

# Engaging the Social Sciences in Global Change Research

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# Three Points

1. The role of serendipity
2. Involving the social sciences in global change research: what's working and not?
3. How political systems will respond if we are successful

# 1. My biography

- Learned about atmospheric chemistry and physics as a teaching assistant in college
- However, did PhD in Political Science because the most interesting college classes I took as a student were about arms control and the Soviet Union
- The collapse of the Soviet Union was a problem, but luckily I was at MIT and there were other things to do
- By accident, I did some of the first modern political science work on the politics of international environmental cooperation—initially ozone, then climate
- Because climate is mainly about fossil fuels I ended up spending a decade studying the major fossil fuel markets—oil, gas, coal—and transformation into mobility and electricity
- Because of my history I am not a normal “appointable” political scientist
- Lesson: people who work across these disciplines are accidental misfits
- Lesson for AGCI: serious integration across disciplines is a high variance activity not aligned with normal academic incentives

## 2. Where are we doing well?

- Where incentives align with how the social sciences are organized (rank order)
  - Macroeconomic costs and consequences of climate change impacts and mitigation
  - Induced innovation of technology
  - Valuation of extreme events
  - Political philosophy on burden sharing and intergenerational equity
  - Polling and political attitudes of the “median voter”
  - Impact of stress on conflict, migration

# Where are we doing poorly?

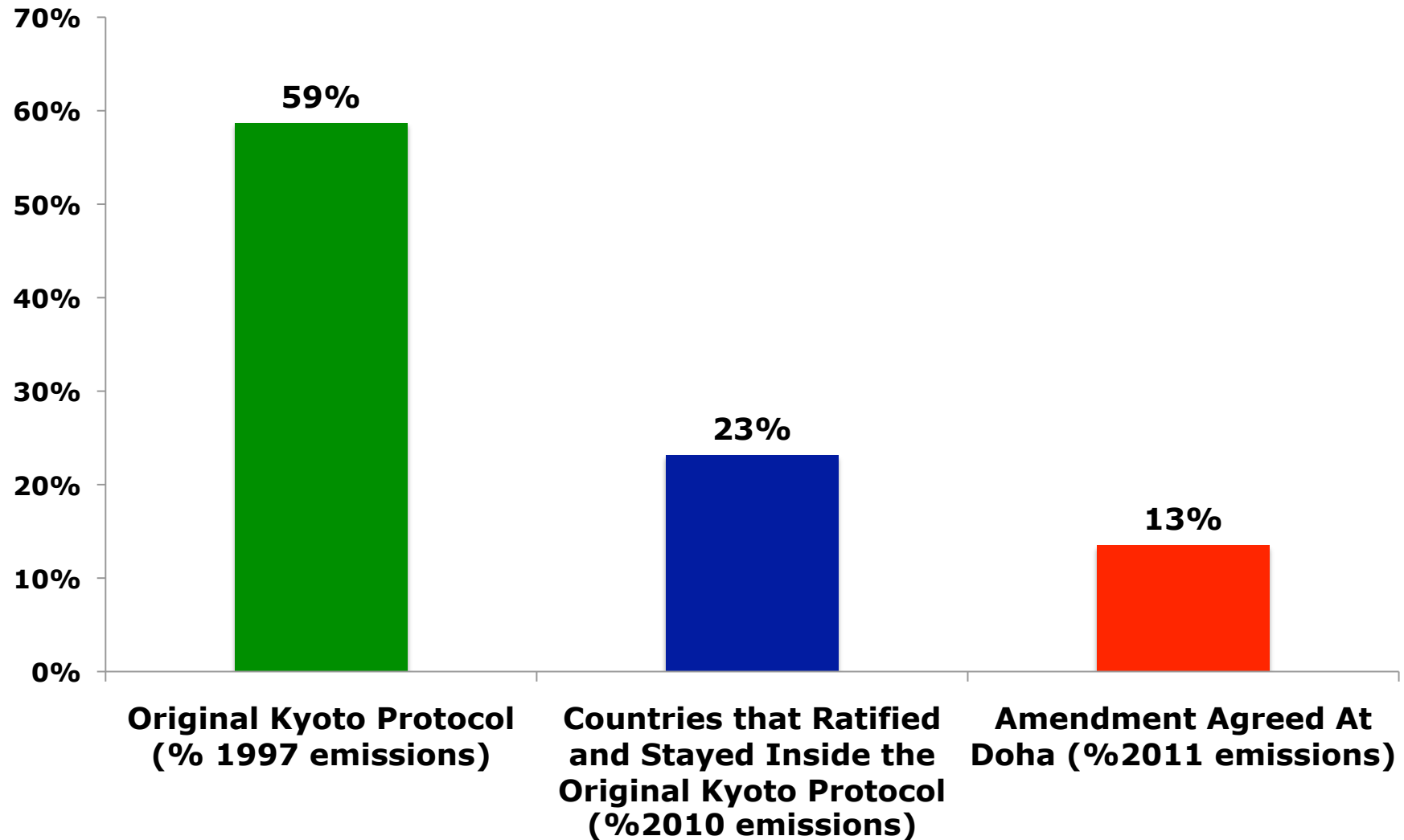
- Where standard disciplinary questions don't readily align with the global change debate
  - Especially severe problem in Political Science
- Where knowledge barriers to entry are high
- Where historical data are poor and where the “signal” of climate change is weak or complex

# Some Illustrations...

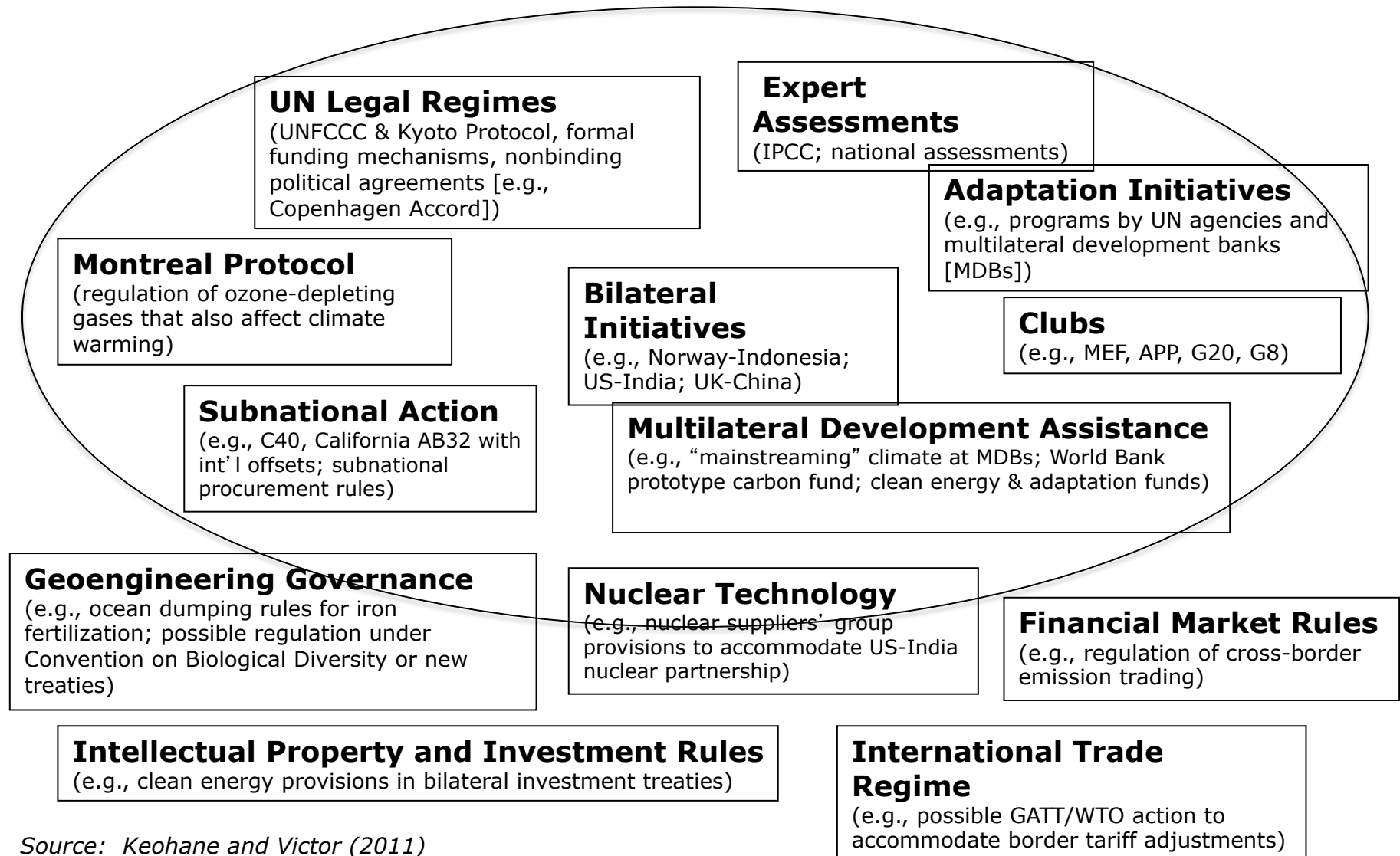
- What I'll talk about today:
  - Institutions I: international cooperation
  - Institutions II: technology adoption
  - Institutions III: which policies have leverage?
- Other stuff that is important:
  - Human behavior: how do social norms emerge?
  - Diffusion of best practices (e.g., adaptation)

# Institutions I: Why Kyoto was Stupid

Percent World Emissions Included in Annex B of Kyoto Protocol originally (1997), as ratified (2008-2012), and as Amended in Doha (2012).



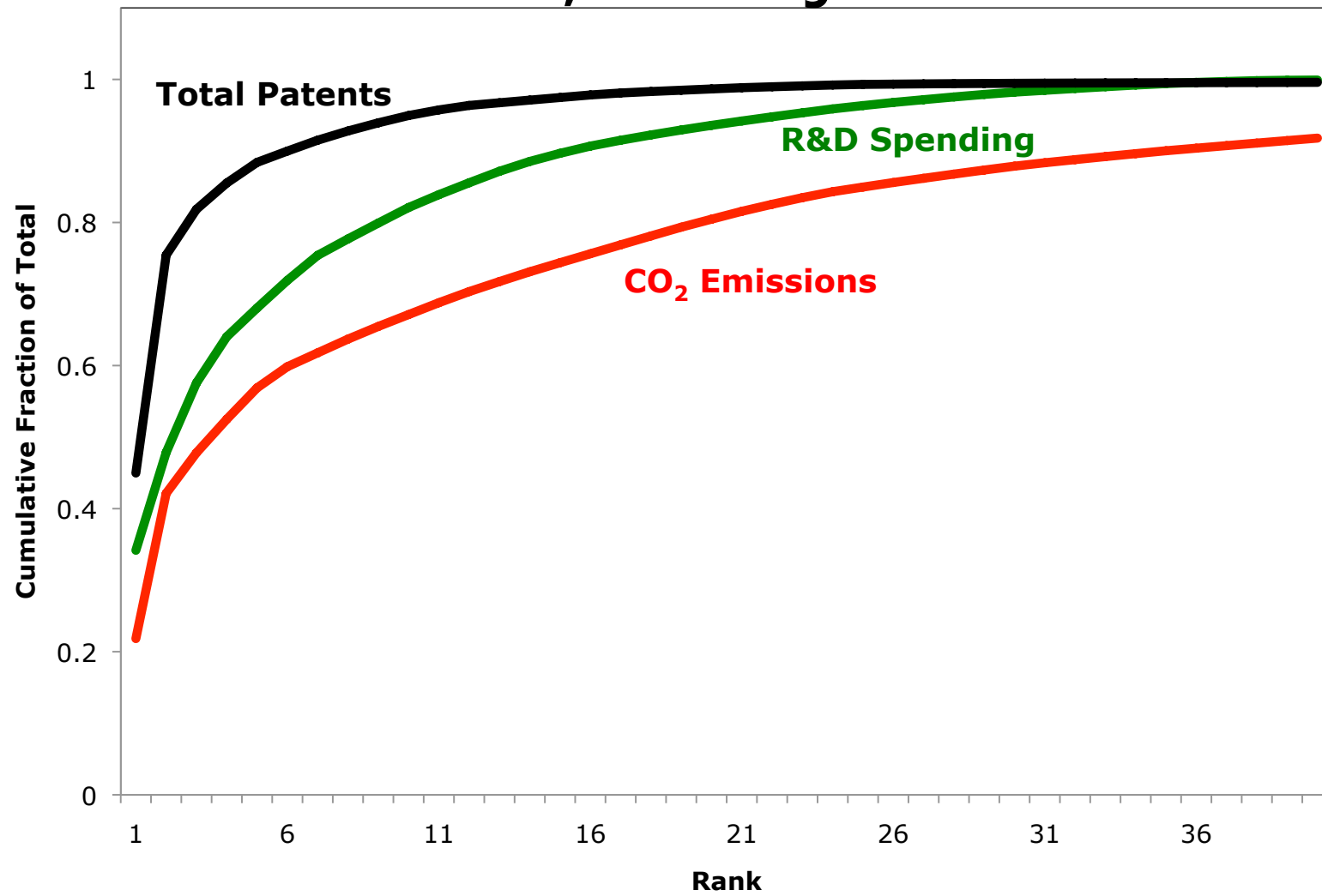
# Institutions I: Why Climate Law is Fragmented



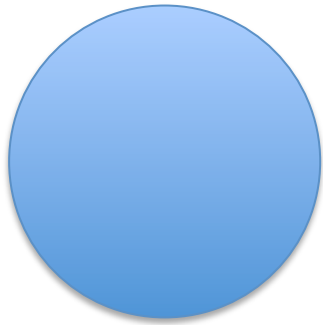
Source: Keohane and Victor (2011)



# Solution I: Use “clubs,” not just the UN



# Institutions II: Technology Adoption



Blind Response  
(0-5 yr time  
horizon)



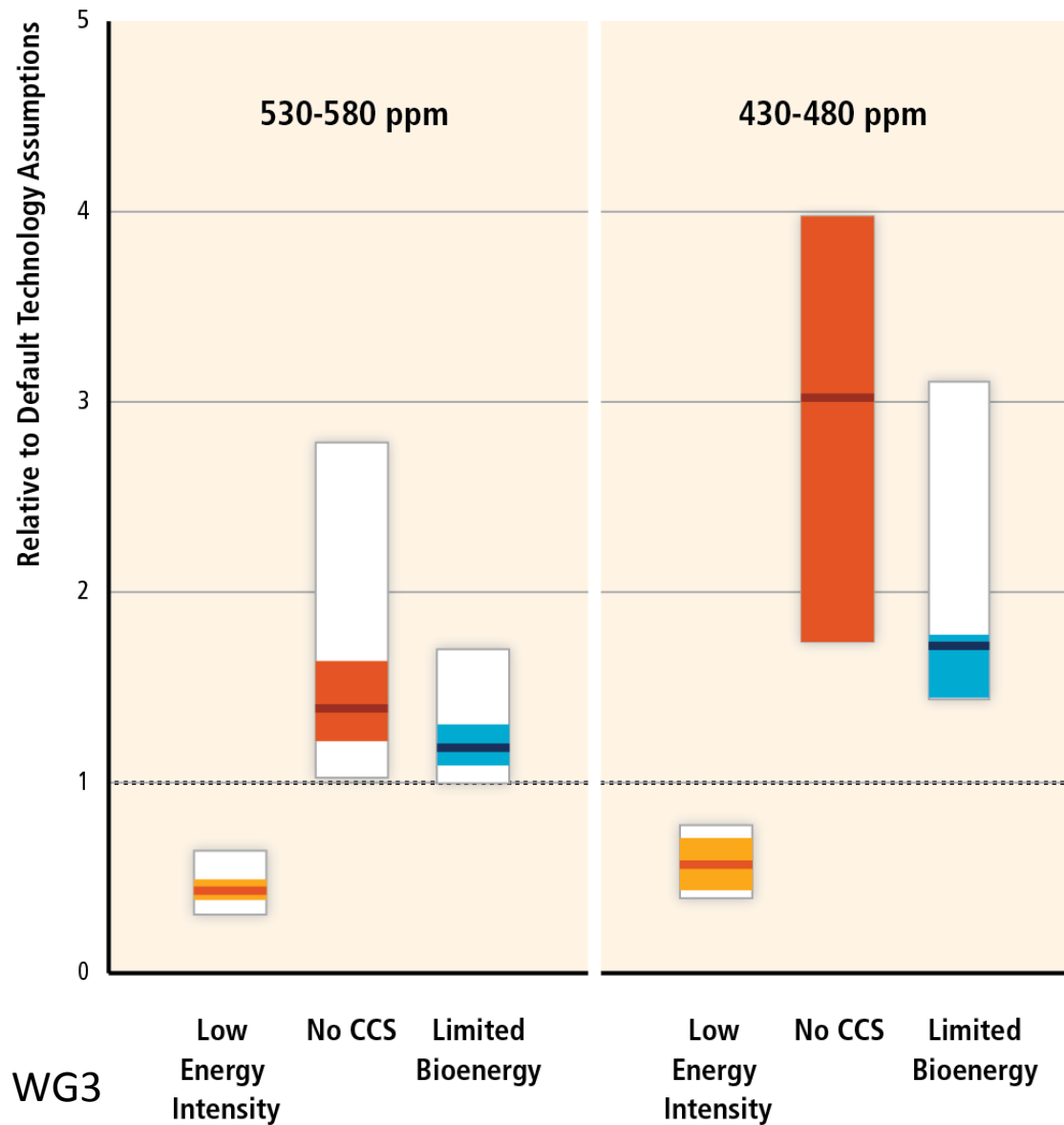
Muddy foresight  
(~8 year  
anticipation)



Perfect foresight  
(15+ year  
anticipation)

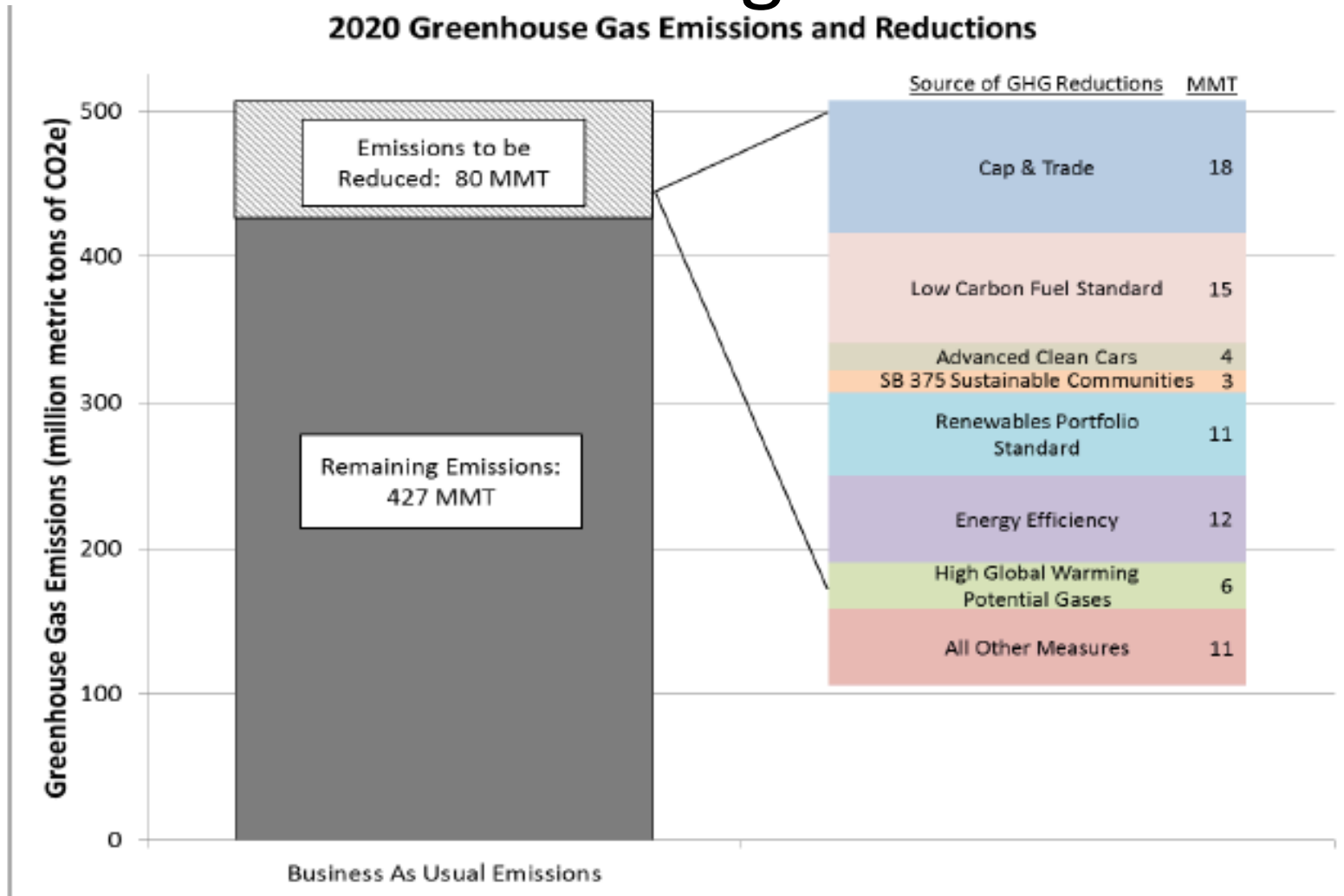
Note: The effect of anticipation on regulatory costs for developing countries (% deadweight loss of economic output from developing countries in our “second best” scenario). Calculated from WITCH and reported in Bosetti and Victor (2011)

# Institutions II: Why This Matters



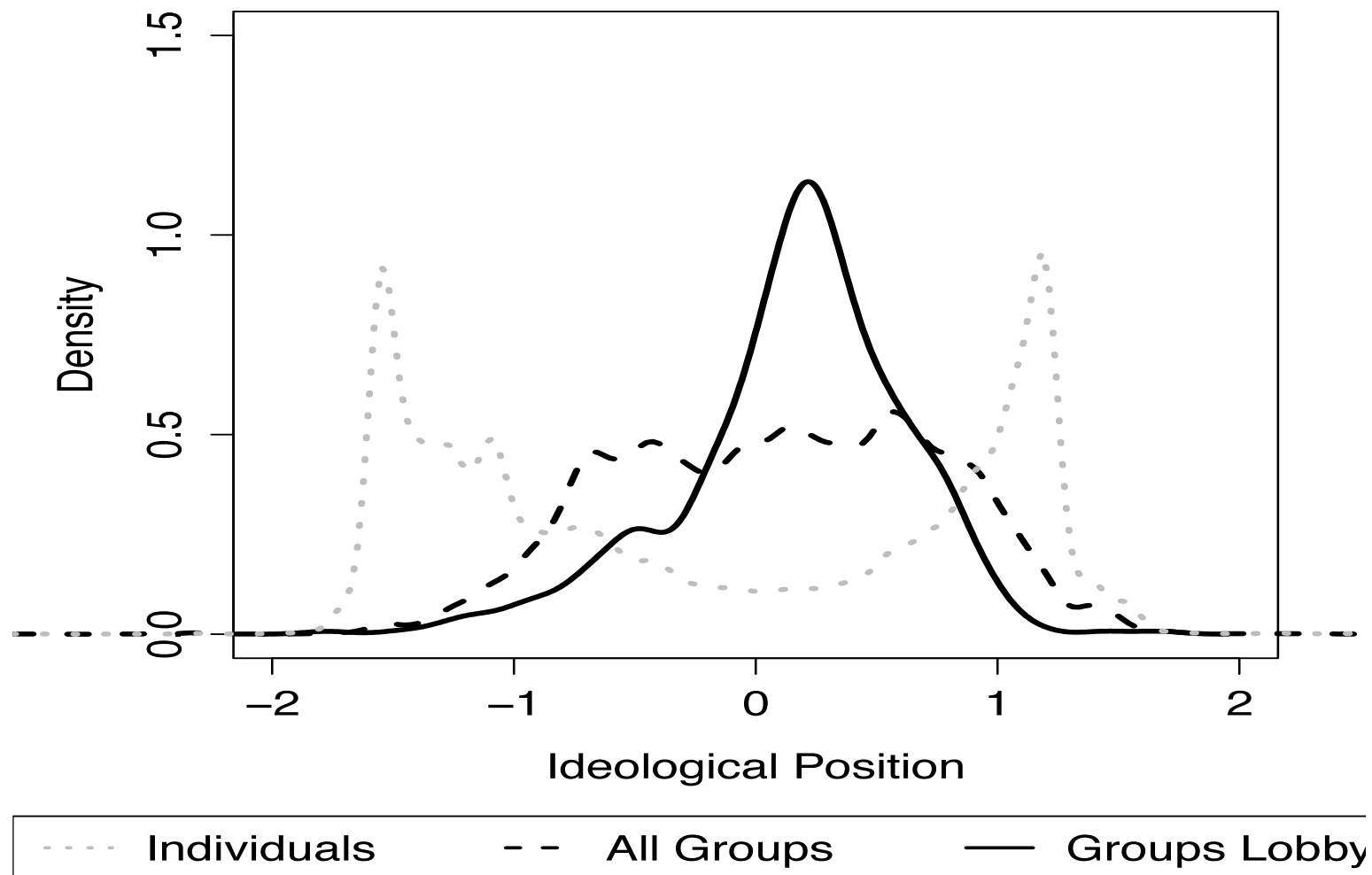
Source: IPCC WG3

# Institutions III: Which Policies have Leverage?



CARB Concept paper, 15 Feb 2013

# Ideology and Political Influence

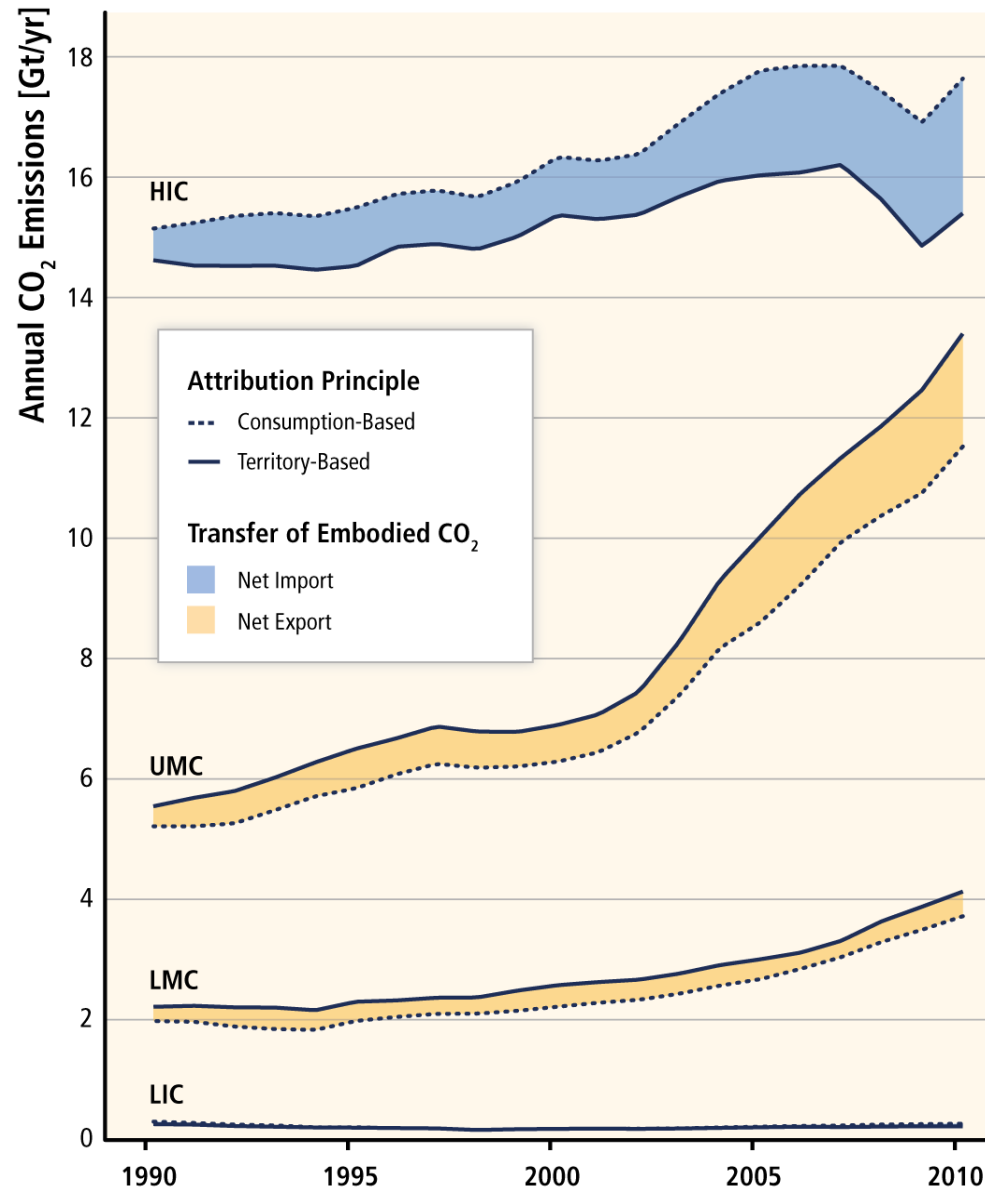


Hafner-Burton, Kousser and Victor  
2014 (draft, no cites yet)

Therefore Global Change Research has  
a Lamppost problem when it comes to  
most social phenomena

### 3. What Happens if we Succeed?

# Rising Impact of Globalization



Source: IPCC WG3

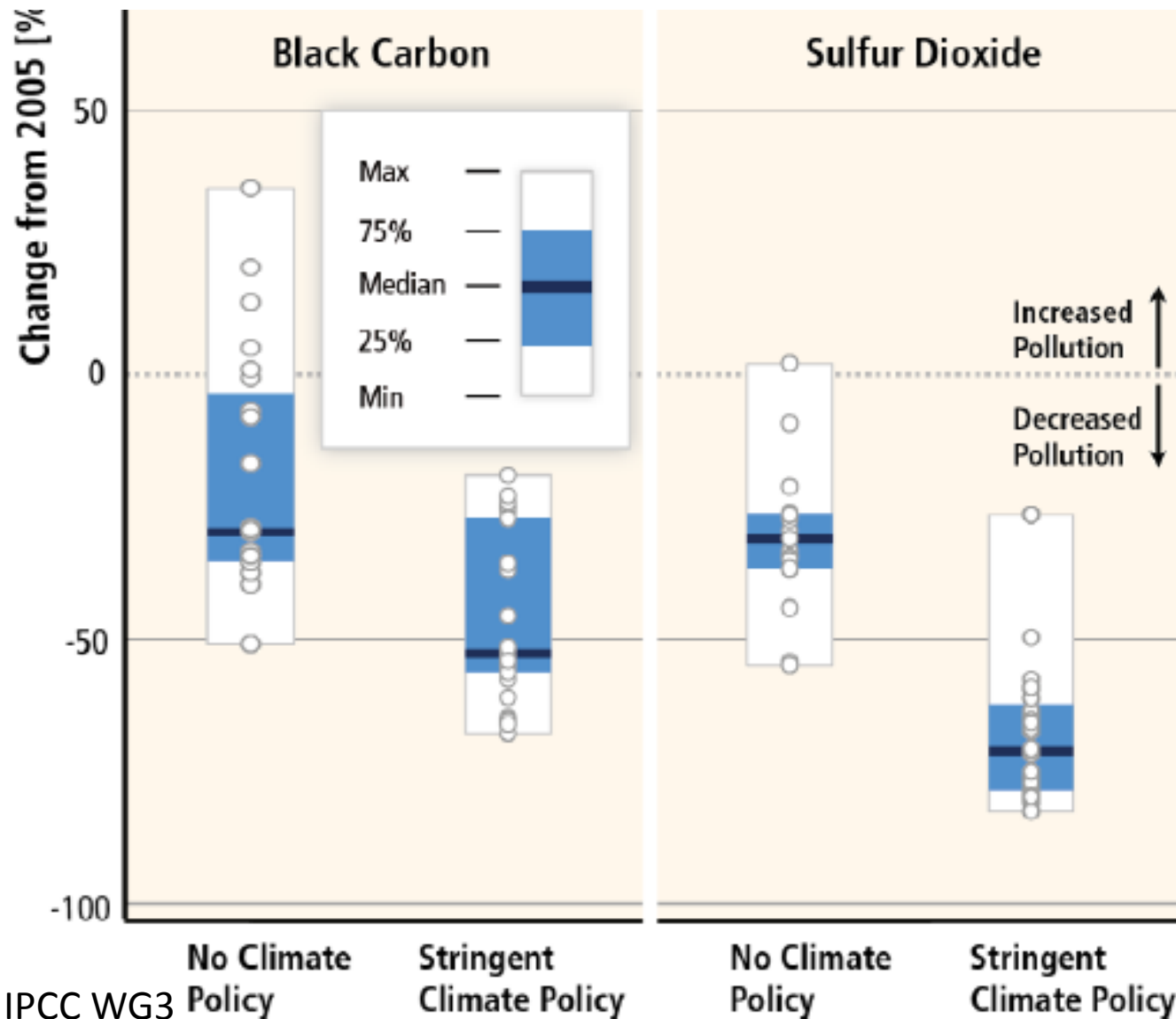


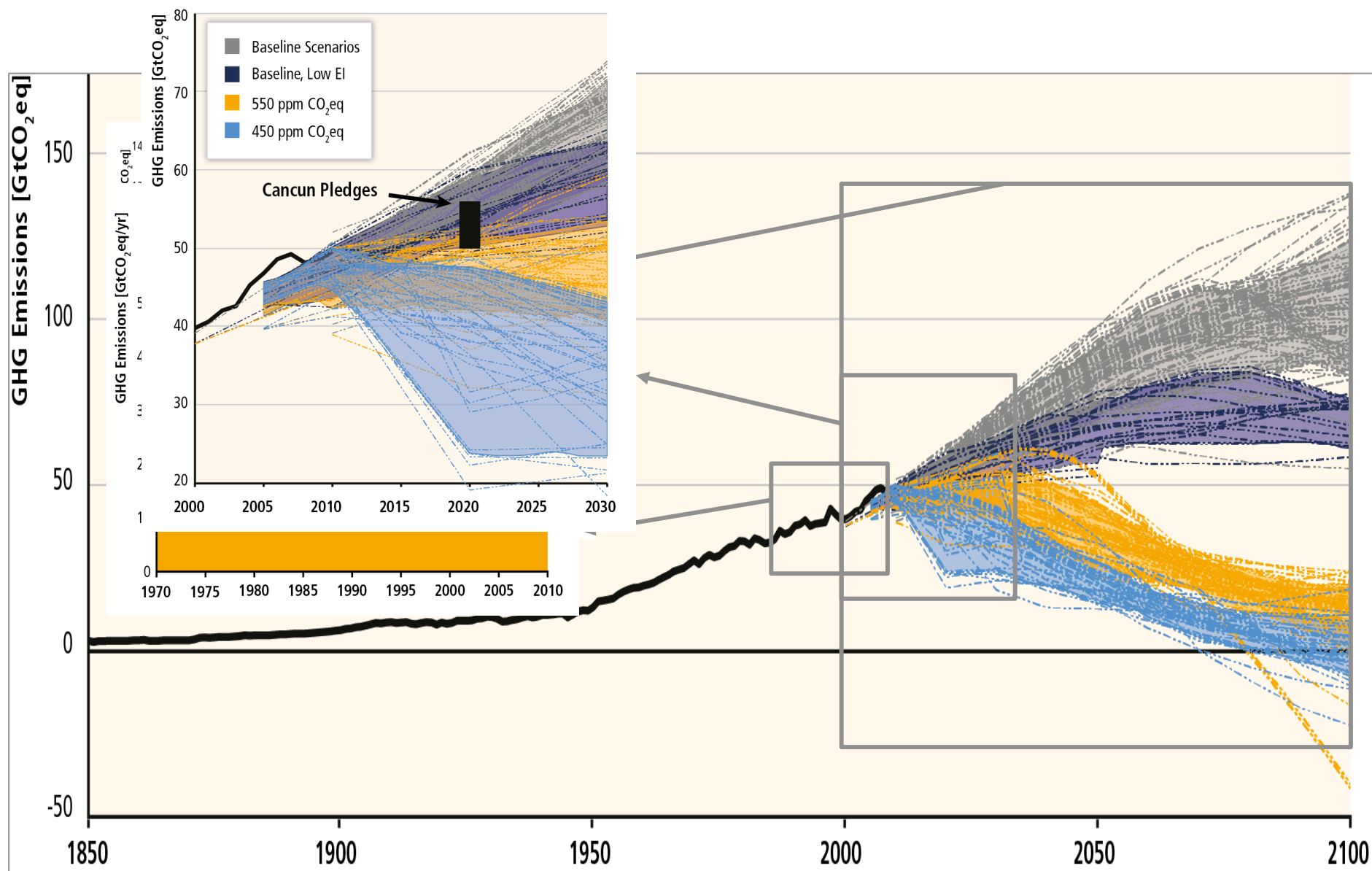
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Thank You

# Co-benefits of Climate Policy





Source: IPCC WG3

