



Mercator Research Institute on
Global Commons and Climate Change gGmbH



Public Policy Assessments: Being Policy-Relevant without being Policy-Prescriptive?

Experiences With The IPCC

Ottmar Edenhofer and Martin Kowarsch

Inaugural Lecture

Jan Minx, Professor for Science Policy and Sustainable Development,
Hertie School, Berlin, 6 May 2015

Structure

- 1) The need for scientific assessments
- 2) Models for the Science-Policy Interface
- 3) New model: The cartography of policy pathways
- 4) Conclusion



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Why we need scientific assessments

- Large-scale and complex collective decision-making requires decision-makers to **understand the available policy options**
- Requires scientific knowledge from different disciplines
- Example: *“Climate change is the problem from hell” (M. Weitzman)*
 - ❖ Large-scale risks (non-linear), uncertainty
 - ❖ Global and intergenerational dimensions (justice!)
 - ❖ Complex “global commons” issue
 - ❖ Multiple policy fields affected
- Yet, standard disciplinary research does not deliver the knowledge needed to assess policy options
- Legitimate synthesis due to existing policy disputes required

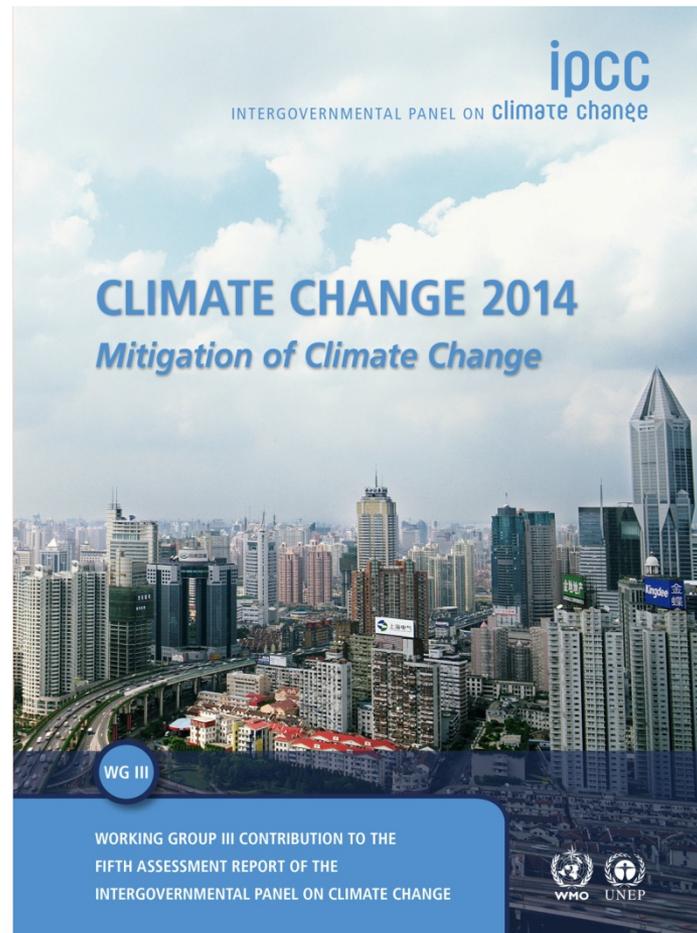


→ **Large-scale scientific assessments required!**

Beyond: (review,...) papers; policy briefs; advice by individuals

Example: The IPCC's scientific assessments for climate policy

**IPCC (*1988) as an unprecedented learning platform,
for sometimes painful lessons...**



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Technocratic model: Why it doesn't work

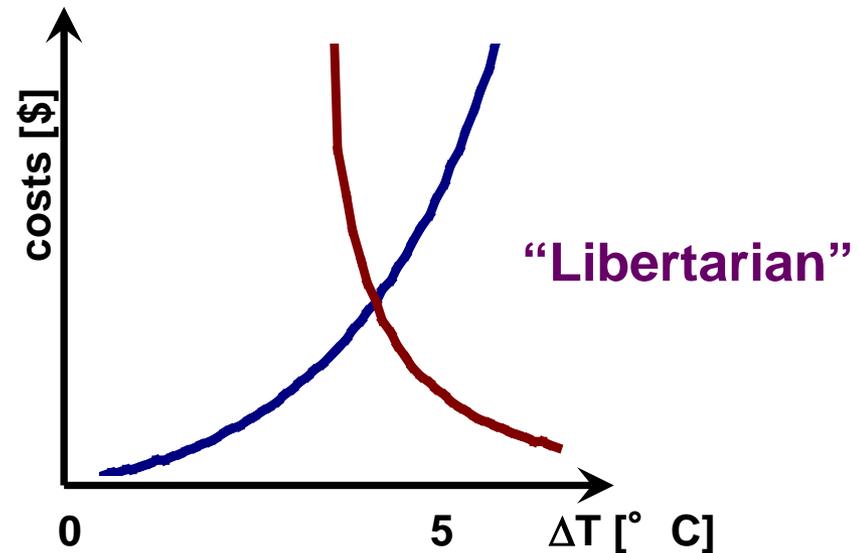
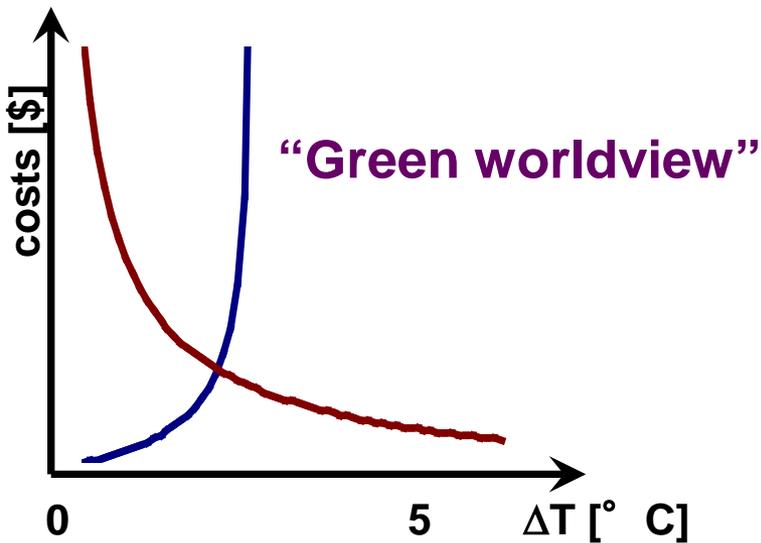
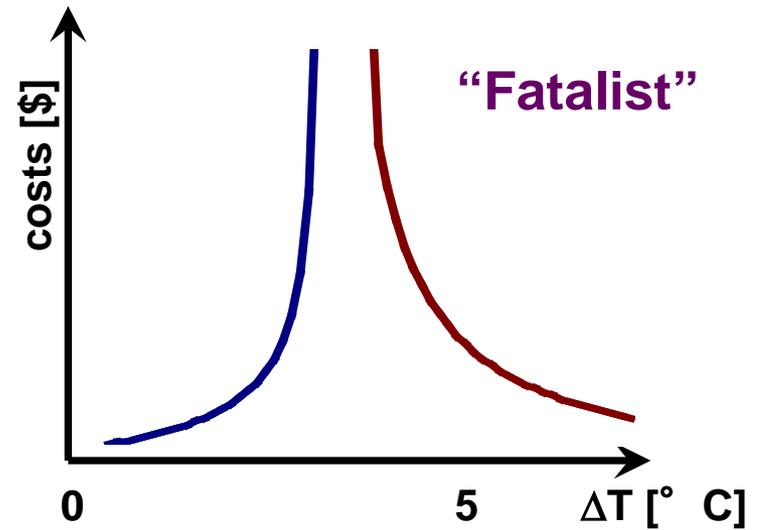
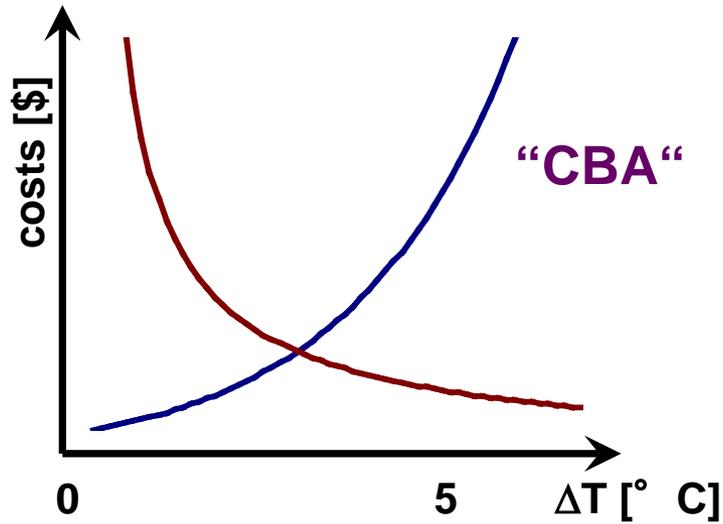


DOWNSIDE:

- Misguided model of “speaking truth to power” – linear knowledge transfer not possible (e .g. Sarewitz 2004)
- According to this model, means-consequences after implementation are irrelevant; unclear, whether researchers or policymakers are responsible
- Mistakenly presupposes that scientific determination of policy objectives can be value-free or that there is value consensus. Because: there *is* (justified) disagreement and there are different policy narratives
 - Peril of “**iron cage of bondage**” for society through rule of experts: opaque advocacy of specific policy options

Value judgements: Competing narratives in climate policy

— Marginal Damages
— Marginal Abatement Costs



Decisionist model



DOWNSIDE:

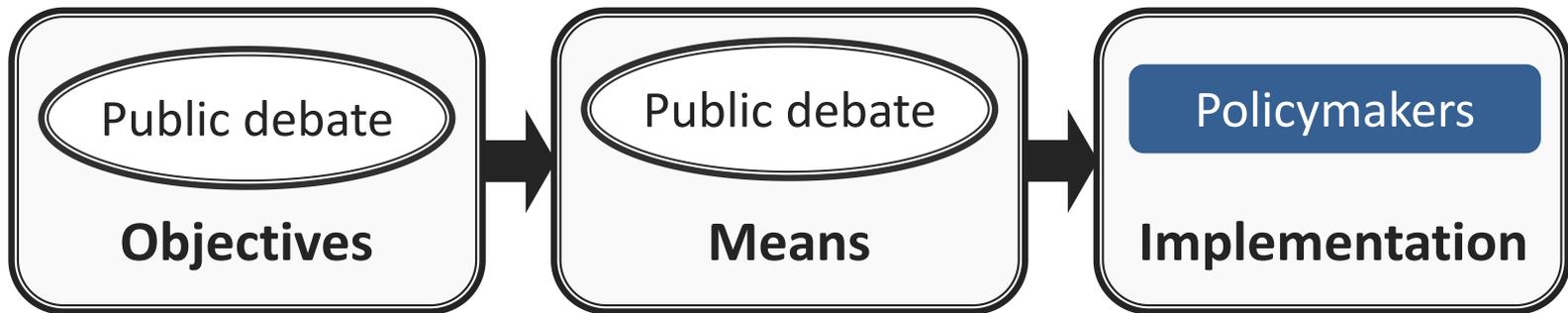
- No possibility of *rationally* discussing policy objectives
- In contrast to lip service, many scientists follow the technocratic model
- Unclear how science can appropriately judge policy means and who is responsible for unwanted side-effects.
- Even studies on the rational implementation of *means* build on disputed value judgements

Value judgements in science

- ✓ Value judgements when recommending policy objectives
- Value judgements are common practice: **no facts without values!**
 - Research builds on epistemic (cognitive) value judgements:
 - Coherence, consistency, simplicity, objectivity, etc.: To evaluate competing scientific theories
 - Additionally, assessments often use ‘thick ethical concepts’
 - E. g. development, growth, efficiency, sustainability
 - Moreover: risk assessment of and evaluation criteria for policy means
 - Putnam et al: No fundamental ontological or epistemological separation of *epistemic* and *ethical* value judgements
 - “Normative judgements are essential to the practice of science itself” (Putnam)
 - Widely accepted in philosophy of science: facts and values cannot be neatly separated

Democratic model(s): rarely implemented

Scientists, policymakers and the public discuss policy objectives and means in an open, non-linear dialogue to ensure legitimacy (and salience) of value-laden science.



DOWNSIDE:

- Many aspects remain unclear: How can policy objectives and means be legitimized in a precise, democratic *and* rational (reliable) manner?
- Again: who is responsible for practical consequences of policy means?
- A *radical* variant assumes radical constructivism: science is always value-laden and, consequently, subjective → post-modern epistemological pessimism

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Dewey's pragmatist philosophy in a nutshell

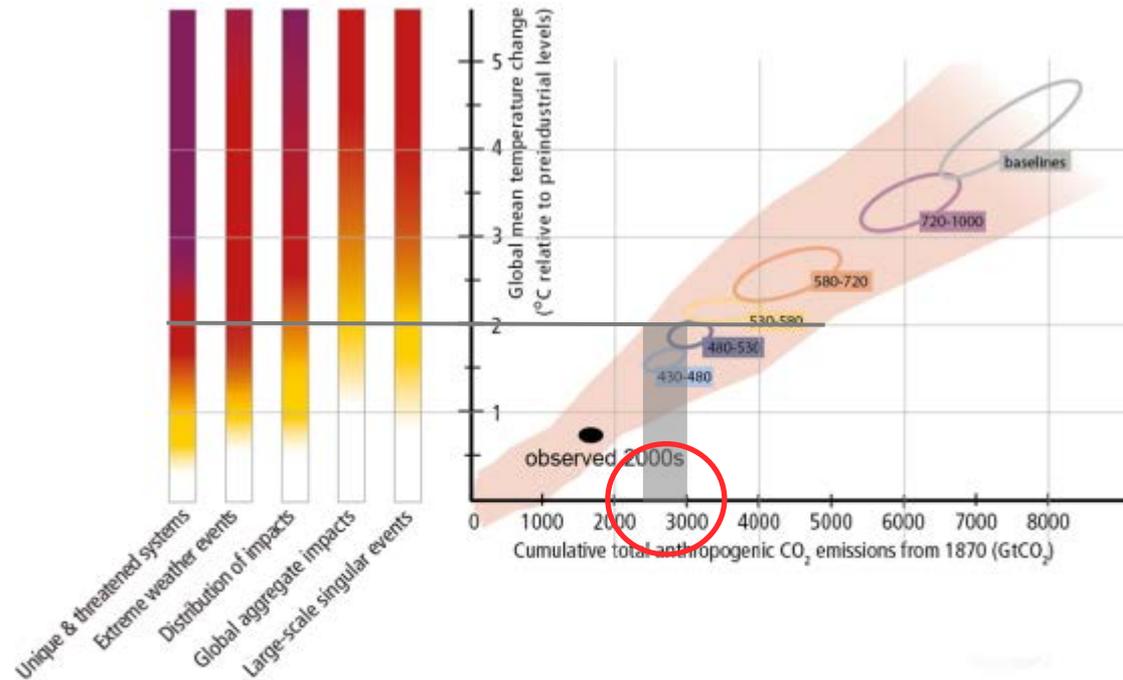
- **Core idea: There is no fundamental difference between policy decisions and answering research questions**
 - Science is inherently 'applied' and value-laden, facts and values cannot be neatly separated, hypotheses are tools to overcome a practical problem
- **Policy means and objectives can be evaluated through their implications**
 - Ends and means are related through their consequences
 - Critical comparison with other possible policy means and objectives
- **Objectivity is possible (despite value judgements)**
 - One *can* rationally discuss values – through a critical analysis and comparison of the implications of the means
 - Yet, knowledge is always *fallible*, learning is required



John Dewey
(1859–1952)

Objectives, means, and implications in climate policy

Risks from climate change



Cumulative CO₂ emissions

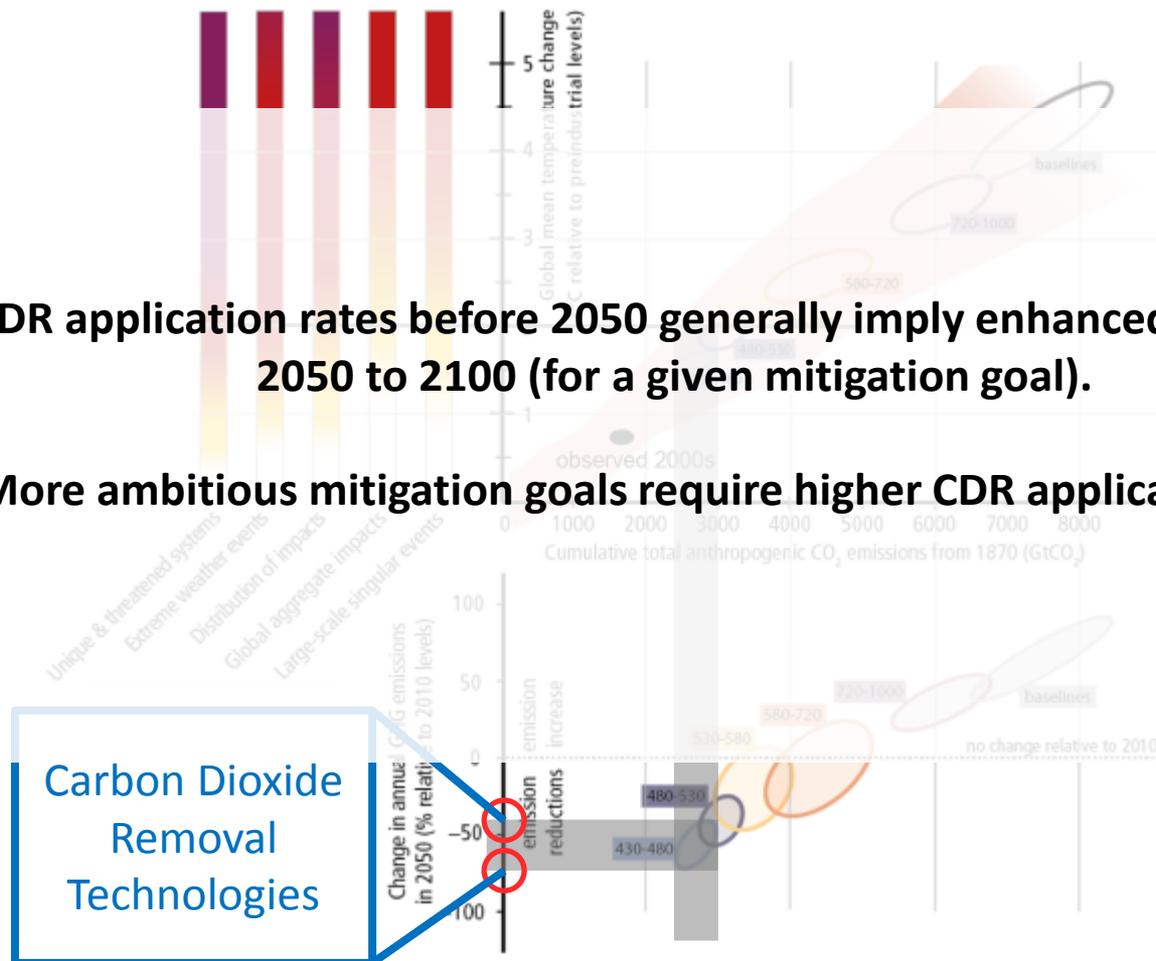
IPCC, SYR, SPM10

Objectives, means, and implications in climate policy

Risks from climate change

Cumulative CO₂ emissions

- Lower CDR application rates before 2050 generally imply enhanced application from 2050 to 2100 (for a given mitigation goal).
- More ambitious mitigation goals require higher CDR application rates.



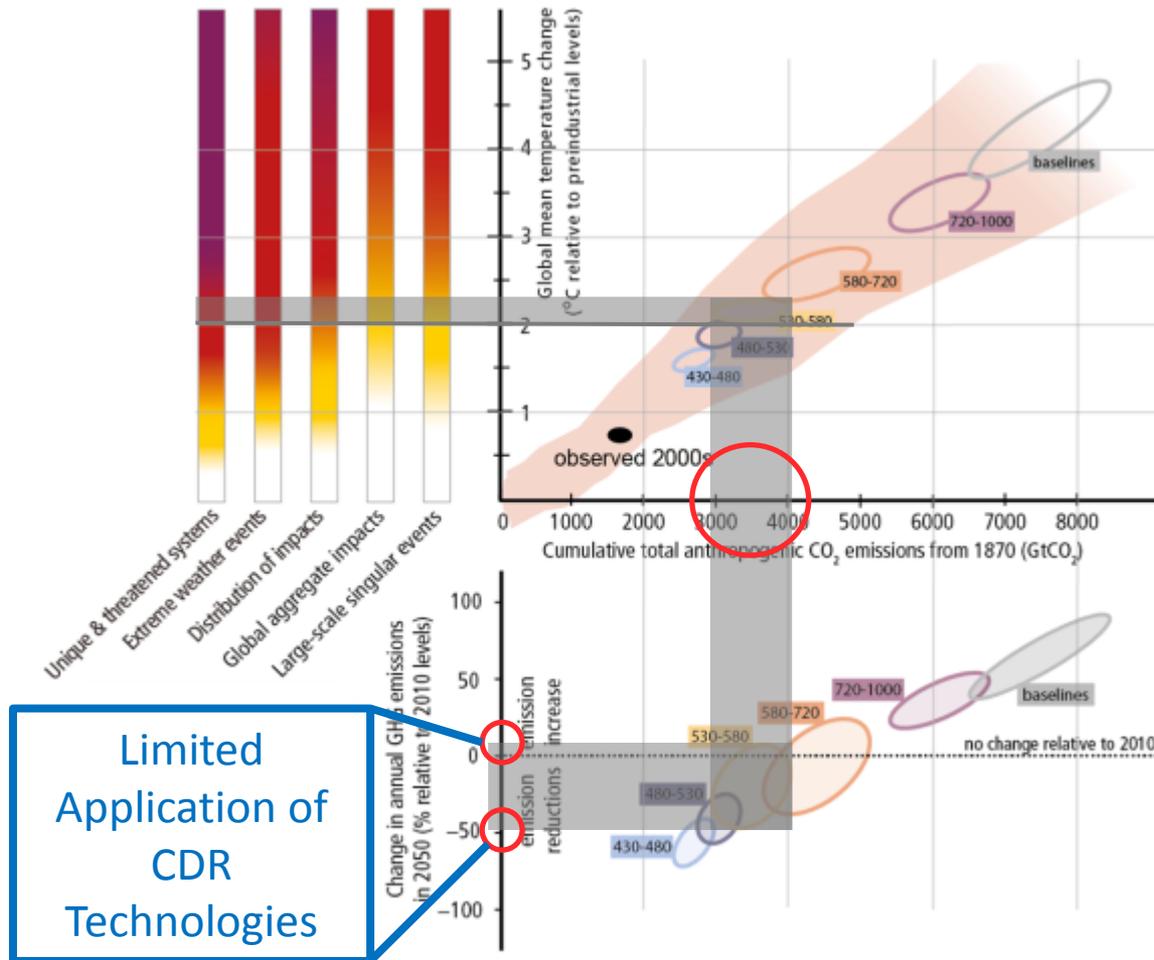
Carbon Dioxide Removal Technologies

IPCC, SYR, SPM10

Objectives, means, and implications in climate policy

Risks from climate change

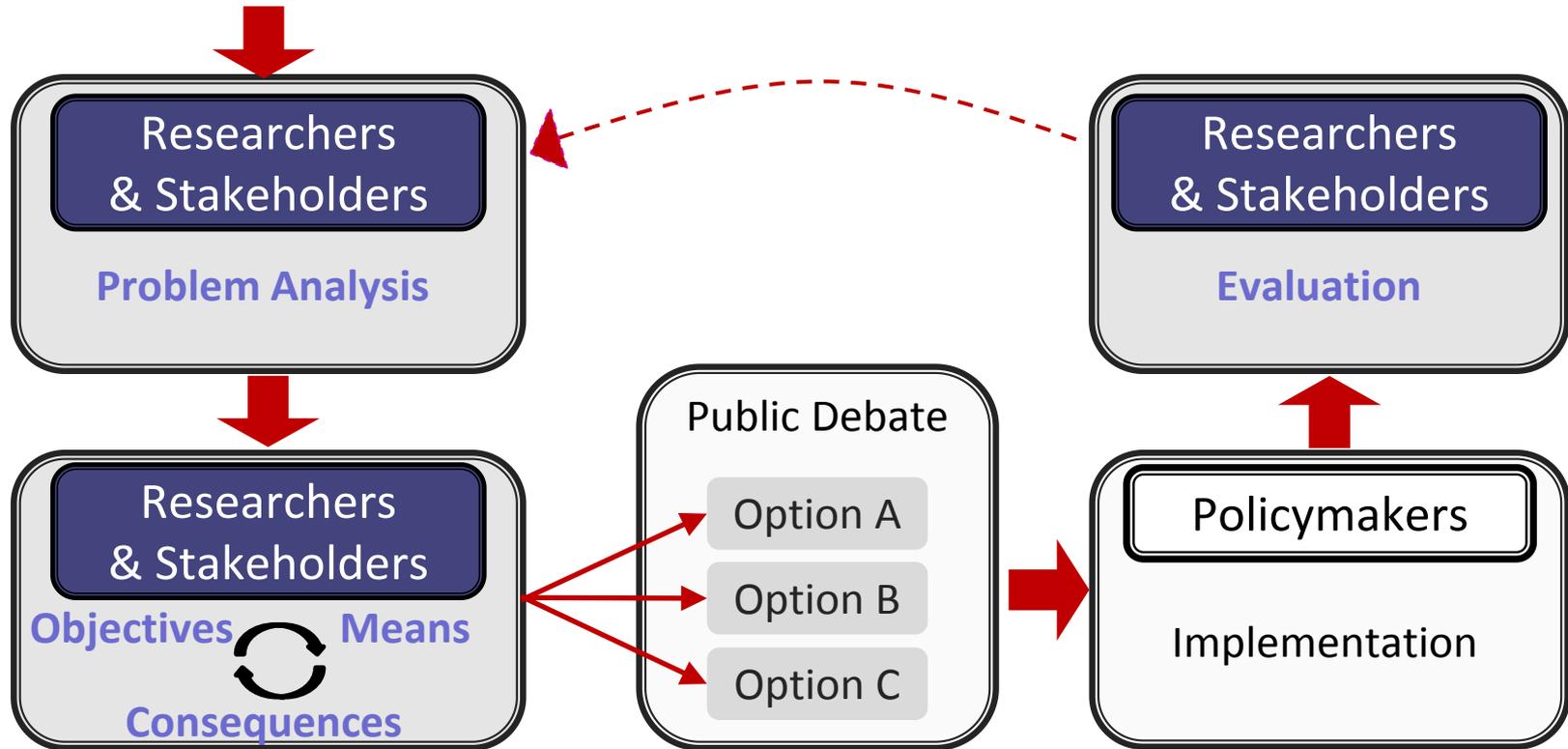
Cumulative CO₂ emissions



Annual GHG emissions over the next decades

IPCC, SYR, SPM10

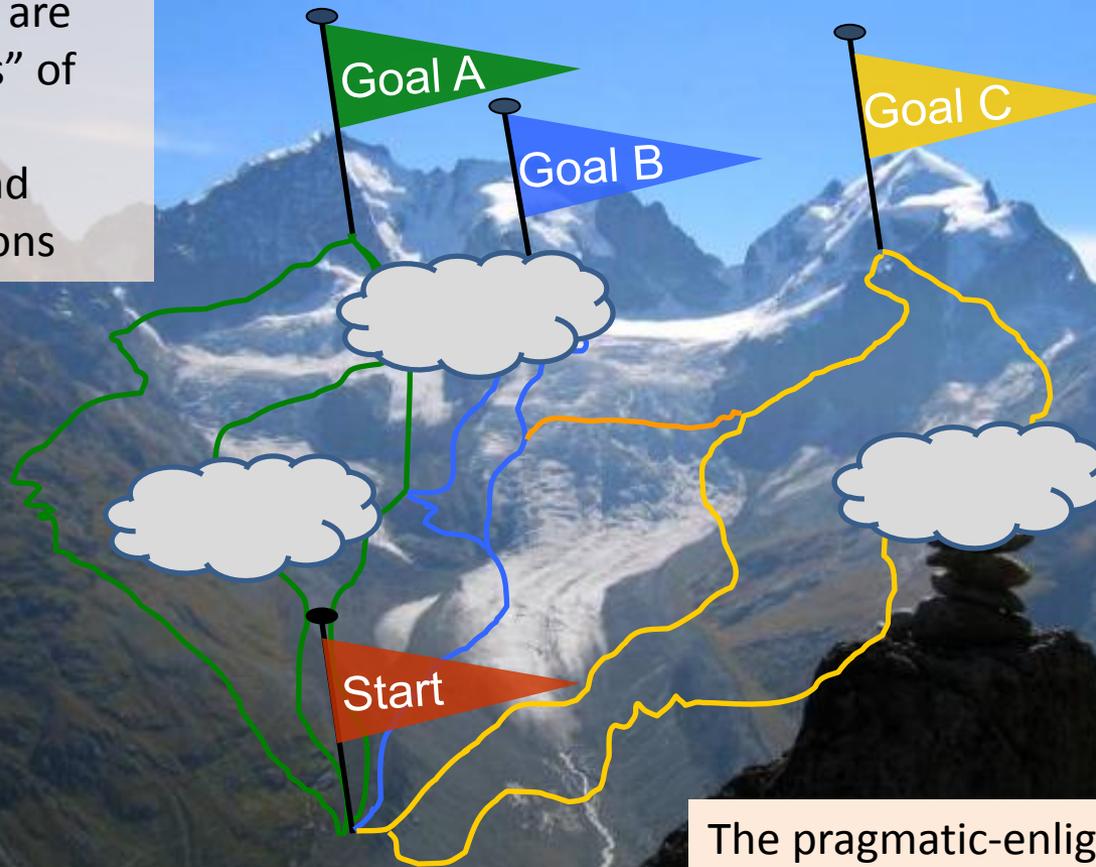
Pragmatic-enlightened model (PEM) of science in policy



(Edenhofer & Kowarsch 2015)

Mapping policy paths to allow for iterative learning process

Experts – jointly with stakeholders – are “cartographers” of viable policy alternatives and their implications



The pragmatic-enlightened model (PEM)

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Conclusion



- Decision-making requires scientific assessment of policy options.
- Facts and values: As long as experts act as cartographers of viable policy alternatives, they do not go beyond their mandate.
- IPCC WGIII has started this learning process. Yet, the IPCC and the research community need to reform:
 - IPCC: Integrated mapping of policy alternatives (ex-post and ex-ante)
 - Academia: Fill research gaps; mapping of policy paths as respected scientific task
 - Policymakers: Should support research and learning process about policy options

- **Edenhofer & Kowarsch, 2015:** Cartography of pathways: A new model for environmental policy assessments. *Environmental Science & Policy*. Accepted.
- **Edenhofer & Minx, 2014:** Mapmakers and navigators, facts and values. *Science* 345(6192), 37f.
- **Kowarsch & Edenhofer, 2015:** Principles or pathways? Improving the contribution of philosophical ethics to climate policy. In: Roser & Heyward (eds.): *Climate Justice In A Non-Ideal World*. *Oxford University Press*. Under review.