

Cartography of policy paths: A new role for science in policy

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in collaboration with Martin Kowarsch and Christian Flachsland

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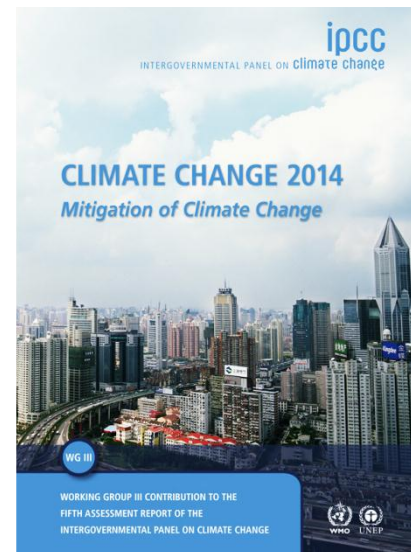
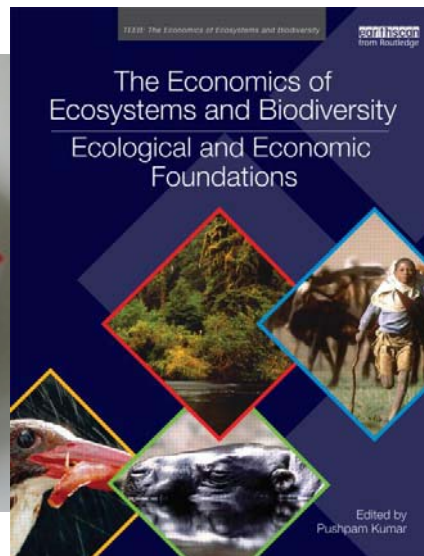
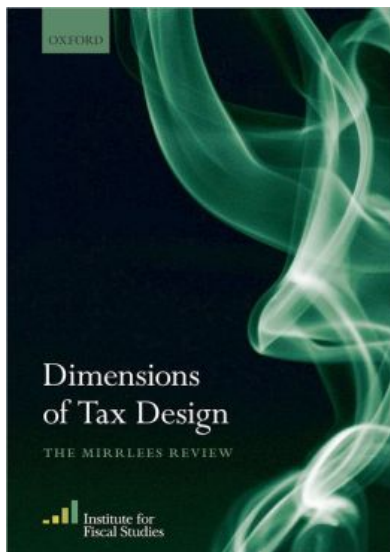


Structure

- 1) The value of scientific assessments**
- 2) But: How to be policy-relevant but not prescriptive? The cartography of policy pathways
- 3) Cartography in practice: Experiences with the IPCC WG III
- 4) Research gaps – and tasks for science foundations

Assessments at the science-policy interface

- **Scientific assessments as a special format of science in policy**
 - Formal, systematic and most comprehensive knowledge synthesis for public policy (typically with political mandate)
 - Addressing society's biggest challenges, if uncertain and disputed
 - Some “problem assessments” led to better problem awareness and understanding (ozone, technology, climate, water, health hazards, etc.)
- **Emerging solution-focused assessments (social sciences)**



Why is the climate policy problem particularly challenging?

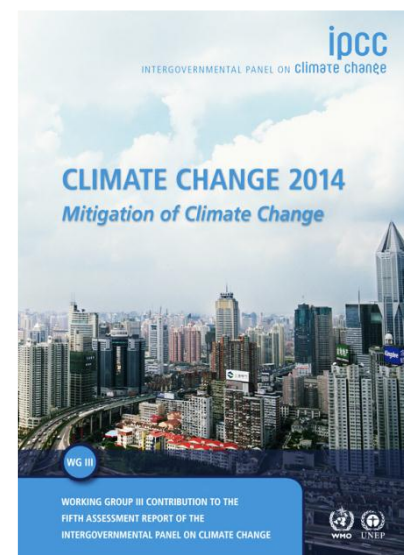


*“Climate change is the problem from hell”
(M. Weitzman)*

- Large-scale risks (non-linear) and irreversibilities
- Global and intergenerational dimensions (justice)
- A global common-pool resource problem

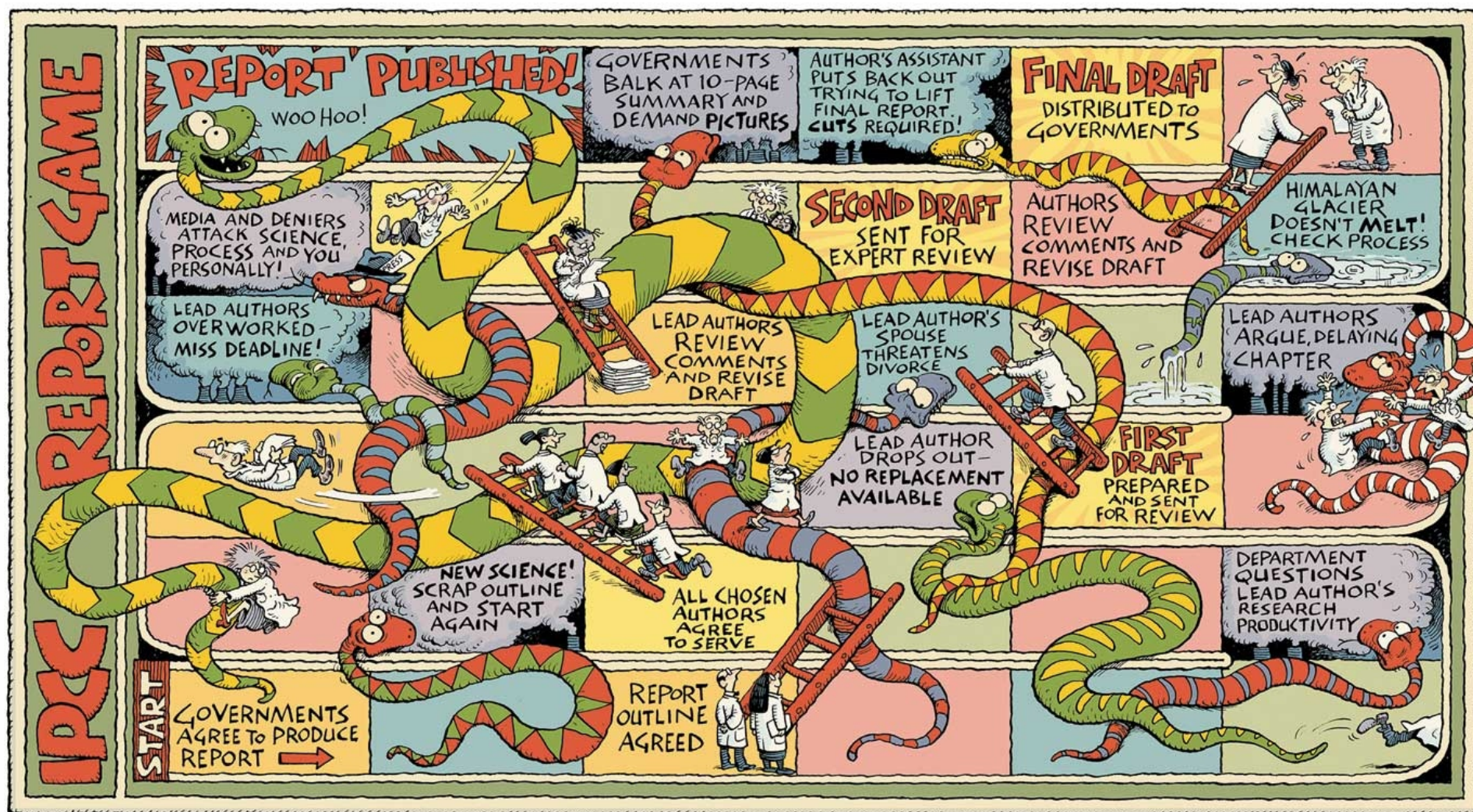
IPCC as unprecedented (sometimes painful) learning platform. WG III authors:

- *“the mission of the IPCC is important”*
- *“most scientifically rewarding and most intellectually stimulating time of my life”*
- *“most extraordinary experiences of my academic life...I would not have missed it for anything.”*



Considerable effort to enable this learning process...

Source: *Nature* 2014



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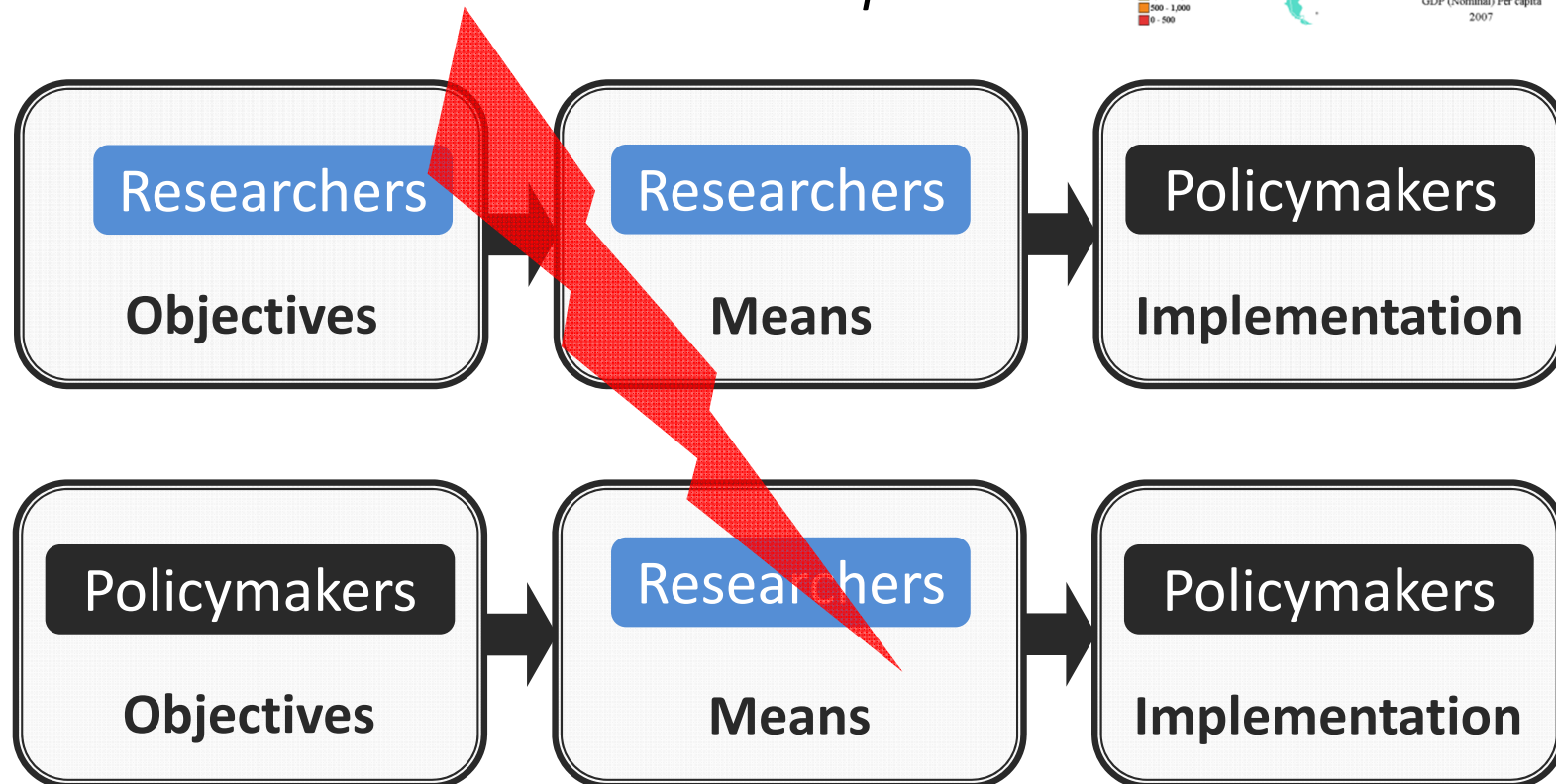
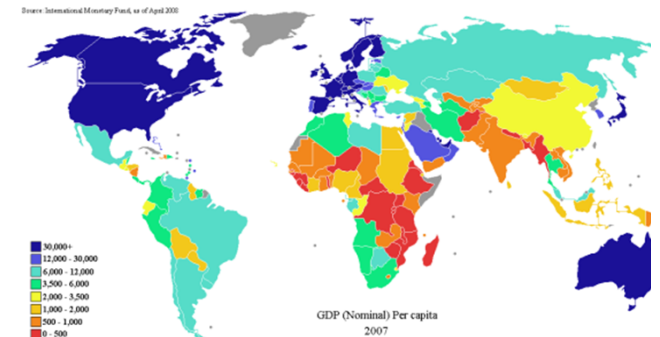
Solution-focused assessments face a fundamental challenge

*How to be policy-relevant (and credible!),
yet not policy-prescriptive ?*

*The **technocratic** and **decisionist** responses:*

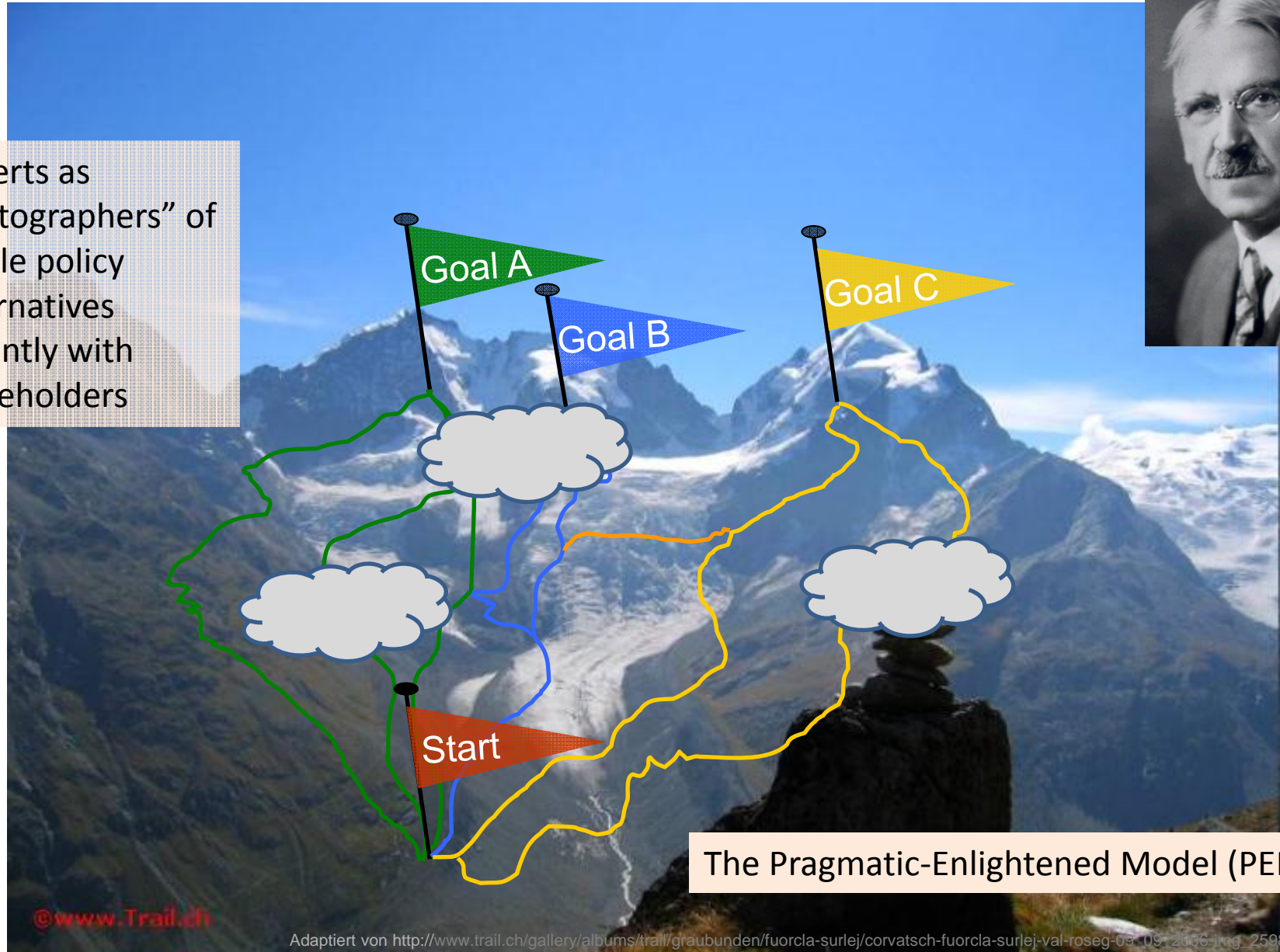
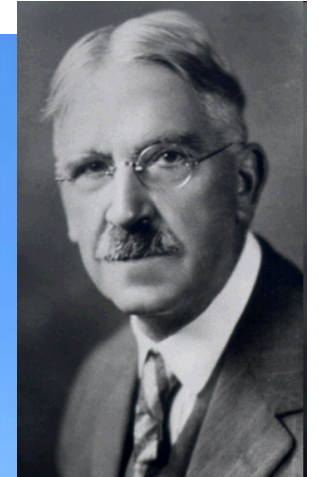
IPCC Official: "Climate Policy Is Redistributing The World's Wealth"

Posted on November 18, 2010 by Anthony Watts



Mapping policy paths to allow for iterative learning process

Experts as
“cartographers” of
viable policy
alternatives
– jointly with
stakeholders

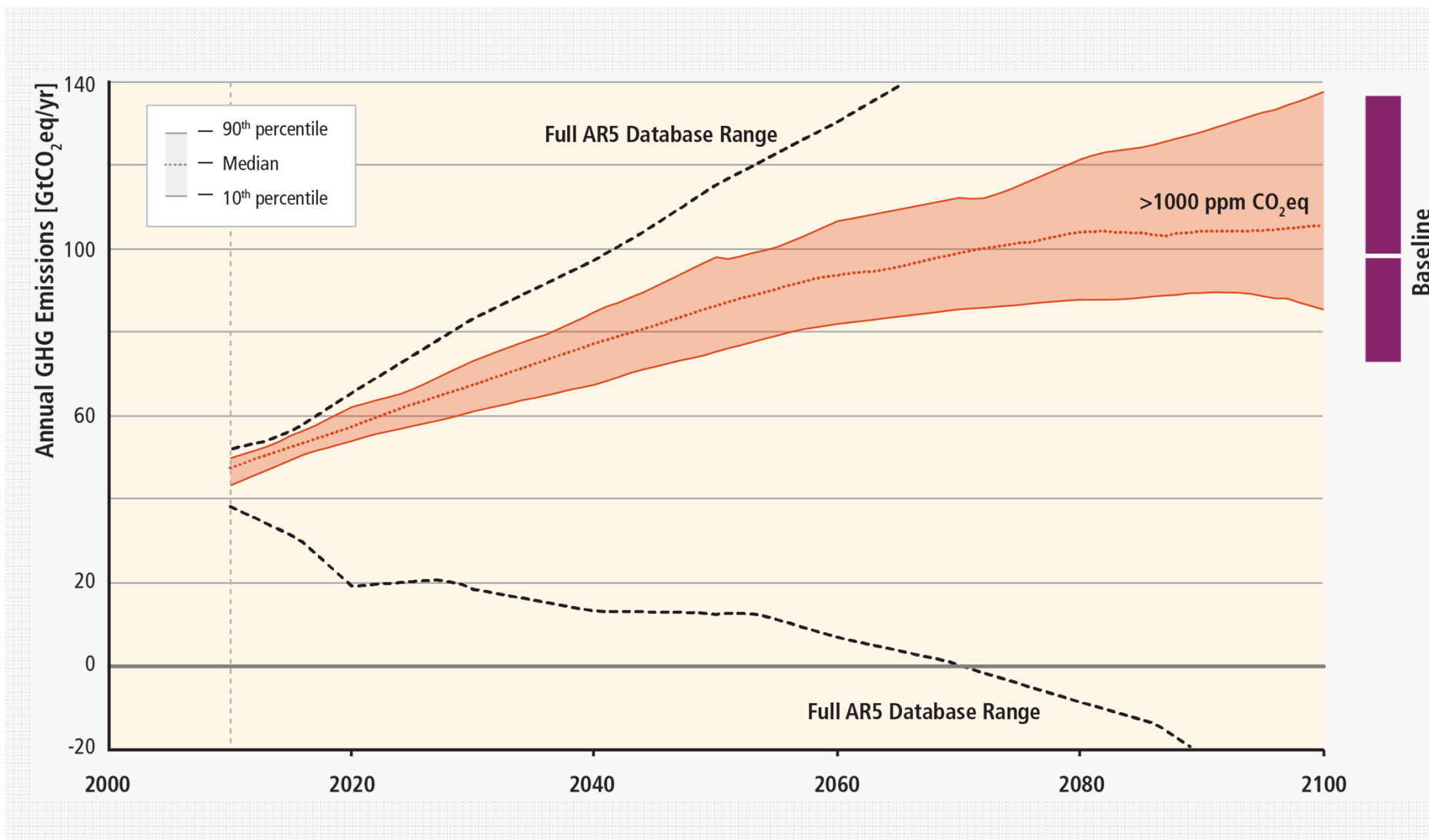


The Pragmatic-Enlightened Model (PEM)

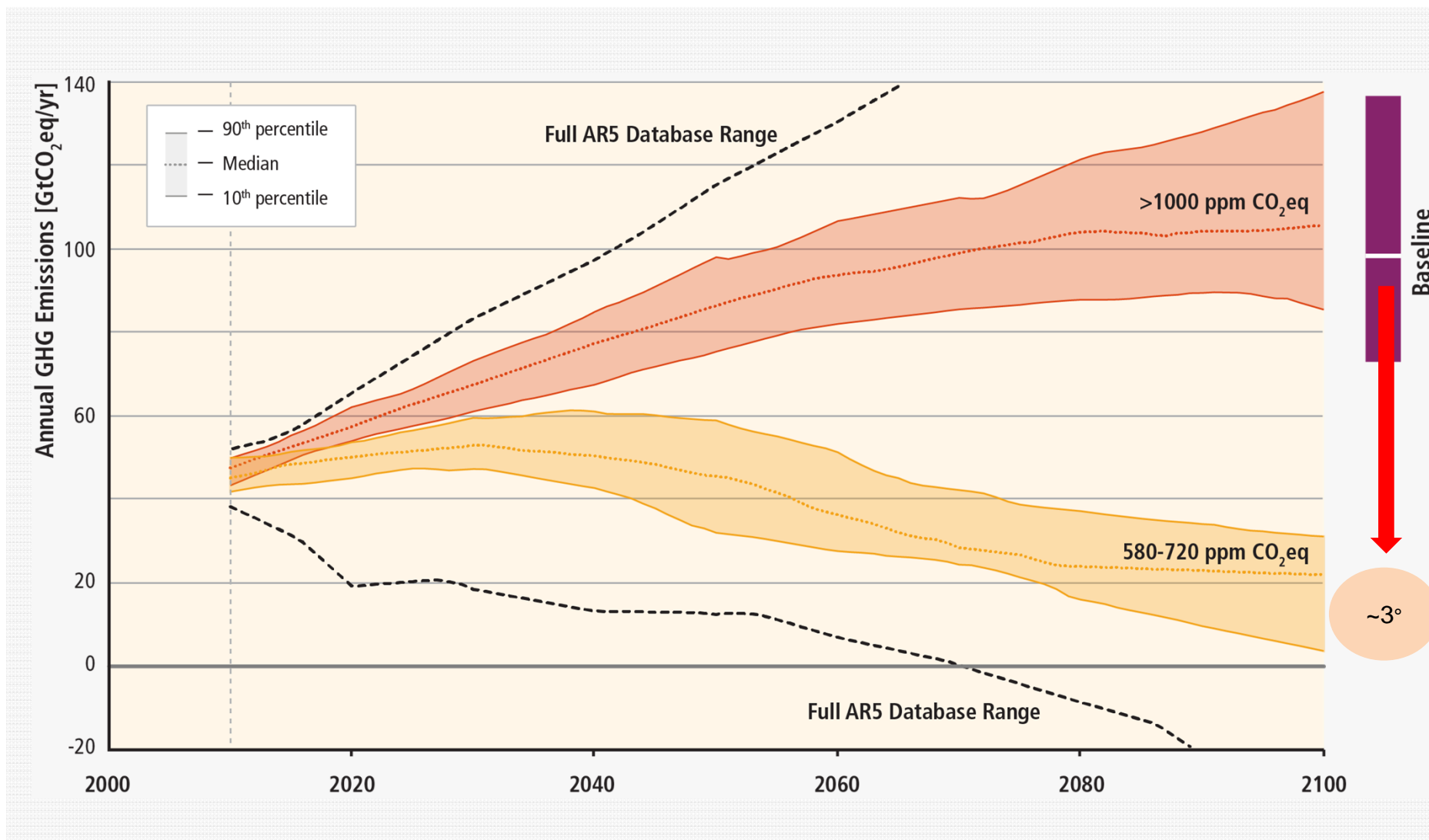
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- 3) Cartography in practice: Experiences with IPCC WG III (AR5)**
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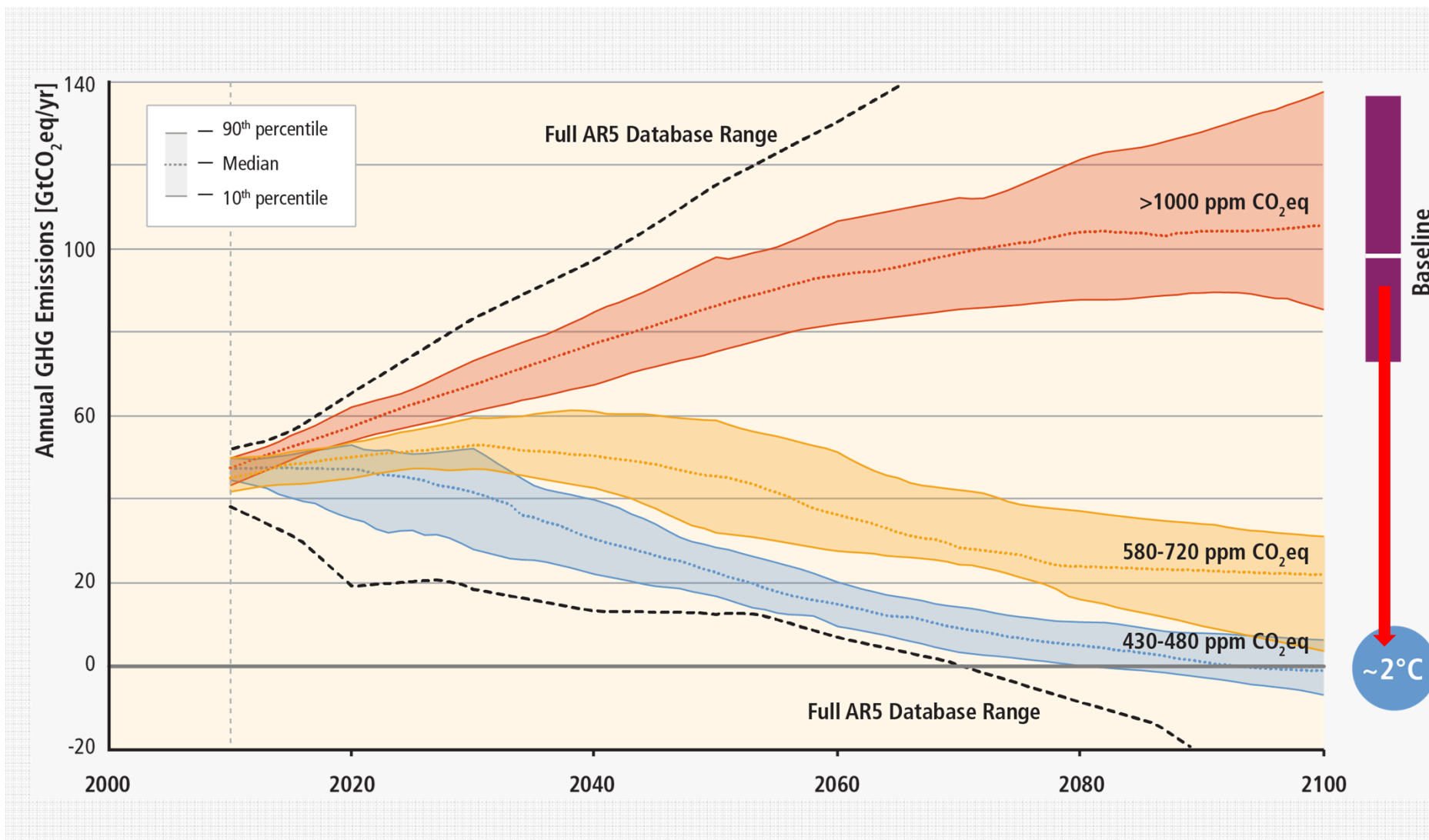
Mapping different policy goals



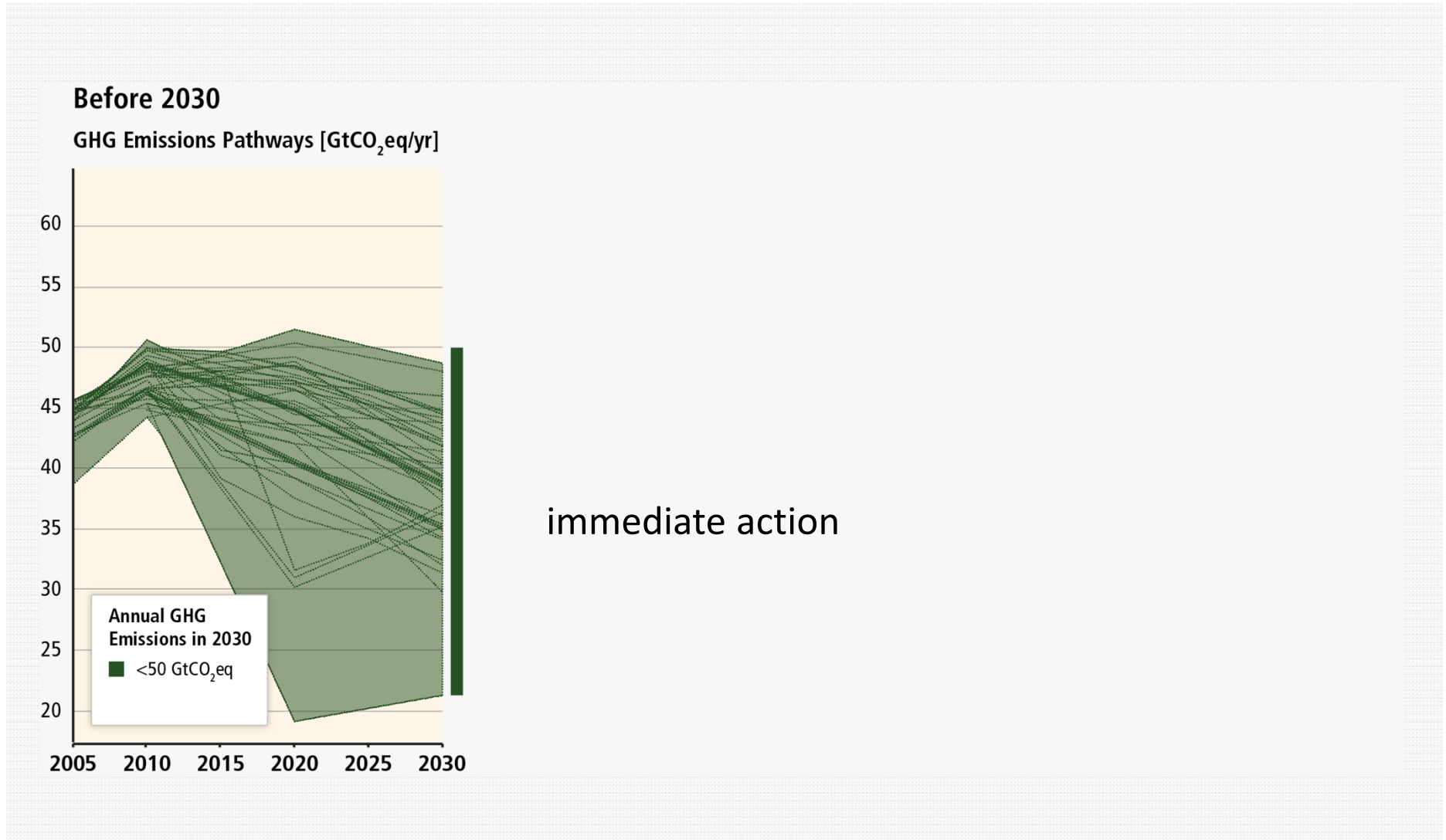
Mapping different policy goals



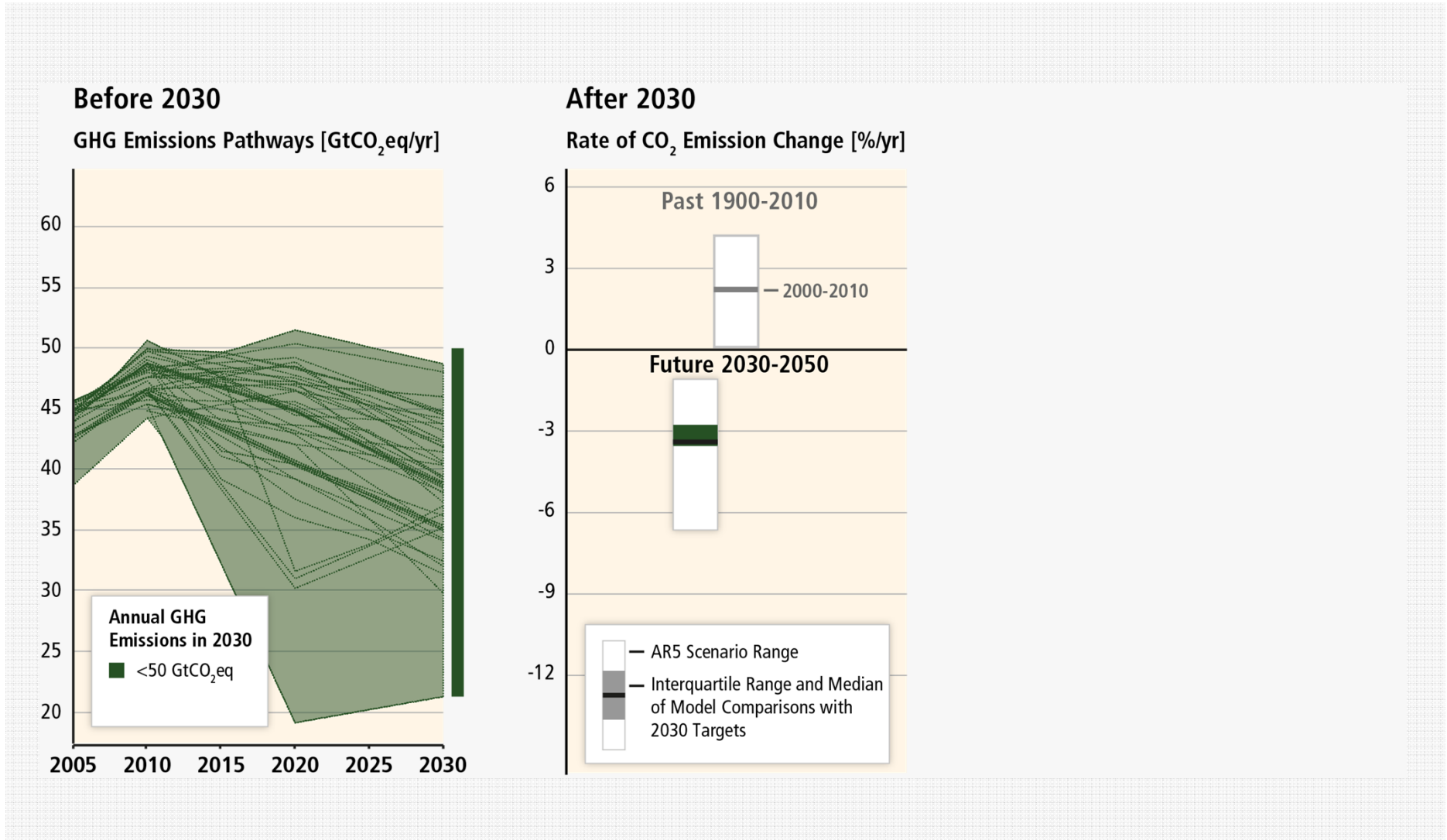
Mapping different policy goals



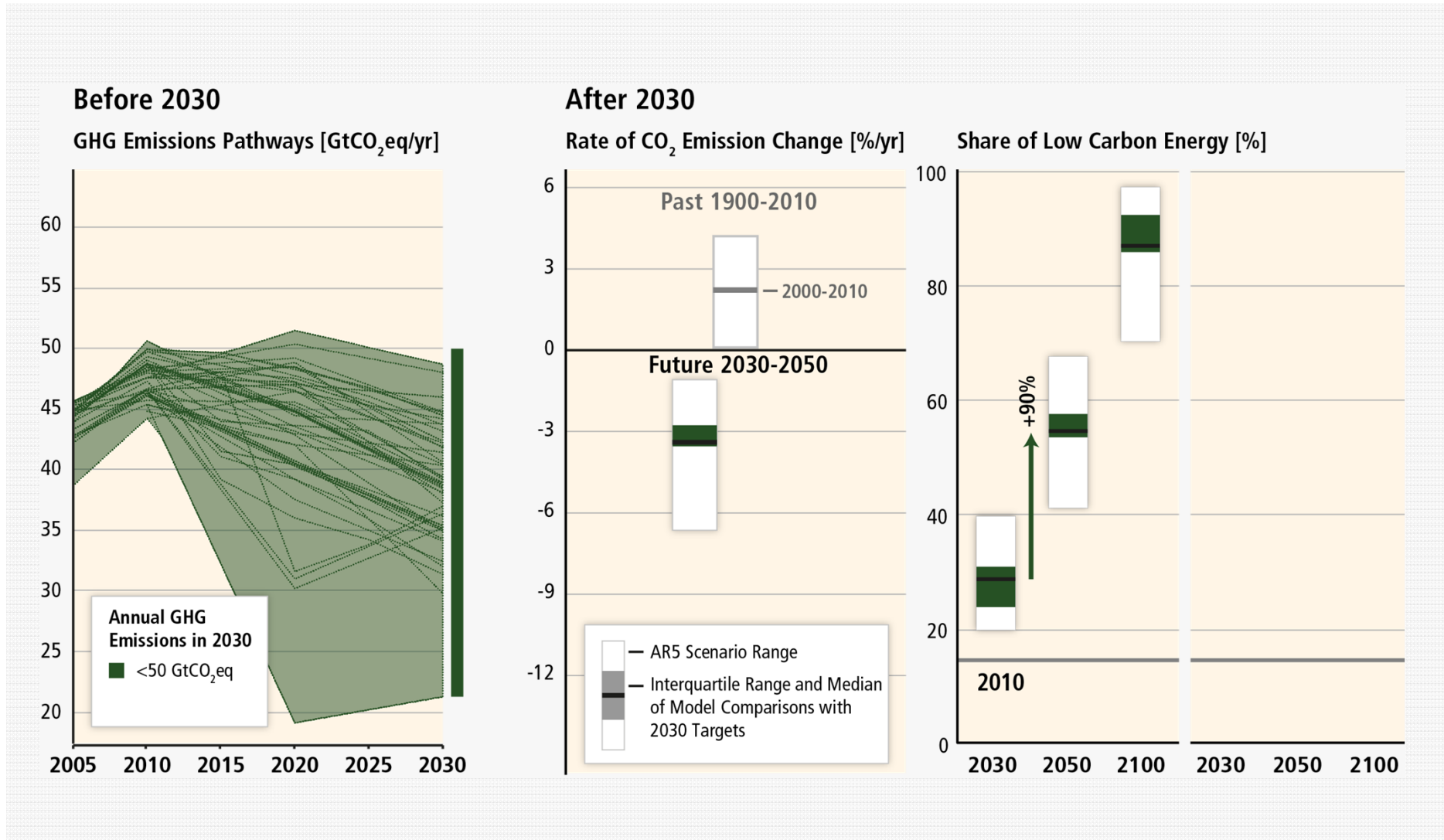
Mapping different pathways towards the same goal



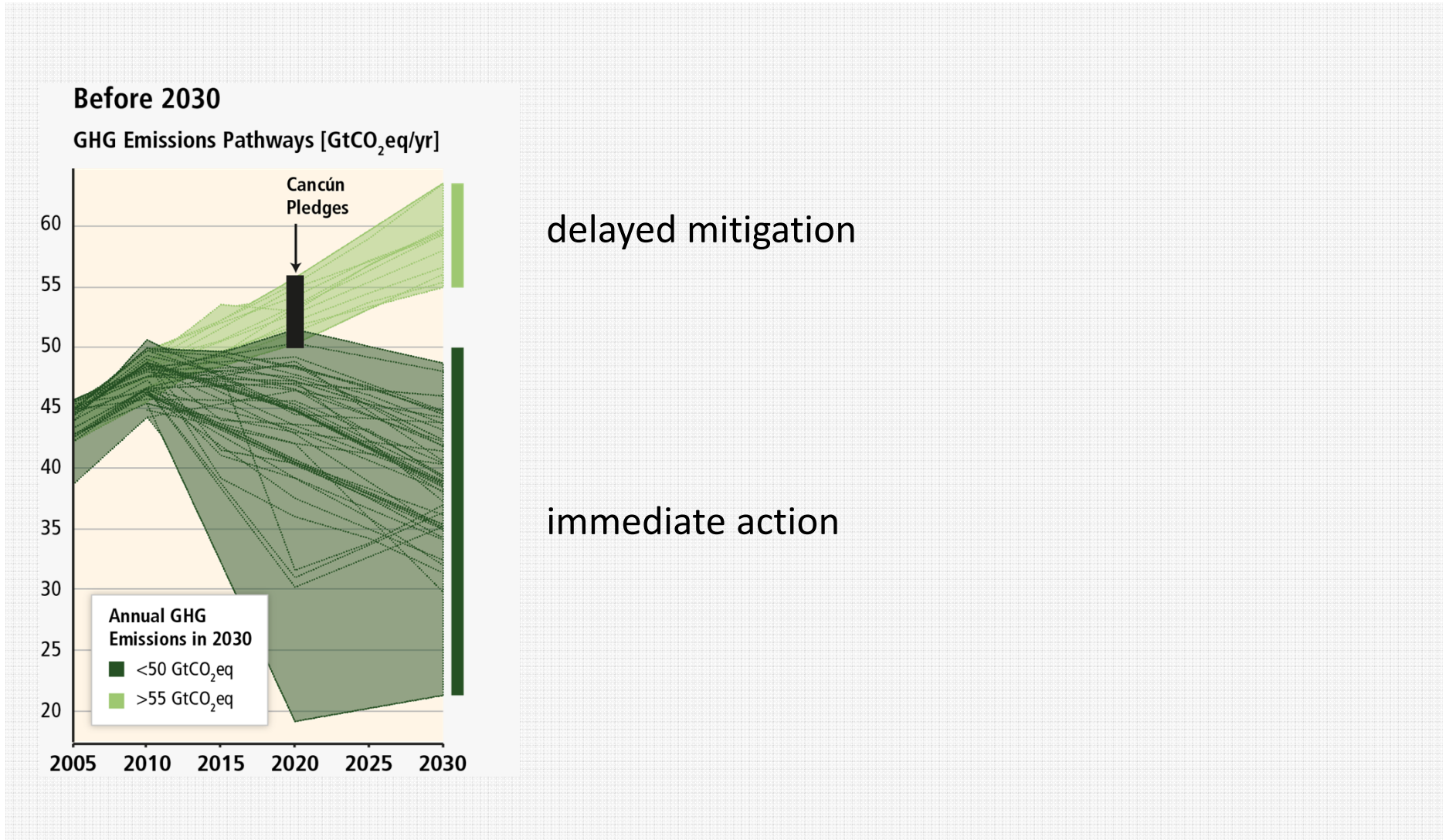
Mapping different pathways towards the same goal



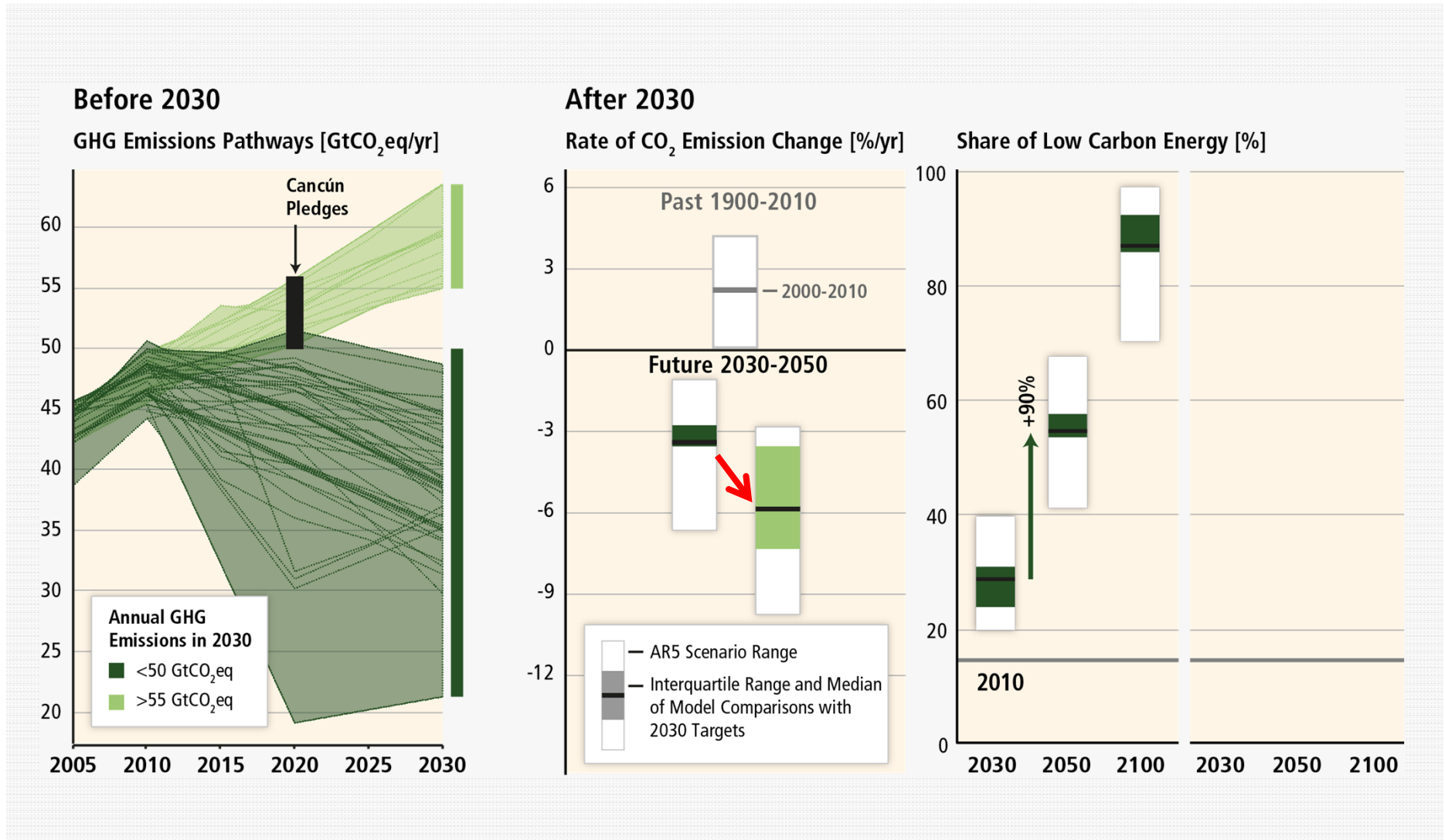
Mapping different pathways towards the same goal



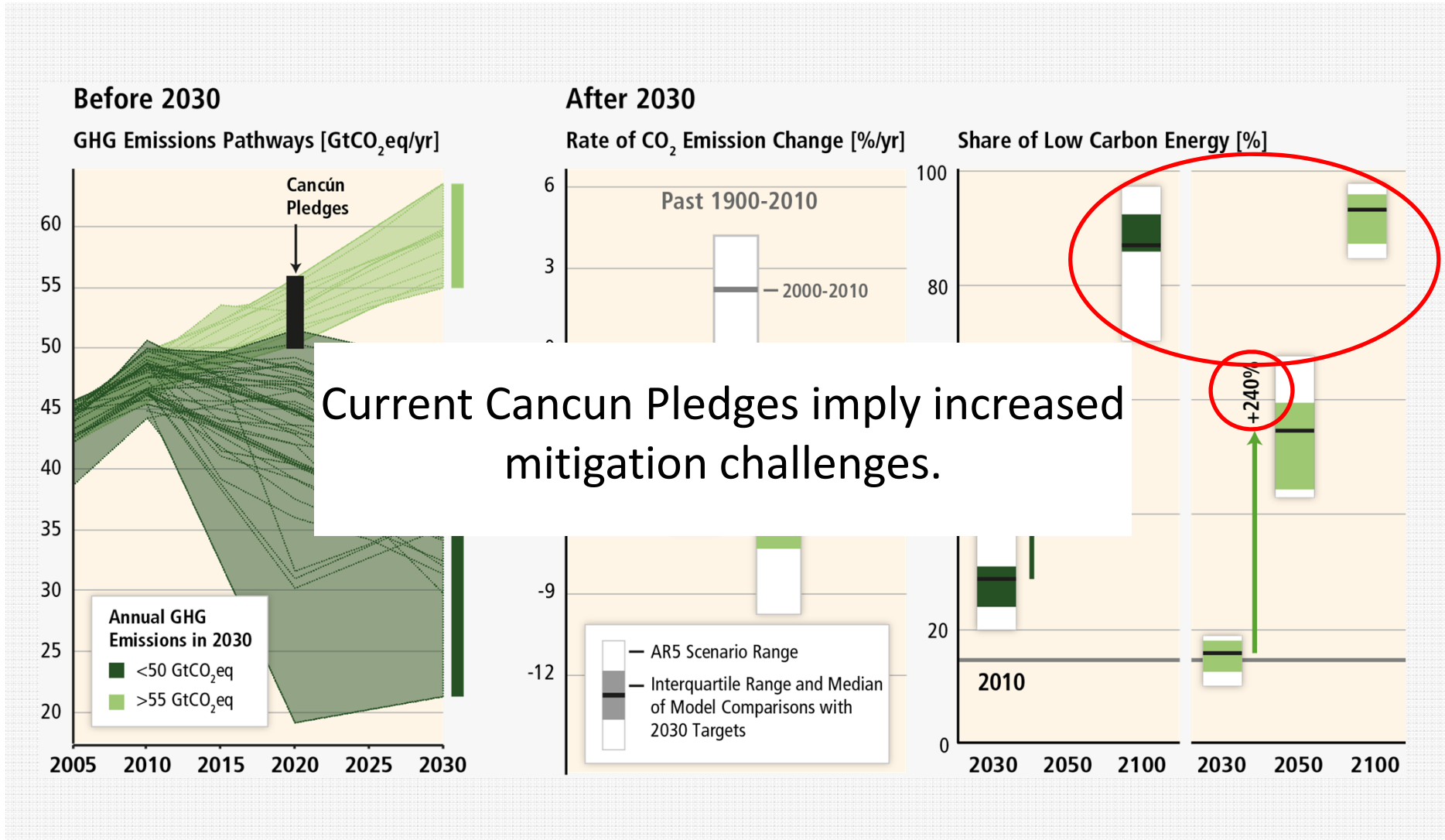
Mapping different pathways towards the same goal



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Mapping different pathways towards the same goal



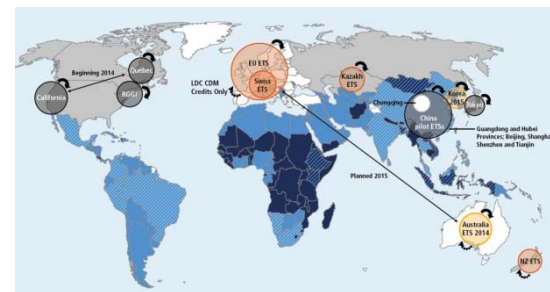
IPCC succeeded regarding future scenarios

- IPCC analyzed costs, risks and (co-)benefits of alternative policy pathways
 - Governments accepted and appreciated that
- High media coverage of IPCC WG III results

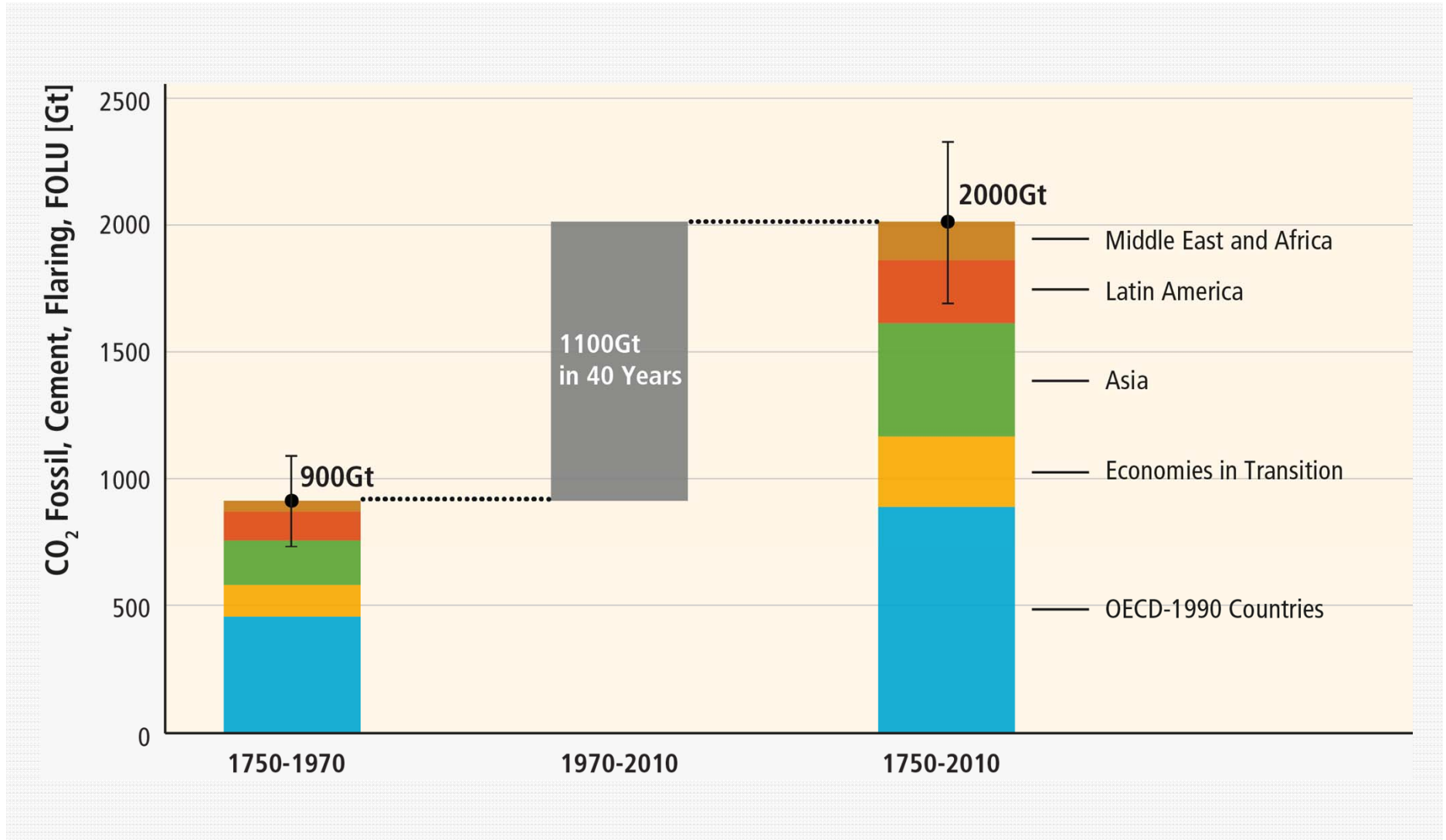
However, there were also big challenges of the “cartography”:

Ex-post analyses come with undesirable political implications (for diverse countries)

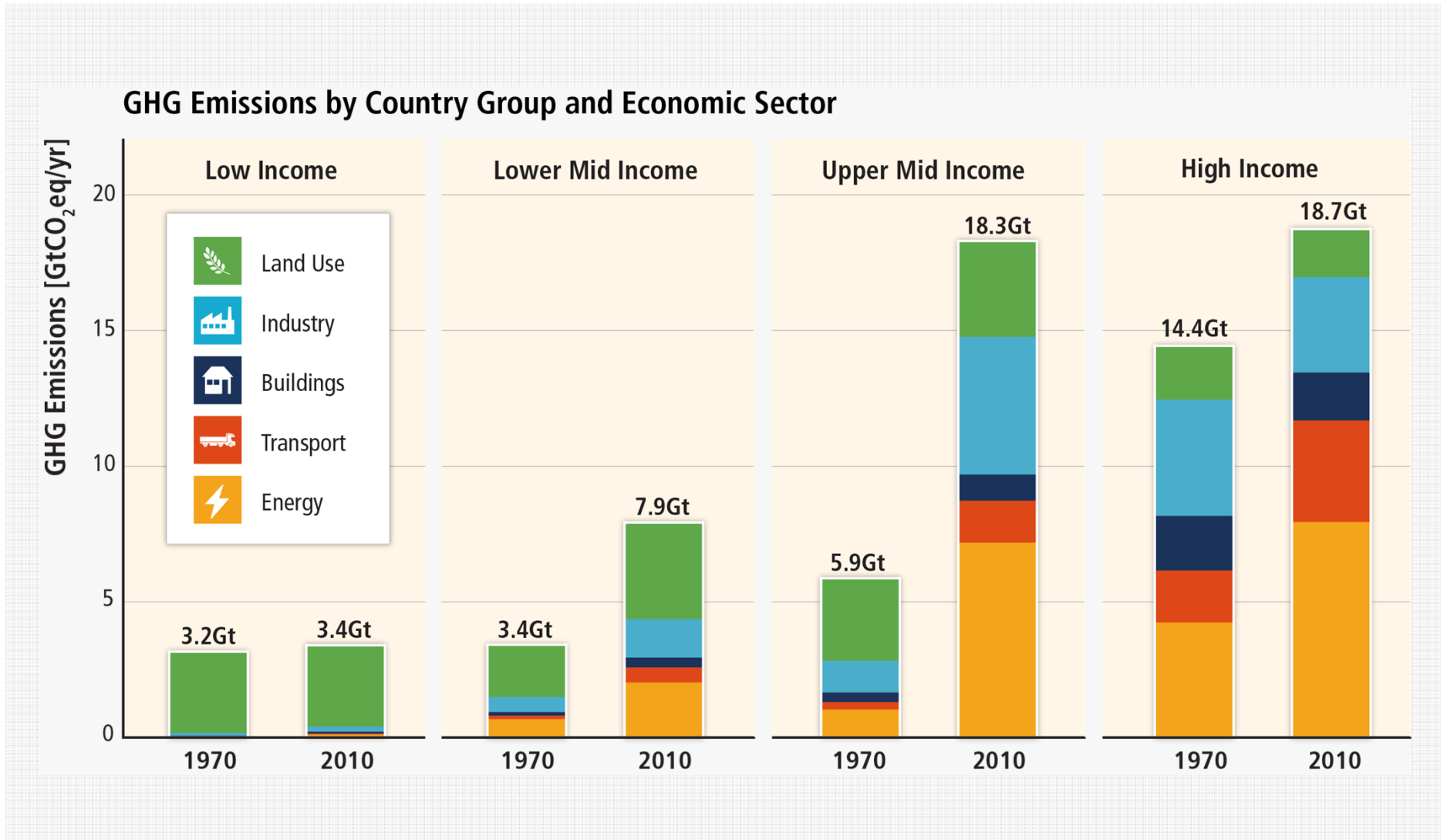
- (1) international cooperation, (2) countries' emission patterns
- However, this should be in the best self-interest of governments



Whose “historical responsibility”?



Are high-income countries “guilty”?



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Lessons learned from the IPCC WG III experience

- **Many attempts to replicate the successful IPCC model**

- On food and agriculture
- “National IPCCs” (AT, CN, EU)
- IPBES (on biodiversity)



- **But: Enhanced guidance for solution-oriented assessments needed**

- Policy-makers have to learn how to use and appreciate maps of knowledge
 - including the acceptance of painful ex-post policy evaluation; iterative learning
- Scientists must learn about political implications of their research
- Better methodology for policy assessment (ex-post and ex-ante)
- The rejection of an entire assessment chapter should be possible
- Reduce the complexity of policy analysis: do pre-assessments
 - multi-level governance, multiple objectives, multi-functional policy instruments

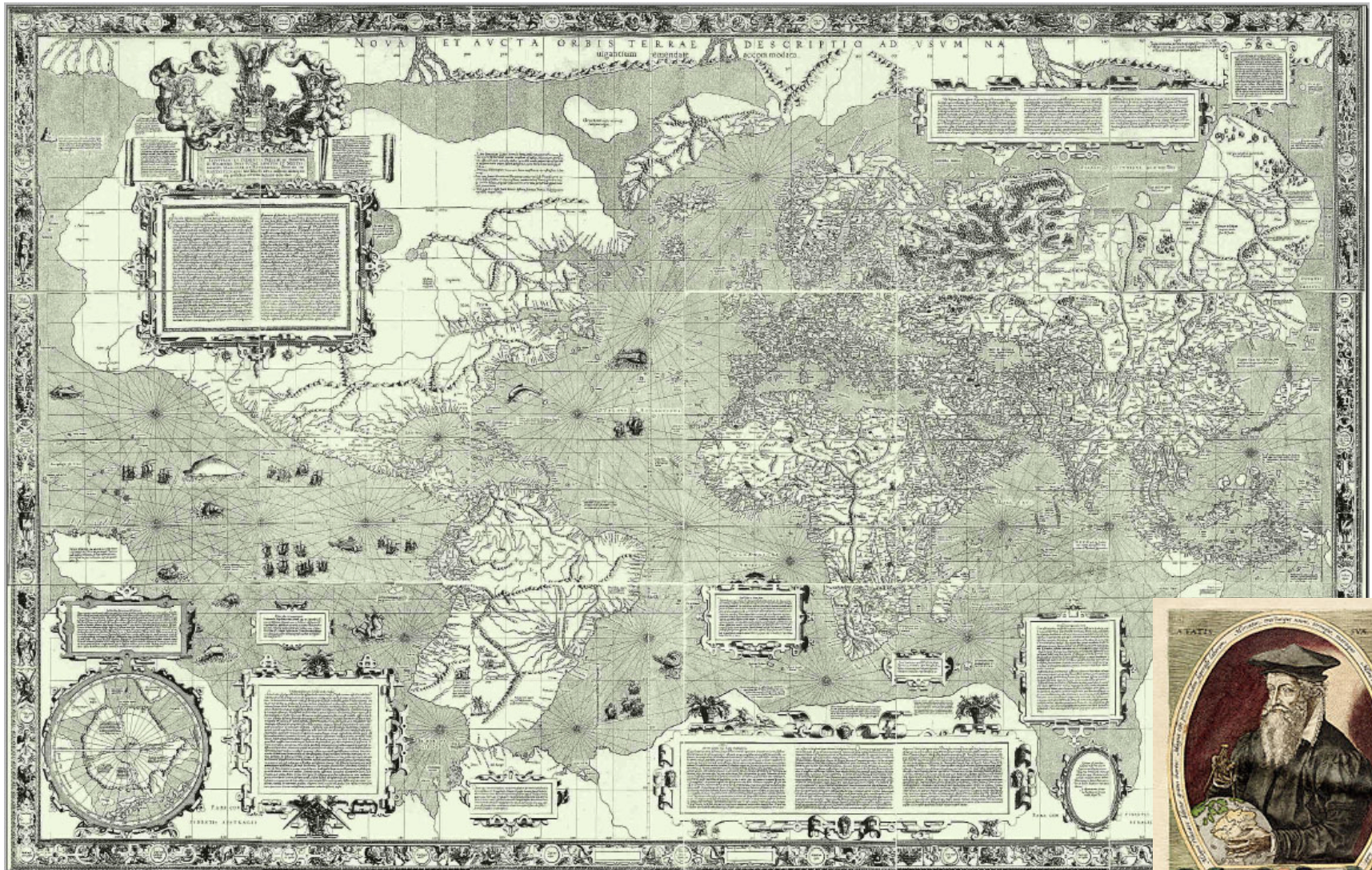
- **And, though much knowledge is already available in IPCC AR5:
Still significant research gaps concerning climate policy analysis!**

State of knowledge: Claudius Ptolemy World Map (1482)



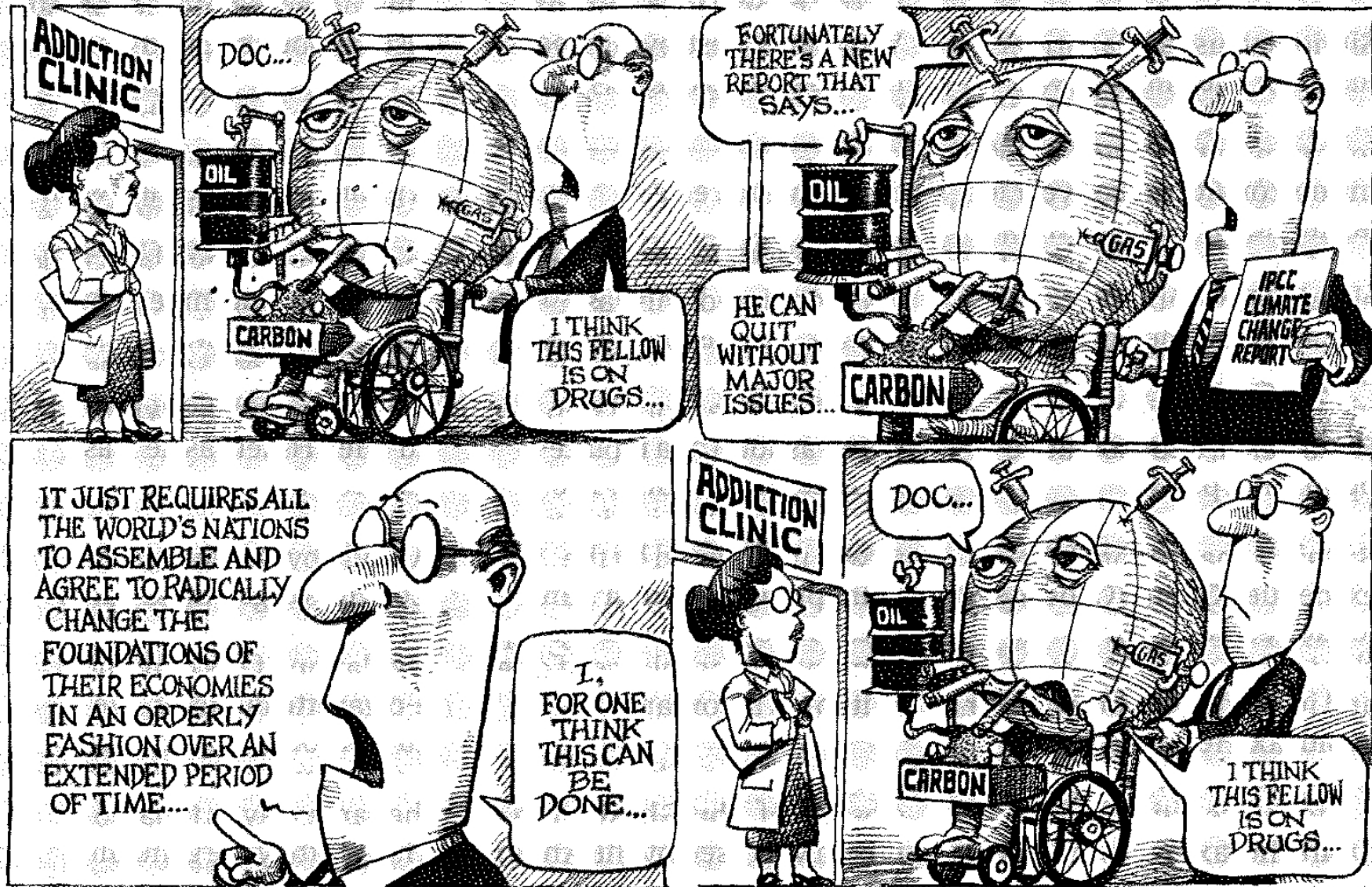
Next level for policy analysis: Gerhard Mercator Map (1569)

“Nova et aucta orbis terrae descriptio ad usum navigantium emendate accommodata”



Even better knowledge about policy paths required...

Source: *The Economist* 2014



What science foundations could do...



Stiftung
Mercator, etc.

- **Provide incentives for systematic, applied transdisciplinary research and pre-assessments on policy paths**
 - ex-post and ex-ante; cf. OECD
 - also needed for EU and German energy policy
- **Promote acceptance of assessment-making as respected scientific work**
 - Assessments are not for old boys, but for bright young women (IPCC as ISI)
- **Funding of research on how to improve assessment**
 - E.g., MCC-UNEP research project on Global Environmental Assessments: How can they successfully assess policy solutions?

Edenhofer/Kowarsch: Cartography of policy paths. MCC working paper.
Available at www.mcc-berlin.net