

Mercator Research Institute on
Global Commons and Climate Change gGmbH

Hertie School
of Governance



Publikationsexplosion ohne Wissenszuwachs?

Wissenschaftliche Politikberatung in der
sozialwissenschaftlichen Klimaforschung

Prof. Jan Christoph Minx, PhD

The IPCC

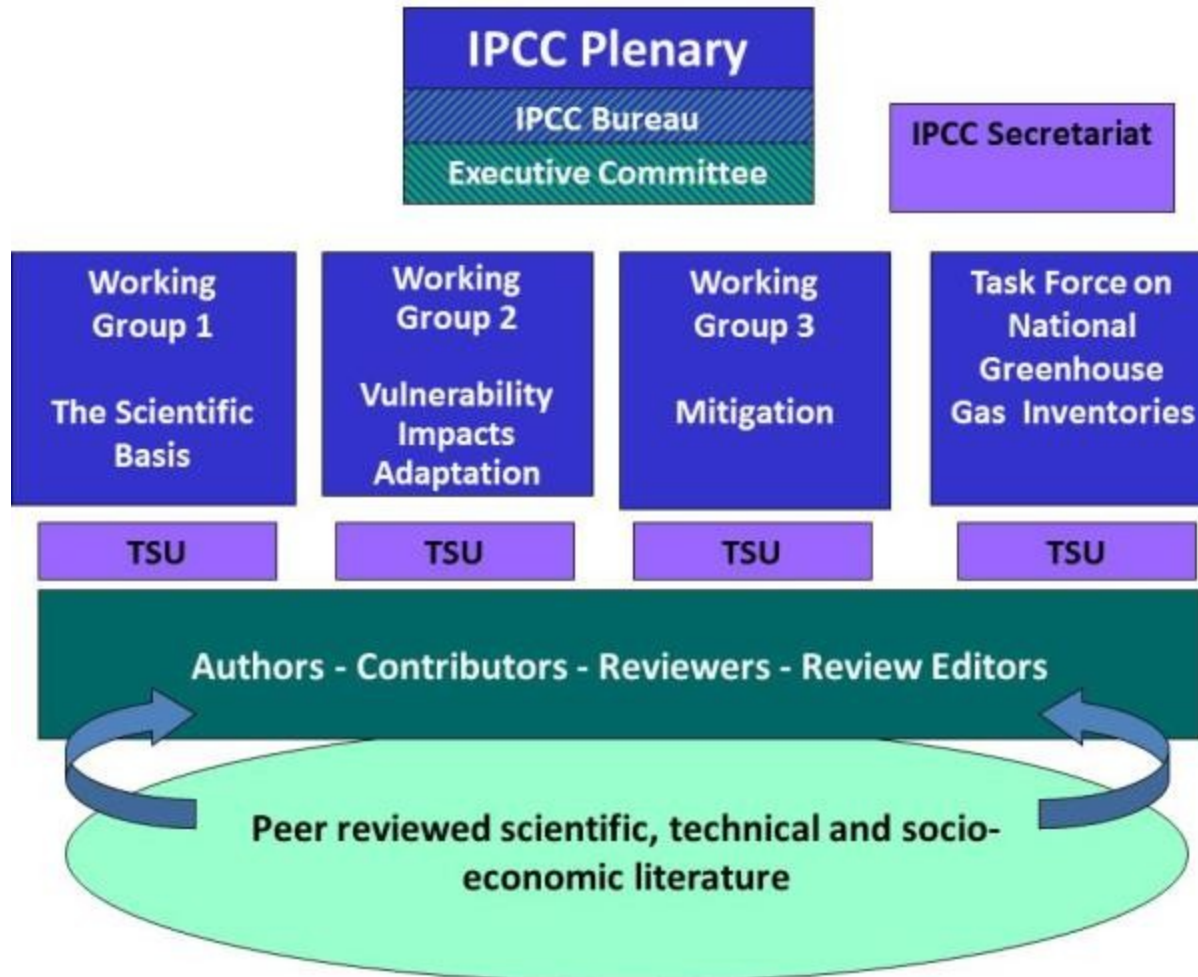
- Established in 1988, by WMO and UNEP to :
 - Assess scientific information related to climate change
 - Evaluate the environmental and socio-economic consequences of climate change
 - Evaluate response options
- UN GA requested report to decide if a climate convention is needed
- Scientific assessments for decision-making

Principles governing IPCC work

- Prepare **comprehensive, objective, open and transparent** assessments
- **Neutral** with respect to policy
- Deal **objectively** with policy relevant scientific, technical and socio-economic factors
- Clearly present **differing scientific views**

**Policy-relevant,
But not policy-prescriptive**

Structure of the IPCC



Preparing an IPCC Report



**Governments
Nominate Experts
for Report**



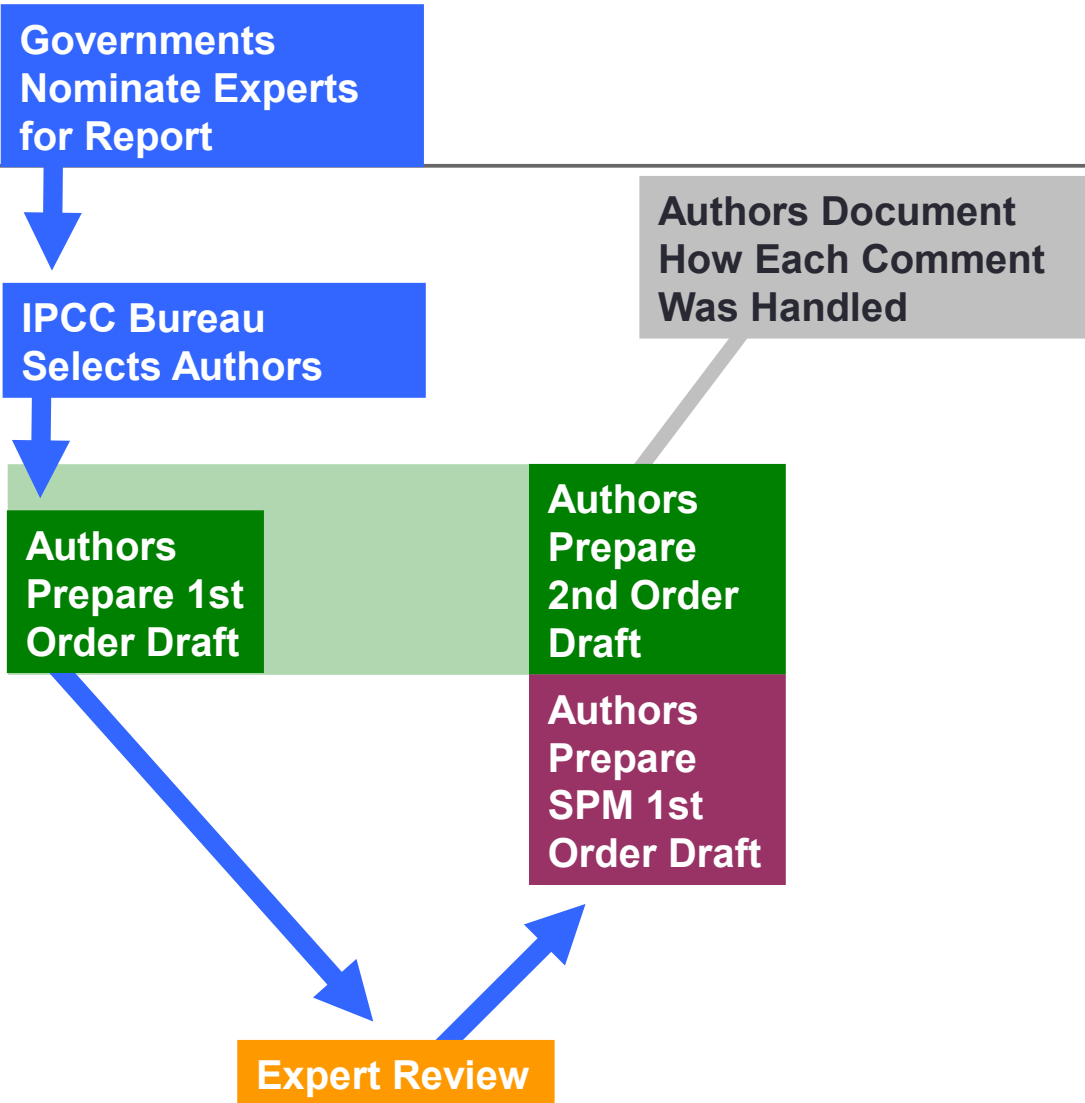
**IPCC Bureau
Selects Authors**

**Nominees Not
Selected As Authors
Become Expert
Reviewers**

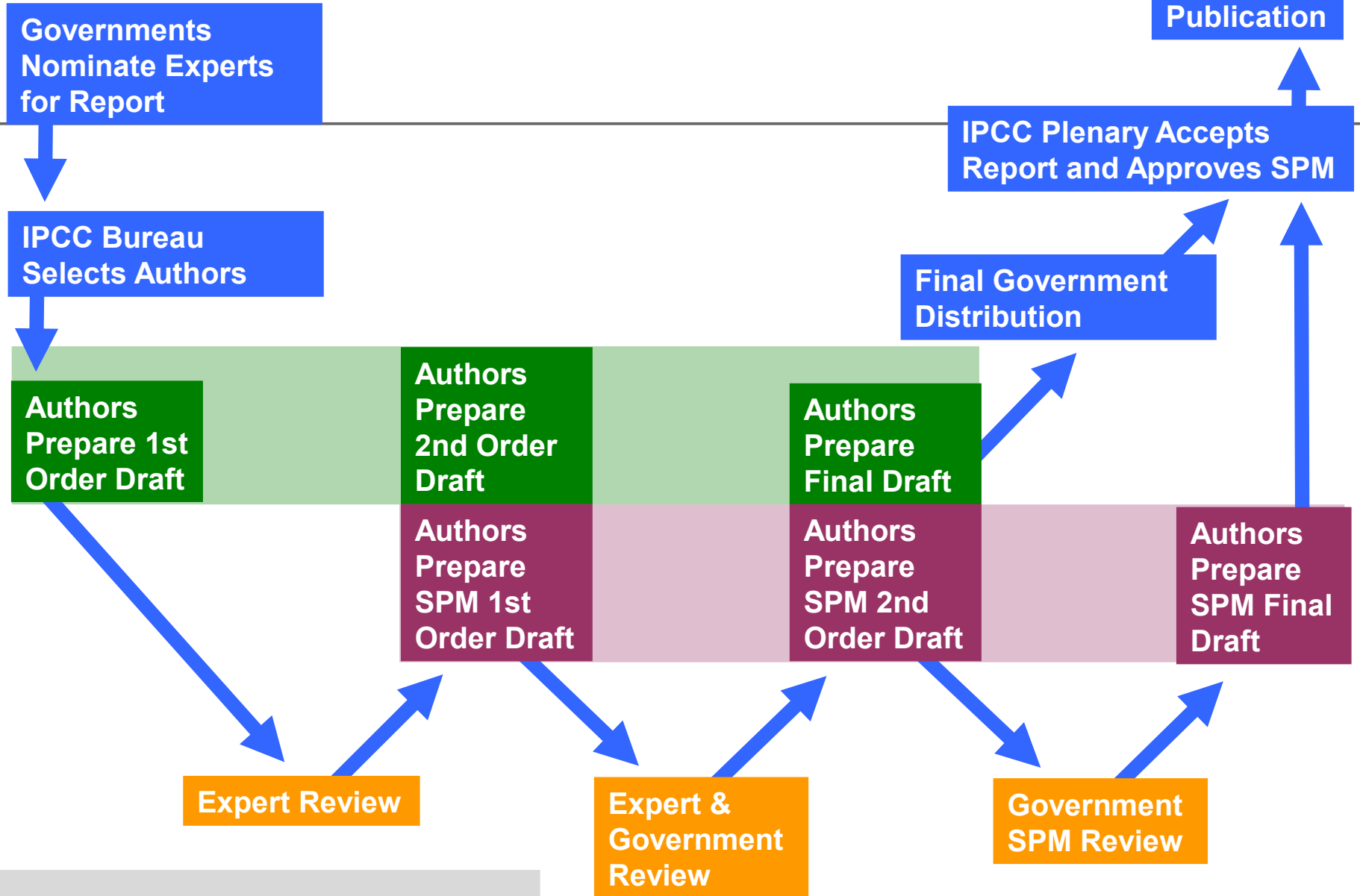


Expert Review

Preparing an IPCC Report



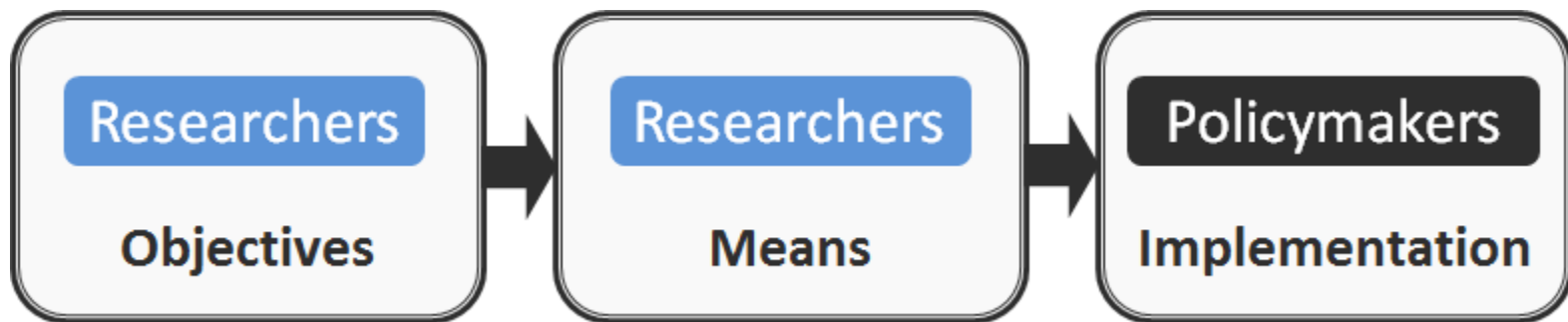
Preparing an IPCC Report



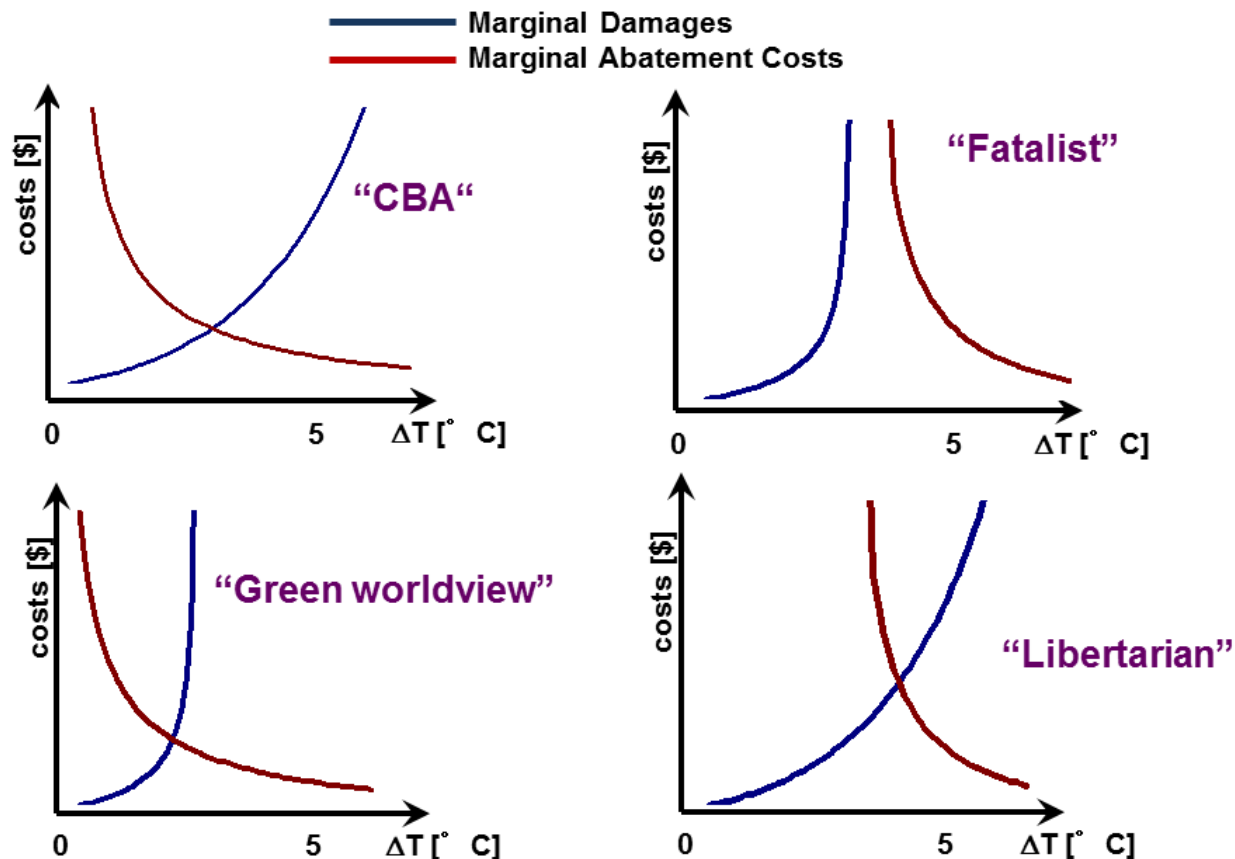
But what is an adequate role of science in policy?



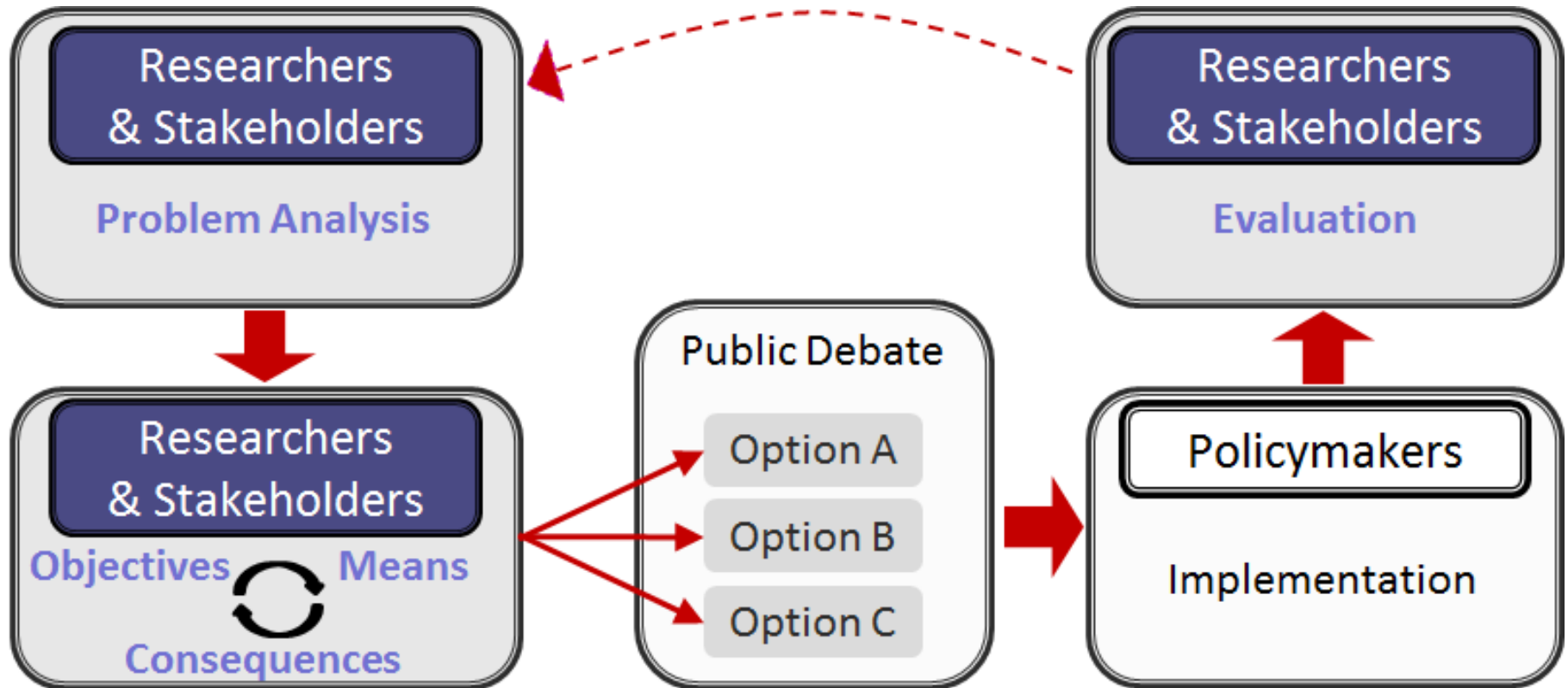
Example: the technocratic model



Different worldviews lead to different results



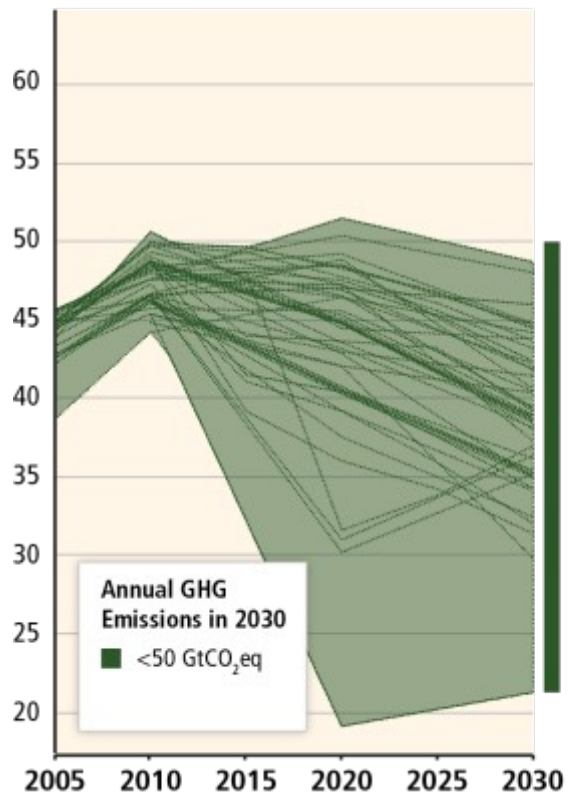
The pragmatic enlightened model of science-policy advice



Example climate policy: requirements of alternative 2°C pathways

Before 2030

GHG Emissions Pathways [GtCO₂eq/yr]

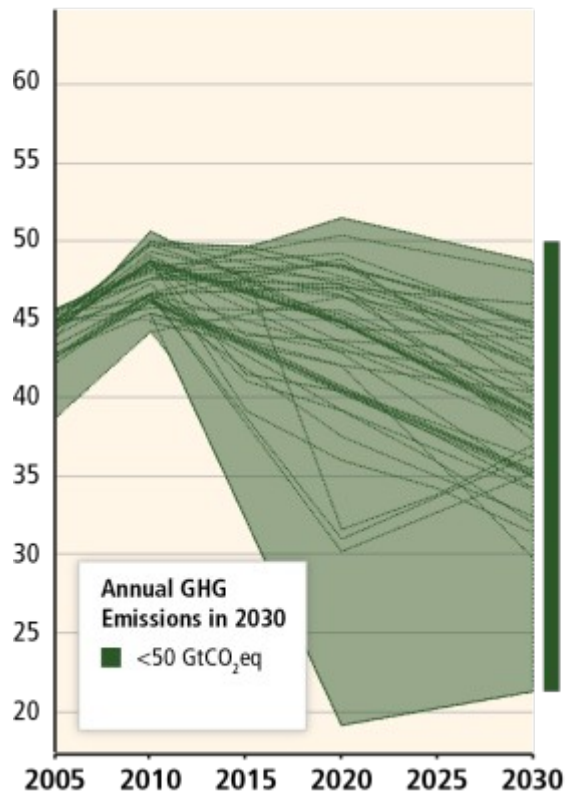


“Immediate Action”

Example climate policy: requirements of alternative 2°C pathways

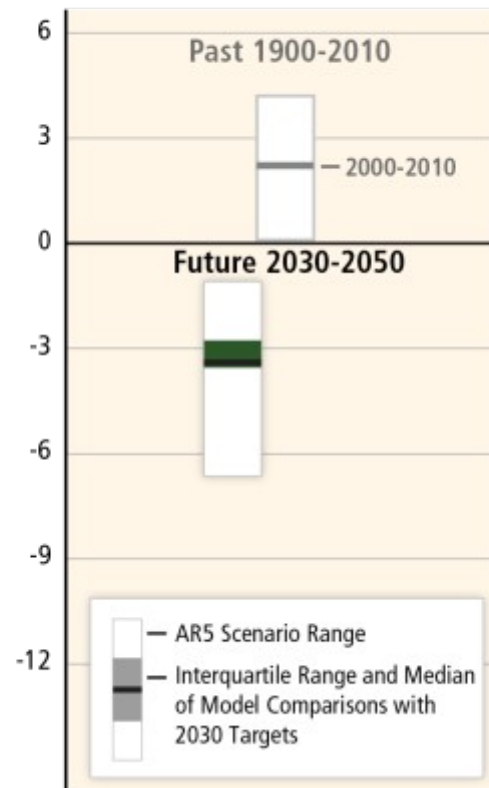
Before 2030

GHG Emissions Pathways [GtCO₂eq/yr]



After 2030

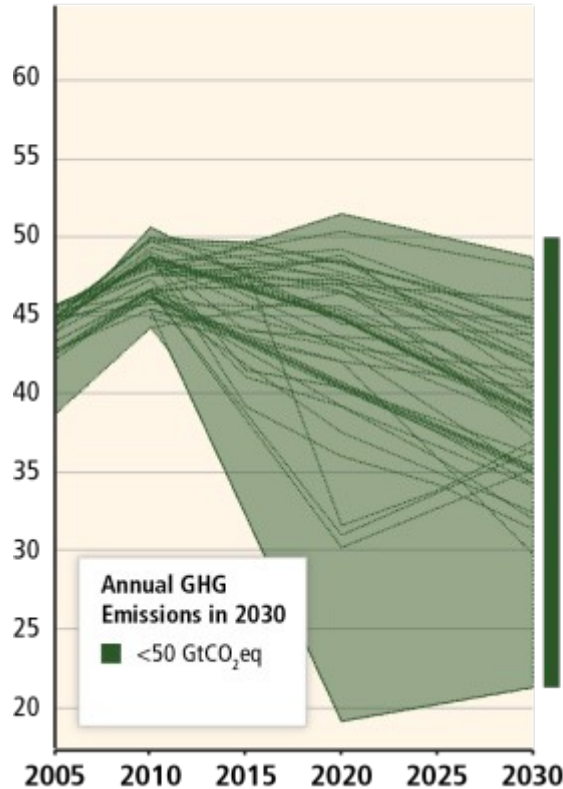
Rate of CO₂ Emission Change [%/yr]



Example climate policy: requirements of alternative 2°C pathways

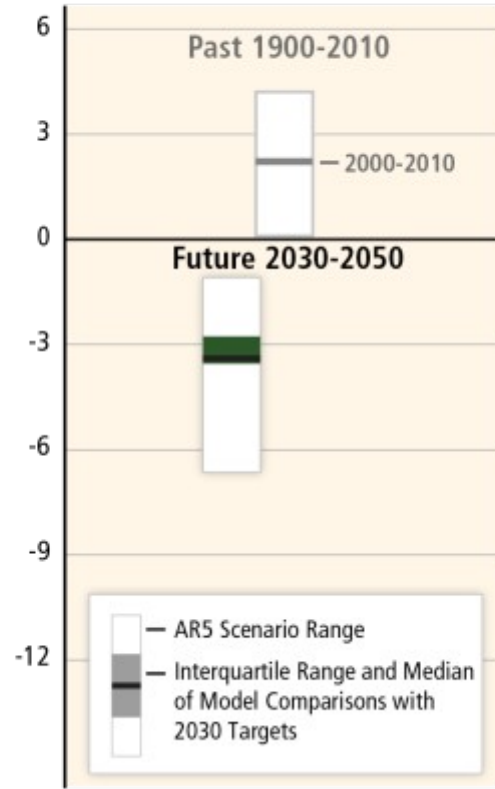
Before 2030

GHG Emissions Pathways [GtCO₂eq/yr]

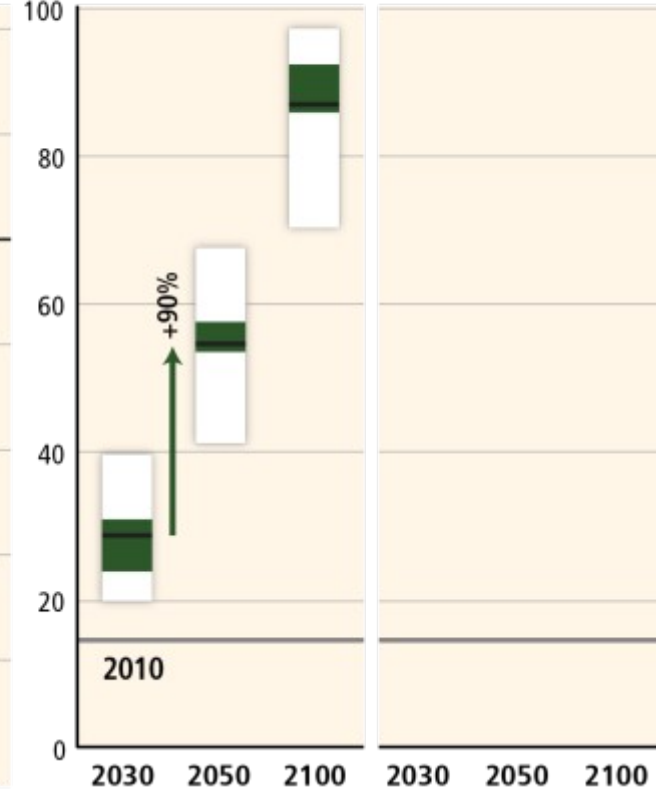


After 2030

Rate of CO₂ Emission Change [%/yr]



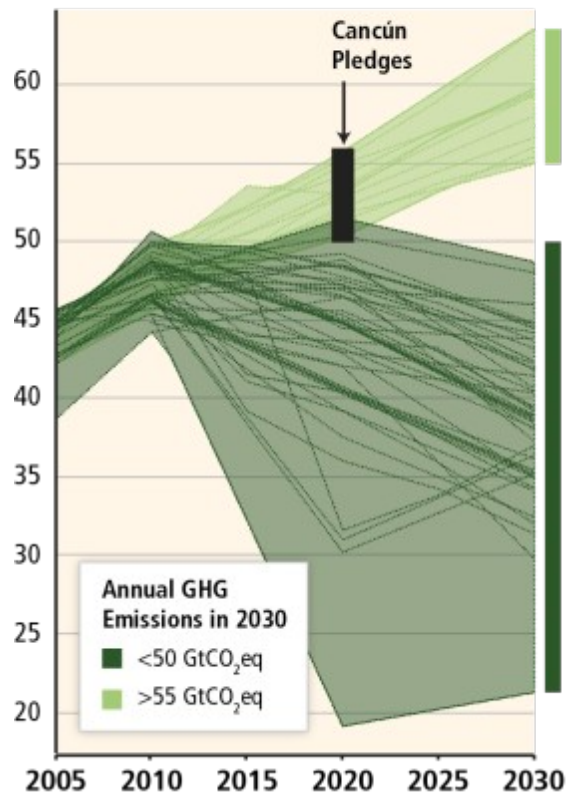
Share of Low-Carbon Energy [%]



Example climate policy: requirements of alternative 2°C pathways

Before 2030

GHG Emissions Pathways [GtCO₂eq/yr]



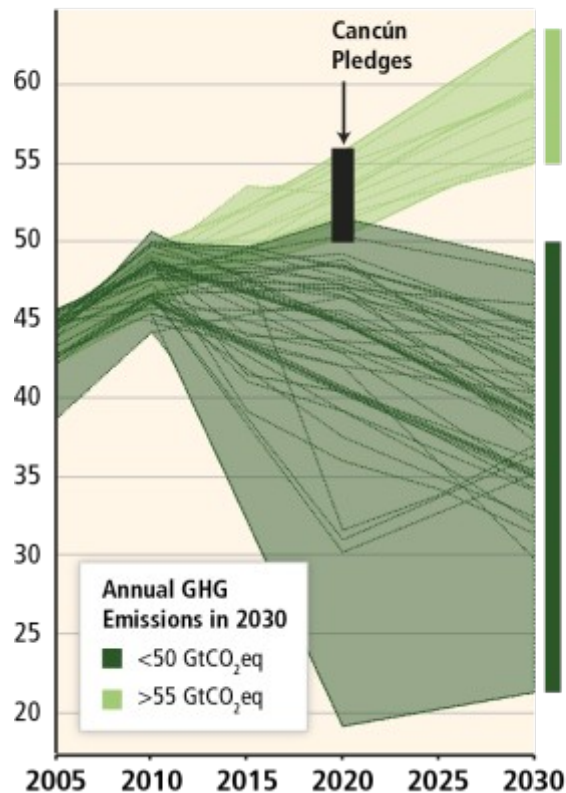
"Delayed Mitigation"

"Immediate Action"

Example climate policy: requirements of alternative 2°C pathways

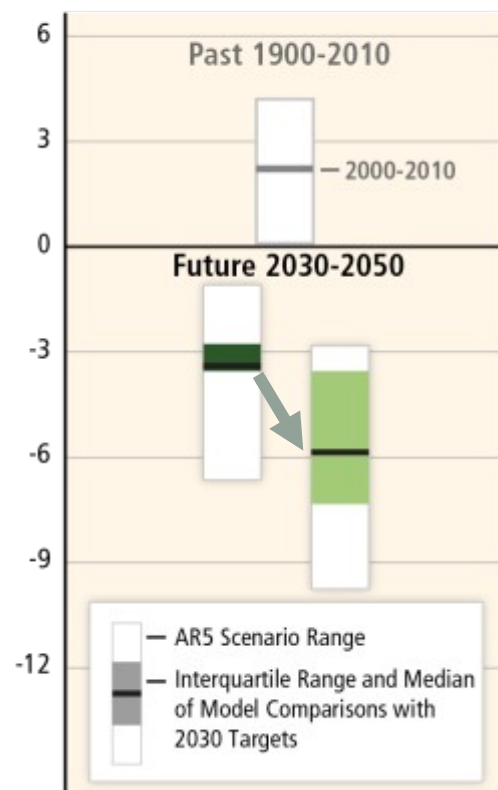
Before 2030

GHG Emissions Pathways [GtCO₂eq/yr]

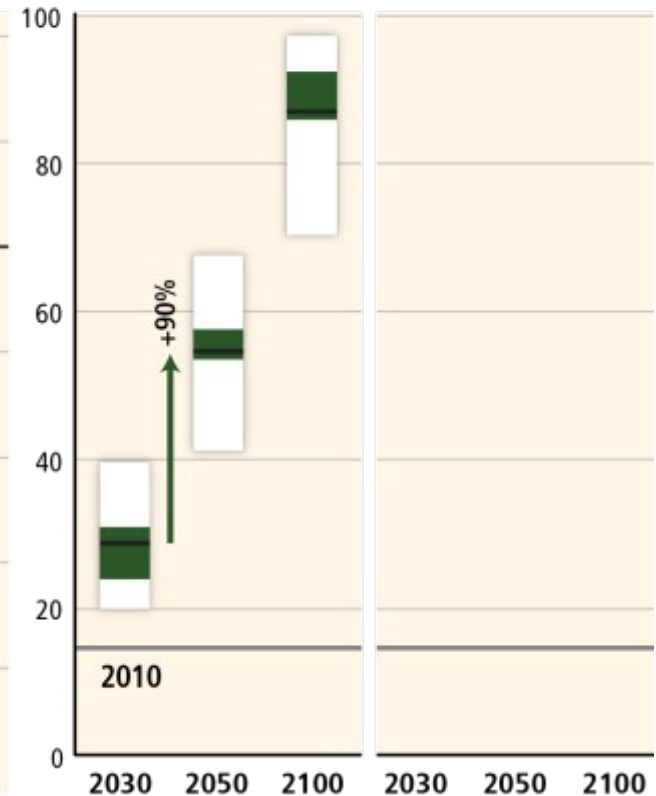


After 2030

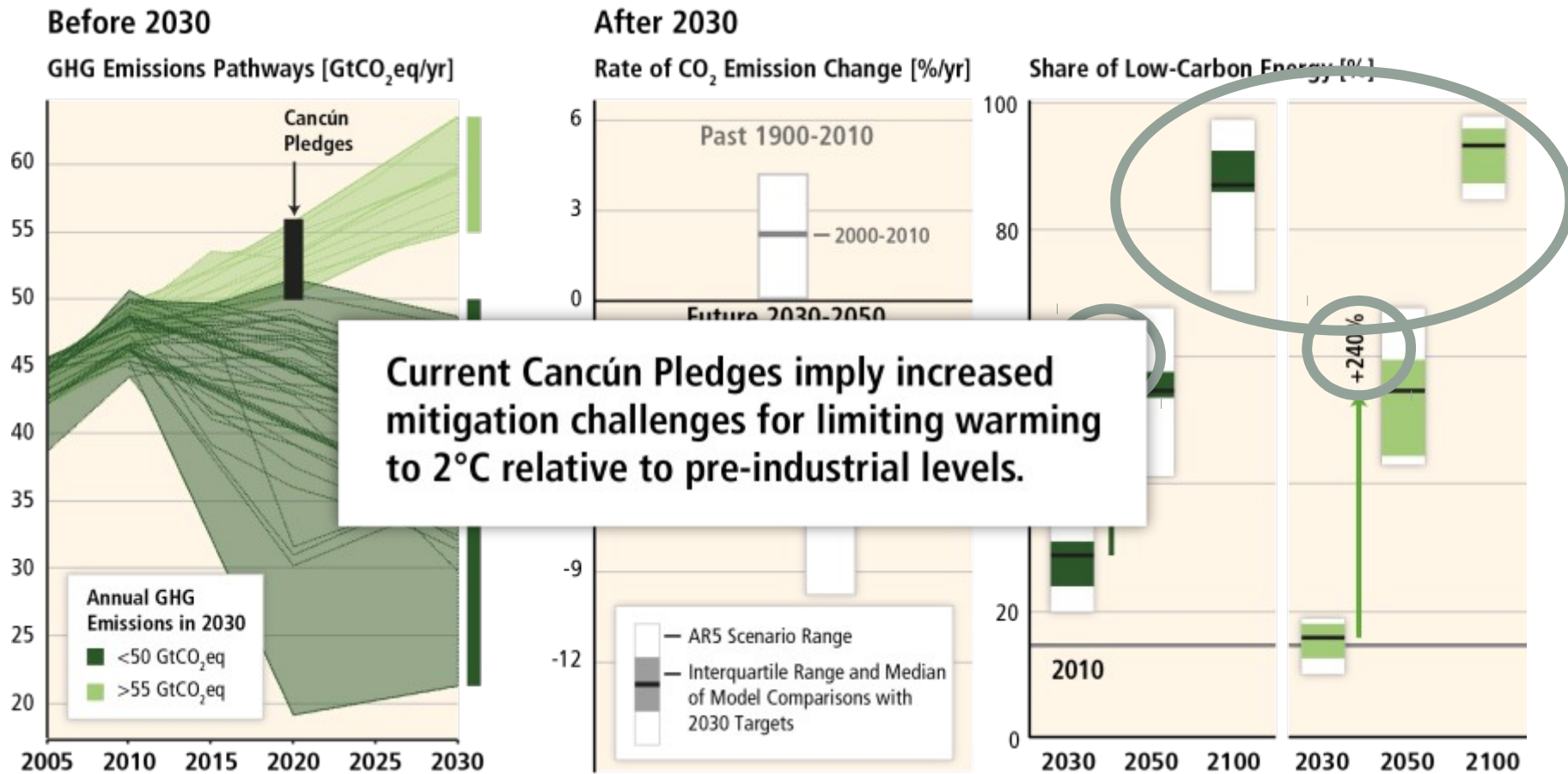
Rate of CO₂ Emission Change [%/yr]



Share of Low-Carbon Energy [%]



Example climate policy: requirements of alternative 2°C pathways



Based on Figure SPM.5

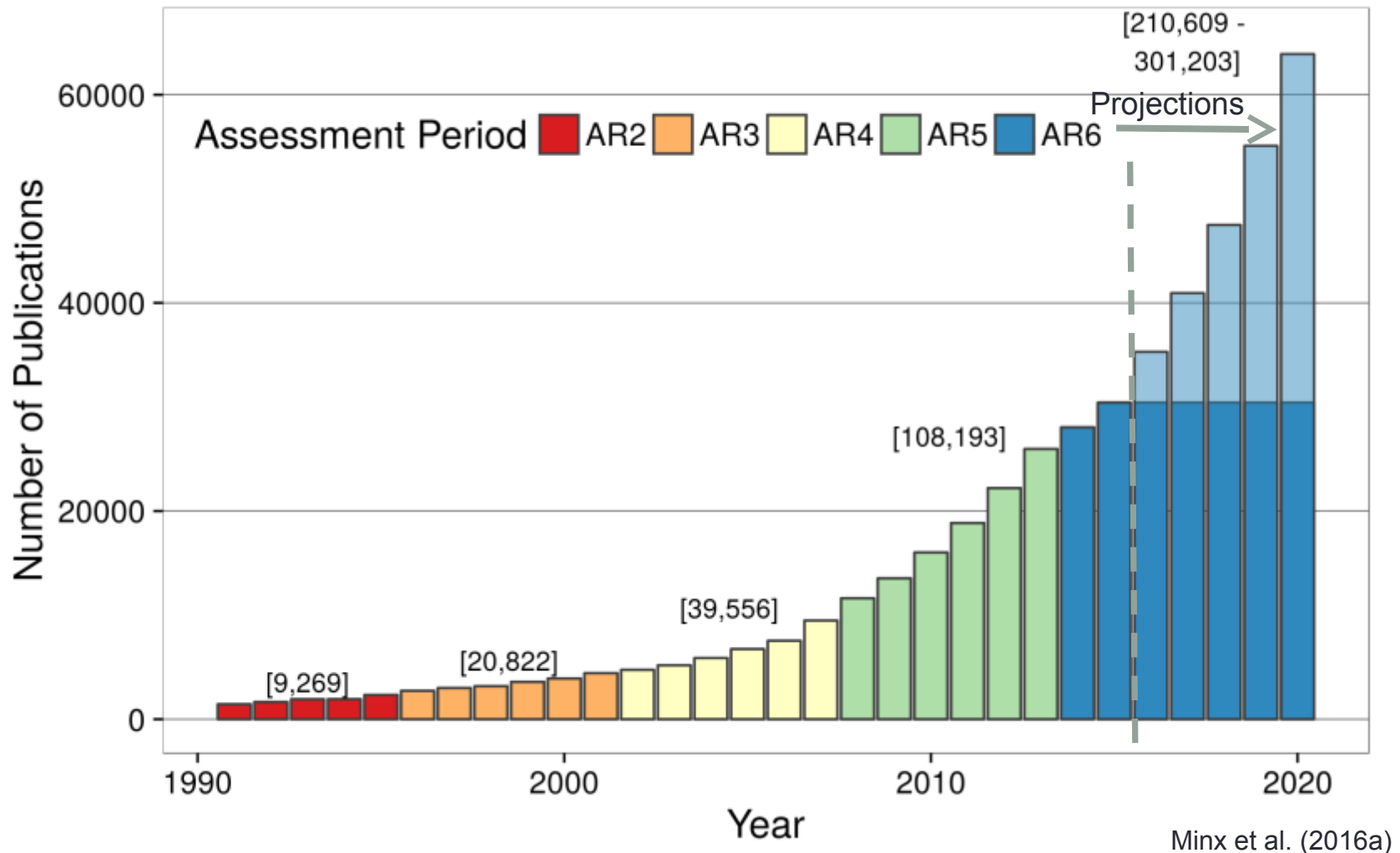
IPCC played an important role to allow progress in international climate policy



Scientific policy advice for global environmental assessments is in a crisis



Literature explosion threatens credibility of scientific policy advice




Growing demand for solution-oriented knowledge in global environmental assessments

High demand for more assessment of solutions

131 IPCC reform responses



But we are not delivering this  knowledge...

Governments
(20 of 32)

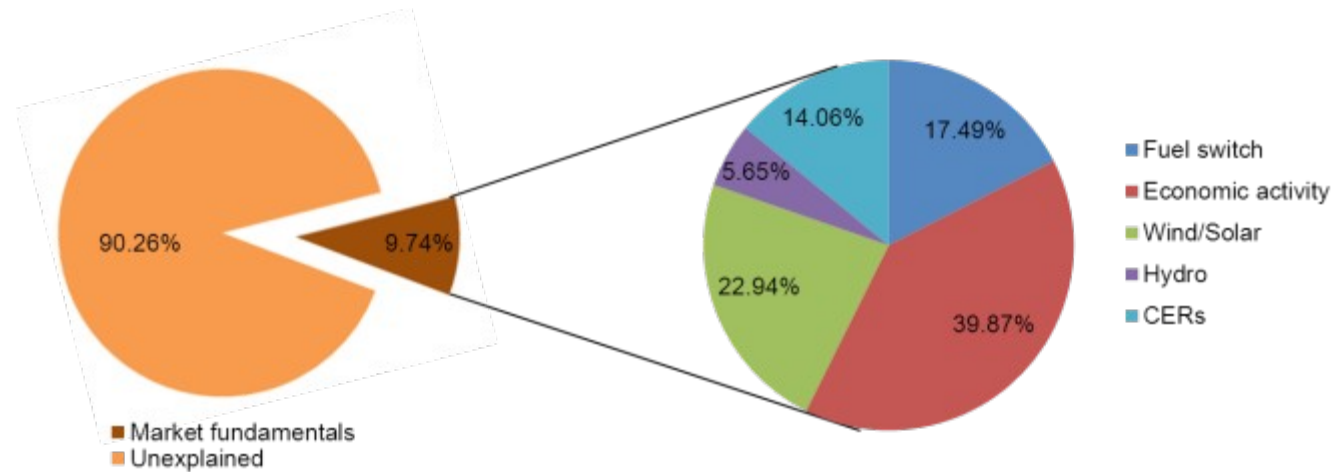
Kowarsch et al. (2016)



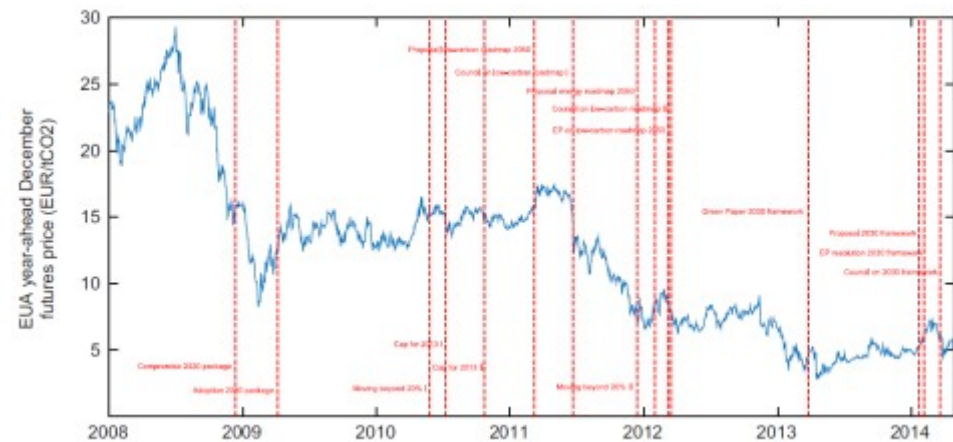
Kowarsch et al. (2016)

Limited empirical understanding of climate policy instruments: EU-ETS

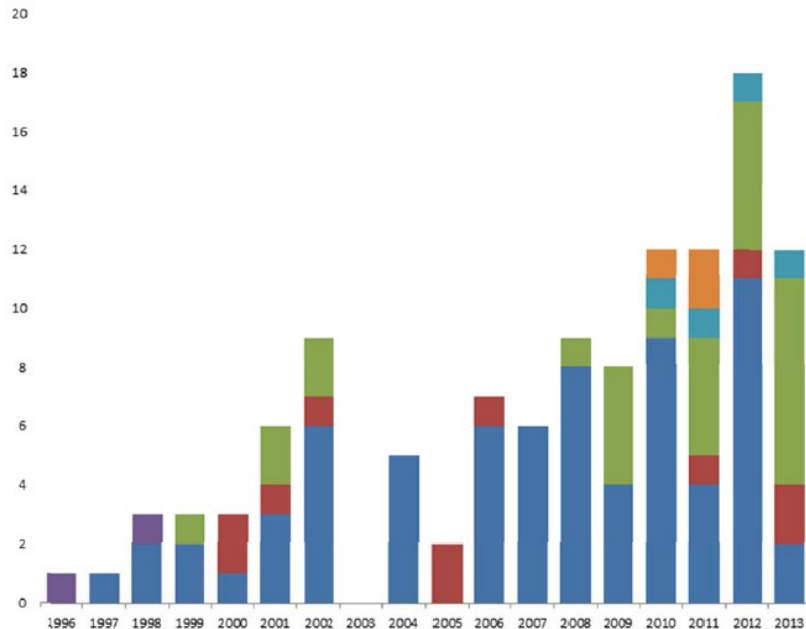
Market fundamentals cannot explain observed price fluctuations well



Expectations about the degree of commitment enshrined in the long-term policy program are a central force of allowance price formation



Scientific progress and policy advice require systematic application of tools for aggregating knowledge



Growing body of literature on deforestation (Ferretti-Gallon & Busch 2014):

- Robust findings on the role of governance across empirical studies?
- Which aspects matter most?

- Approach:
 - 32 empirical cross-country studies with 227 estimates of impact of governance measures on deforestation
 - Ordered probit model
- Main results:
 - Choice of governance variables as main source of variation across studies.
 - Environmental policy, ownership, NGOs and rule of law → negative impact on deforestation, i.e. supportive
 - Democracy and rights → non-supportive.

Conclusion

- The IPCC has played the key role in providing a robust scientific information basis for international climate policy
- To stay within the realm of science, it has been useful to conceive of scientists as cartographers that map out the climate policy space – but policymakers are the navigators!
- IPCC assessments should more formally adopt systematic review practices to deal with the publication explosion
- IPCC assessments suffer from a lack of progress in accumulating knowledge on solutions
 - Need more empirical research: what policies work well under what institutional arrangements
 - Systematic review and meta-analysis must become part of the scientific routine in the social science and humanities

Thanks!

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MCC was founded jointly by Stiftung Mercator and
the Potsdam Institute for Climate Impact Research

Review is essential part of IPCC process



How can we become better than this?

AR3	AR4	AR5
<p>“Market-based instruments—principally domestic taxes and domestic tradable permit systems—are attractive to governments because they... When implementing an emissions tax, governments must consider... point, the tax base... or uniformity... the association... employment, revenue, and the exact form of the mechanism. Each of these can influence the appropriate design of a domestic emissions tax, and political or other concerns are likely to play a role also.”</p>	<p>effectiveness depends on stringency (<i>high agreement, much evidence</i>).</p>	<p>“Carbon taxes have been... in some countries... technology and... ies—have... decoupling of... gross domestic... GDP) (<i>high</i>...)... In some... carbon and fuel... e been made... politically feasible by refunding revenues or by lowering other taxes in an environmental fiscal reform”.</p>

How can MCC help in this process effectively?