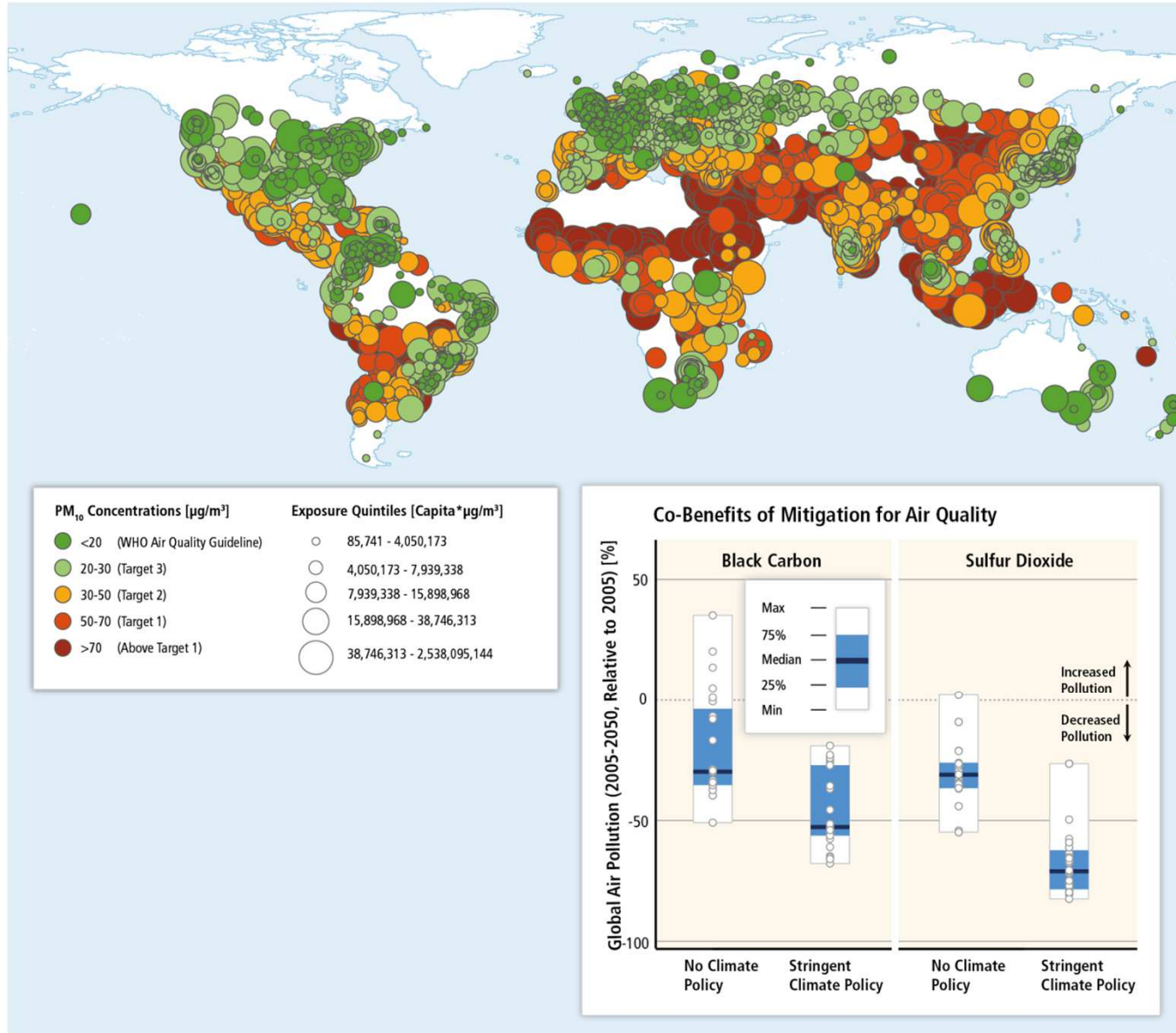
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- With 2% growth we get 5,5 times richer 2100.
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- The costs of climate damage – and/or health etc related to local air pollution is NOT included

Global IQ has input:

- Scenarios
- Impact analysis from models
- Discounting and uncertainty
- Adaptation
- Non market impacts
- Behavioral changes
- 2 - even 3 degrees dont pass CBA?





Mitigation can result in large co-benefits for human health and other societal goals.

WHY are these benefits not included?

- Large uncertainties about effects
- Distribution
- Value of property in India vs NY
- The value of life
- The value of risks
- Values befalling on others in the future

Policies needed

1. International Agreement
2. Price of C
3. Remove subsidies
4. Appropriate conditions for Renewables
5. CCS etc

Climate treaty needed...



Or dont we need a climate treaty?

- US position:
- G2
- Decentralized Architecture

Is this a problem of the commons?

SPM.2 Approaches to climate change mitigation

Climate change implies the need for collective action, because the atmosphere is a global commons. ~~mitigation involves a global commons problem.~~

Greenhouse gas (GH) emissions arising in any jurisdiction have global consequences and as a result there are shared socio-economic benefits of mitigation. Mitigation costs can affect national economic development and competitiveness—giving each country, to varying degrees, an incentive to seek the collective benefit of mitigating climate change while reducing the cost. This

Global Commons?



Sensitive words

1. "Binding"
2. Commons
3. Growth
4. Low, Middle income countries
5. Fossil combustion,
6. Subsidy removal

Saudi Arabia spoke about 30% of the time

Policy Instruments



Since AR4, there has been an increased focus on policies designed to **integrate multiple objectives**, increase co-benefits and reduce adverse side-effects.

- **Sector-specific policies** have been more widely used than economy-wide policies.
- **Regulatory** approaches and information measures are widely used, and are often environmentally effective.
- Since AR4, **cap and trade** systems for GHGs have been established in a number of countries and regions.
- **In some countries, tax-based** policies specifically aimed at reducing GHG emissions—alongside technology and other policies—have helped to weaken the link between GHG emissions and GDP
- The **reduction of subsidies** for GHG-related activities in various sectors can achieve emission reductions, depending on the social and economic context.

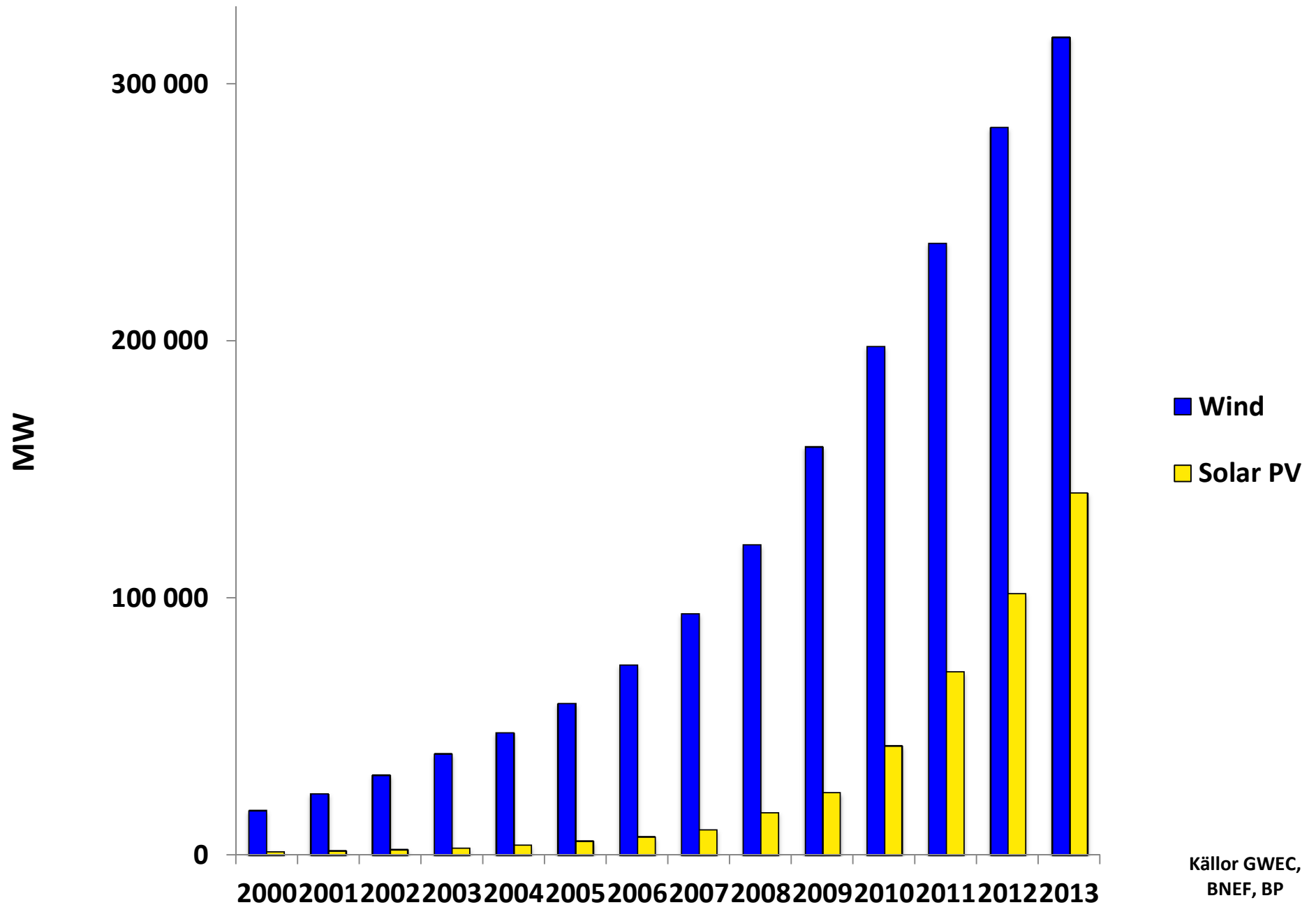
Thank you



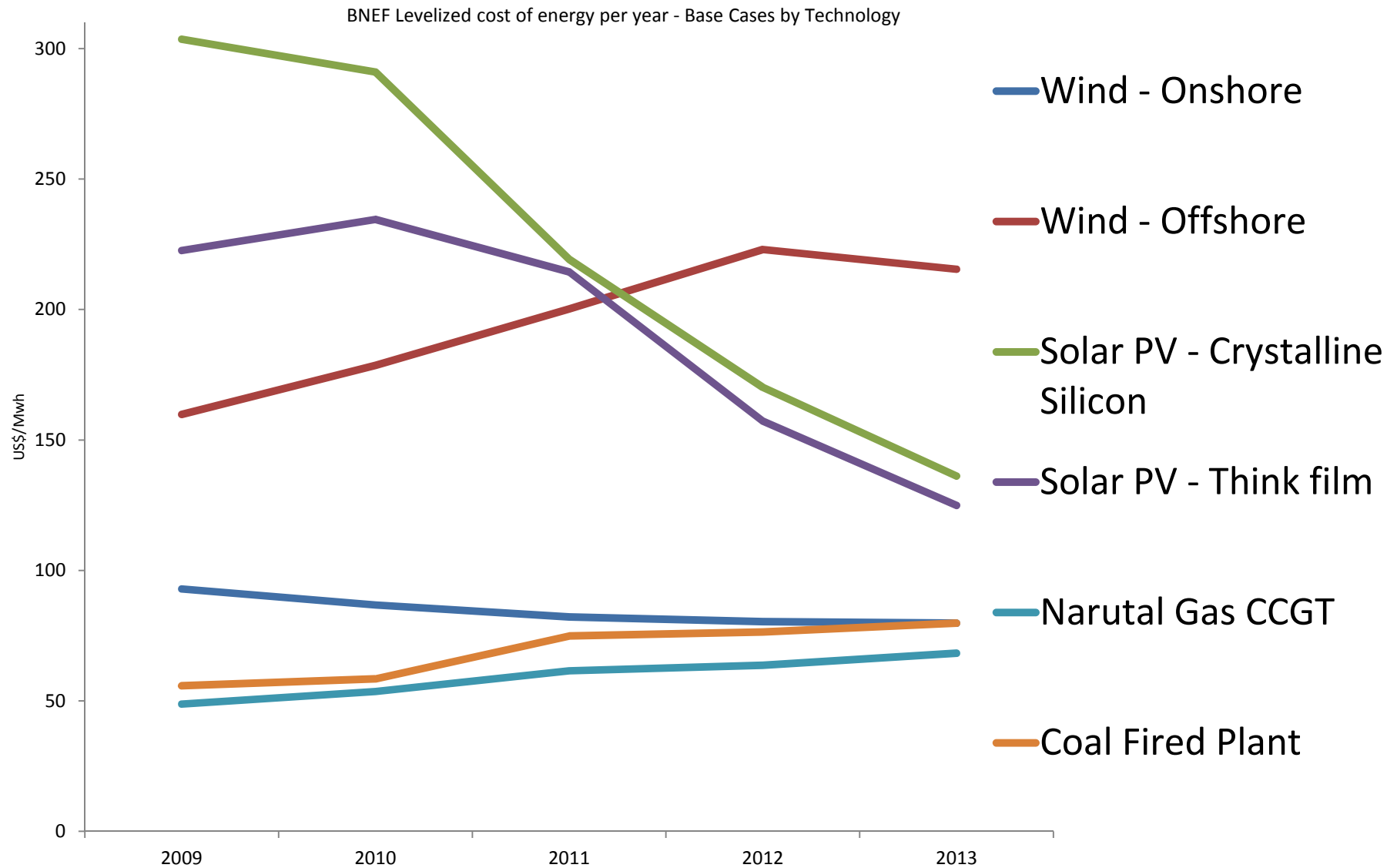
Is it POSSIBLE ?



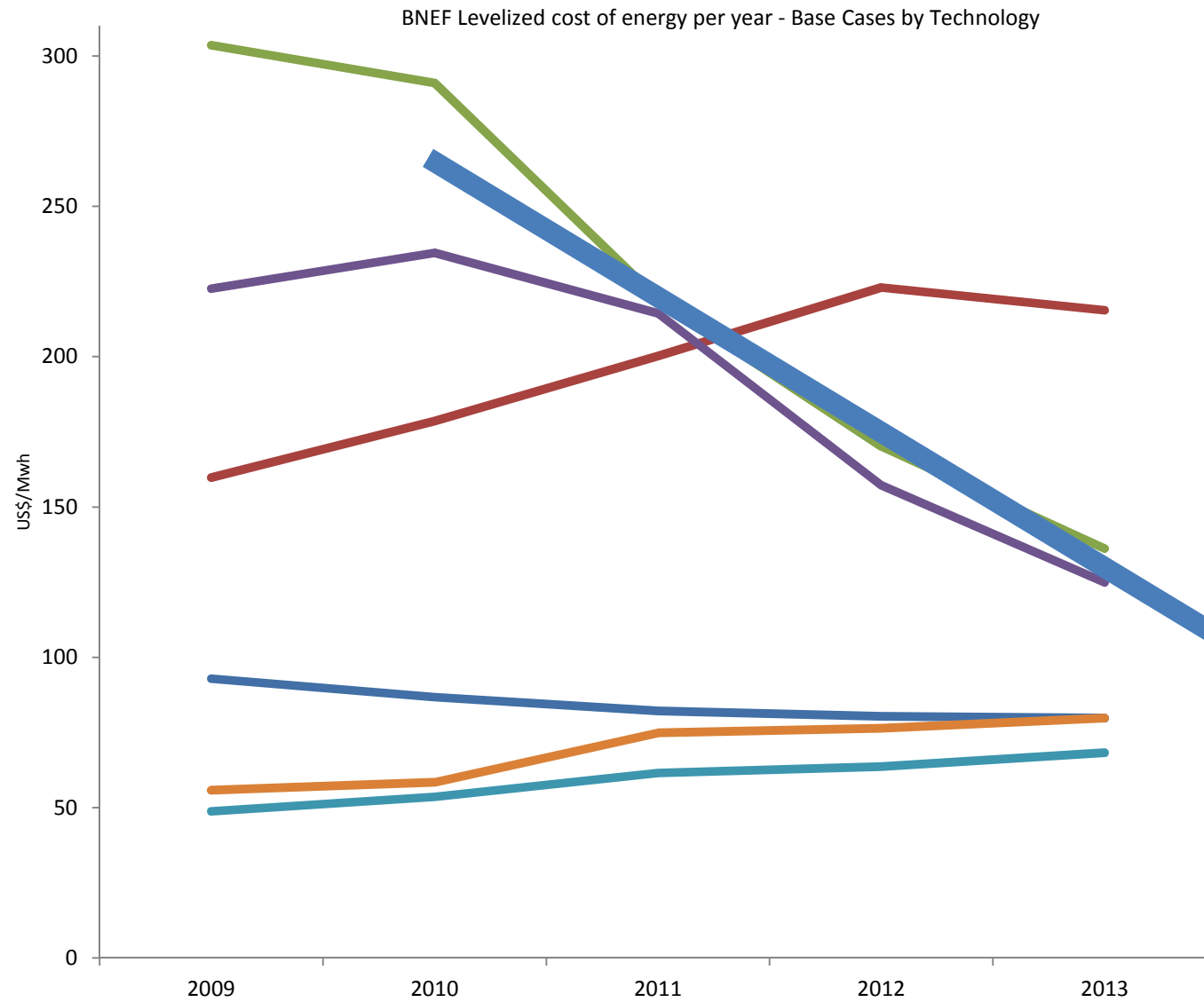
Accumulated global capacity



RENEWABLE ENERGY



RENEWABLE ENERGY



On May 24th, 2013, Xcel Colorado set a new record on its energy system with 60.5% of energy produced coming from wind energy

Even in Texas,
wind soaring to
prominence





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17.9K
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11 Benefits of Green Tea That You Didn't Know About

LIFESTYLE

MAY 9 BY CIARA CONLON









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Thank you !

Contact: global-iq@tse-fr.eu

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