International Climate Policy for a Post-Kyoto World
Understanding Sectoral Approaches

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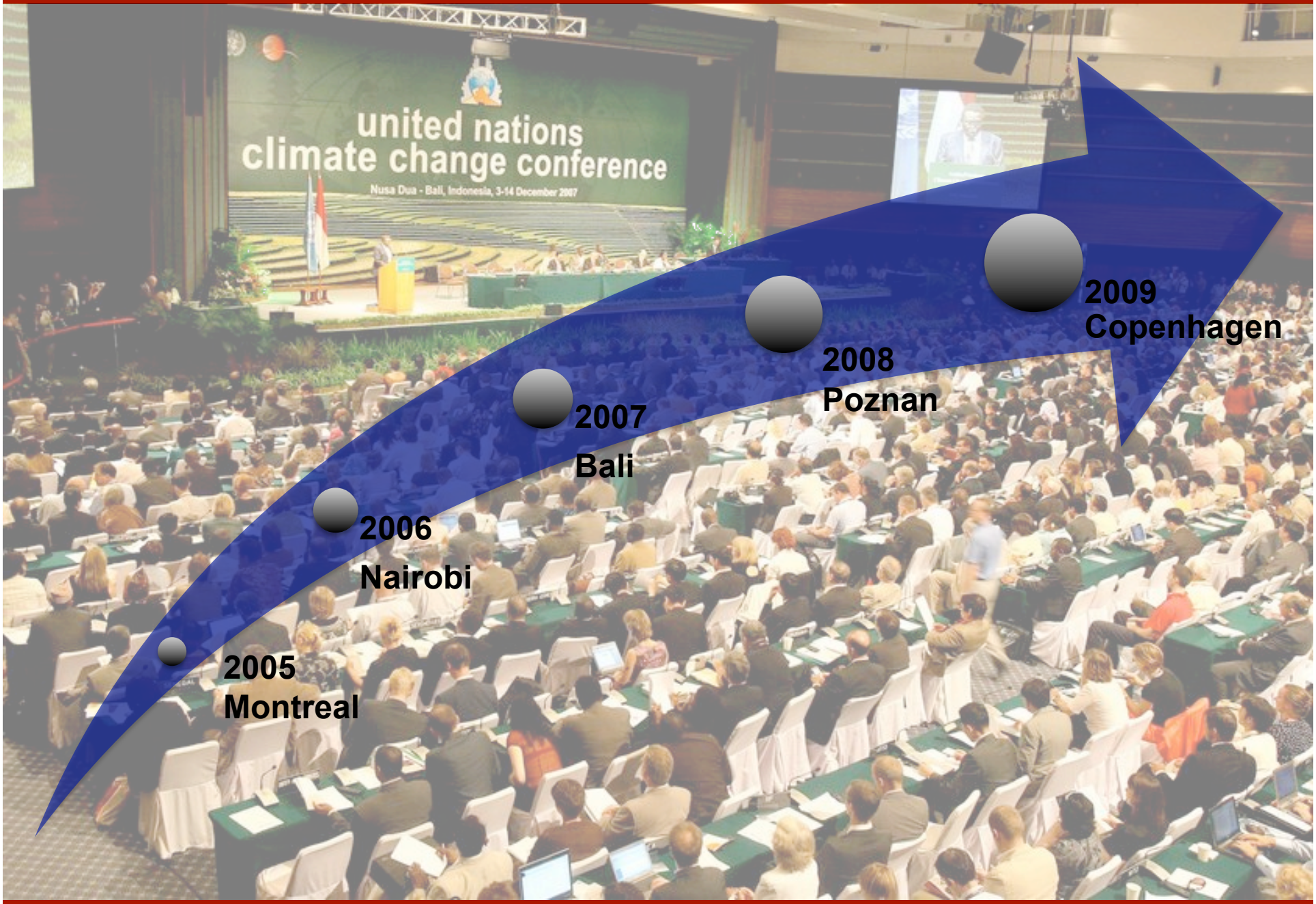
Overview

I. Sectoral Approaches and a Post-Kyoto Climate Regime

II. Three Types of Sectoral Approaches

III. The Politics of Sectoral Approaches

I. Sectoral Approaches and a Post-Kyoto Climate Regime



I. Sectoral Approaches and a Post-Kyoto Climate Regime

United Nations Framework Convention on Climate Change (UNFCCC)

Kyoto Protocol

L20 Group

Major Economies Meeting on Energy Security and Climate Change

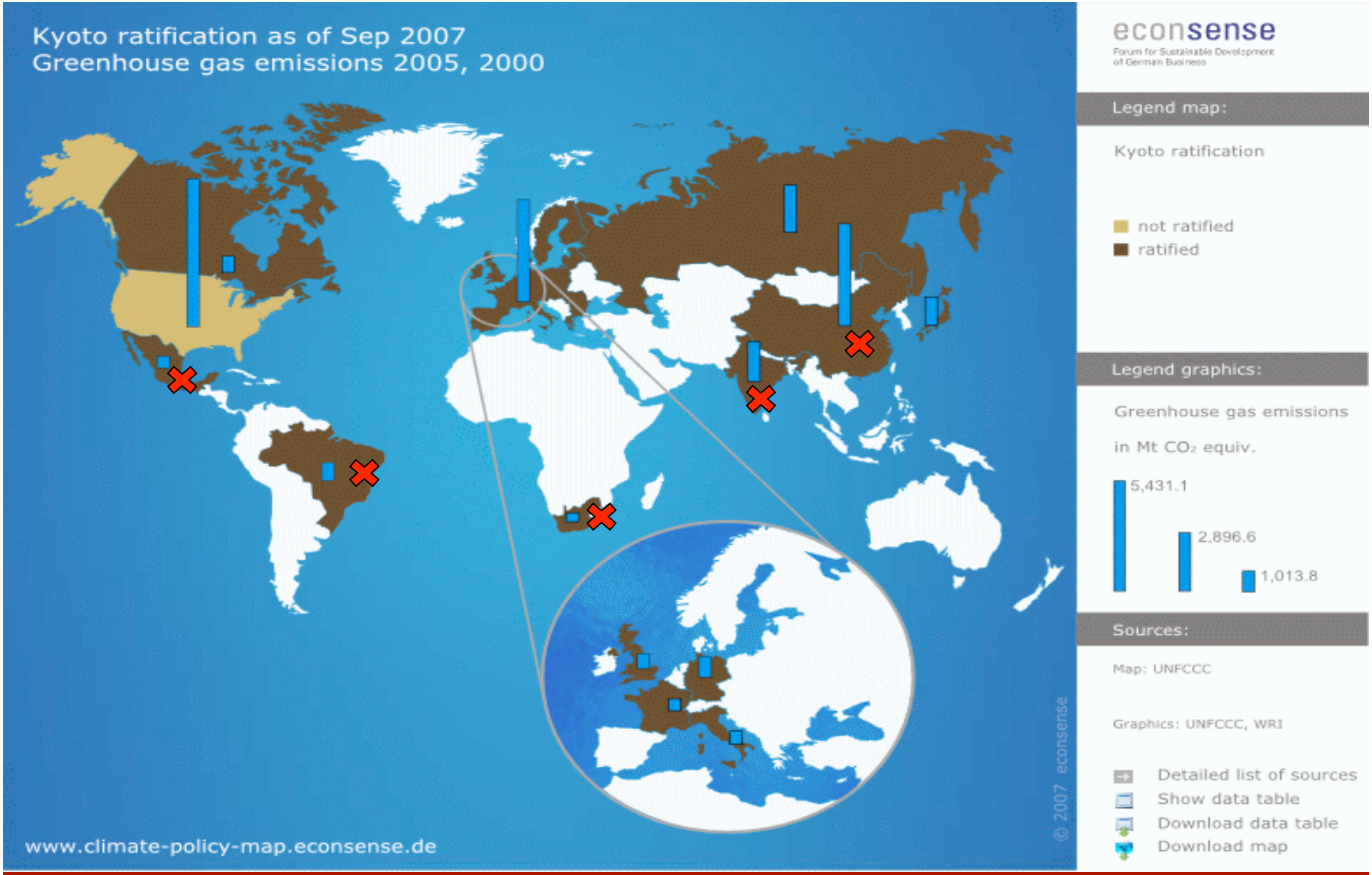
G8+5 Climate Change Dialogue

Asia-Pacific Partnership for Clean Development and Climate

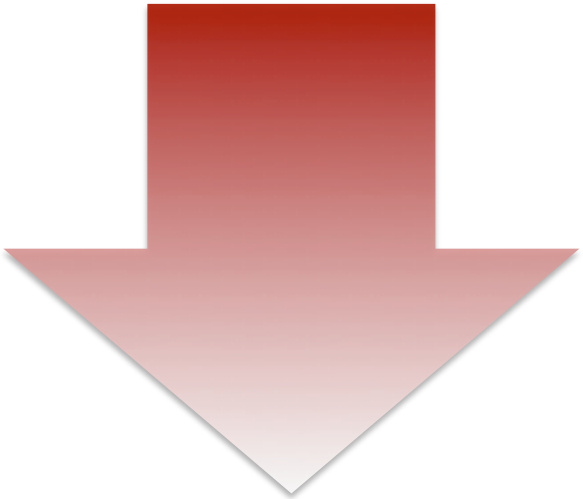
A Kyoto-style architecture or an alternative approach?

I. Sectoral Approaches and a Post-Kyoto Climate Regime

Engaging major emerging economies is key.



Competing approaches to a future climate regime.



Top-down approaches

- Multilateral

and/or

- Economy-wide

Bottom-up approaches

- Domestic/regional

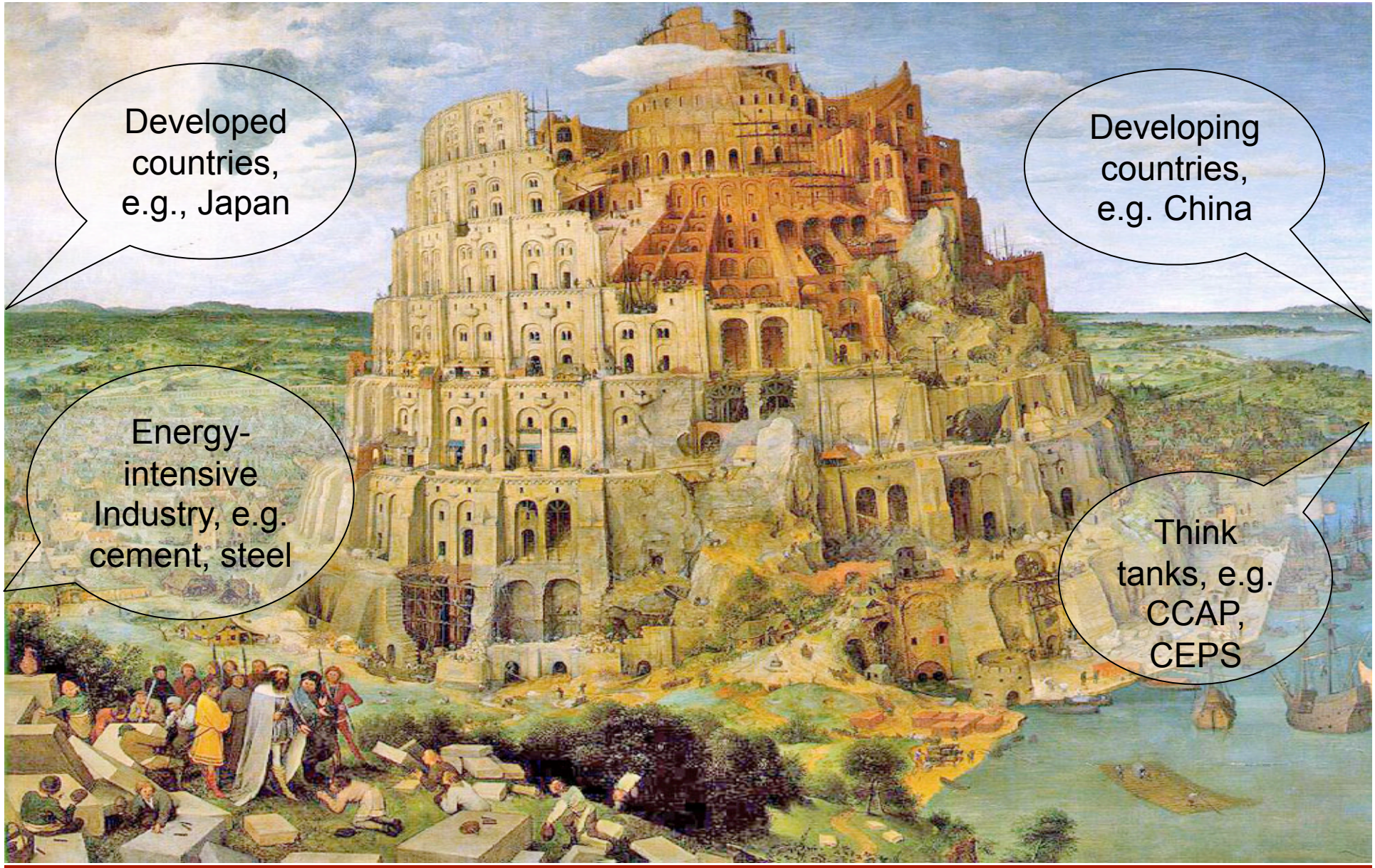
and/or

- Sectoral

(cf. Aldy and Stavins 2007, Kuik et al. 2008)

I. Sectoral Approaches and a Post-Kyoto Climate Regime

Babylonian confusion about sectoral approaches in current debate.



Sectoral approaches as bottom-up approaches

- Industry sector-based activities as opposed to economy-wide measures.
- Sector-based assessment of mitigation potential as opposed to politically negotiated targets.

Advantages

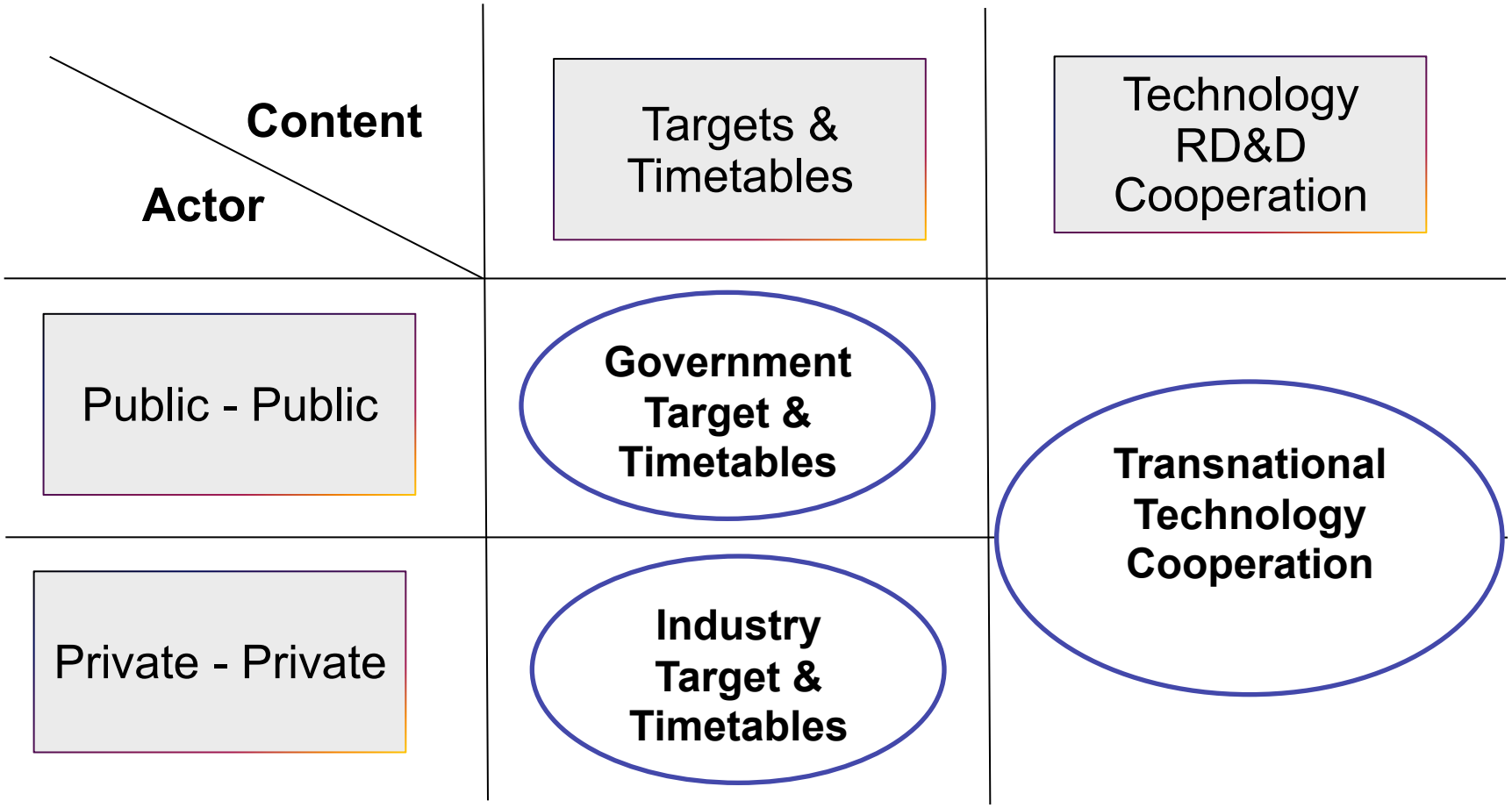
- Broaden participation.
- Address concerns about competitiveness and carbon leakage.

Disadvantages

- Second-best alternative to economy-wide policies in terms of efficiency.
- Less environmentally effective than economy-wide policies.

Three Types of Sectoral Approaches

2 x 2 Matrix


Content
Actor
Targets & Timetables
Technology RD&D Cooperation
Public - Public
Government Target & Timetables
Transnational Technology Cooperation
Private - Private
Industry Target & Timetables

Type 1: Government Targets & Timetables

Developed

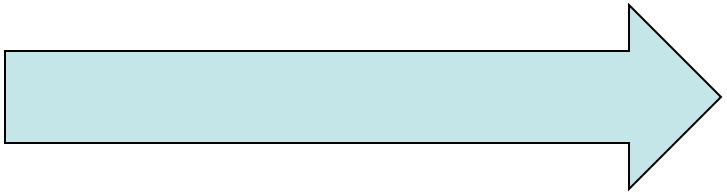
Developing

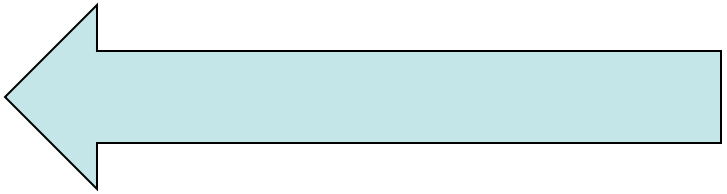
Calculation method for
Mitigation potential/Reduction Targets

Economy-wide targets
"hard"/binding

Sectoral Targets
"soft"/"no-lose"

- Assistance
- Credits





- Commitment
- Gradual Expansion

Type 1: Government Targets & Timetables

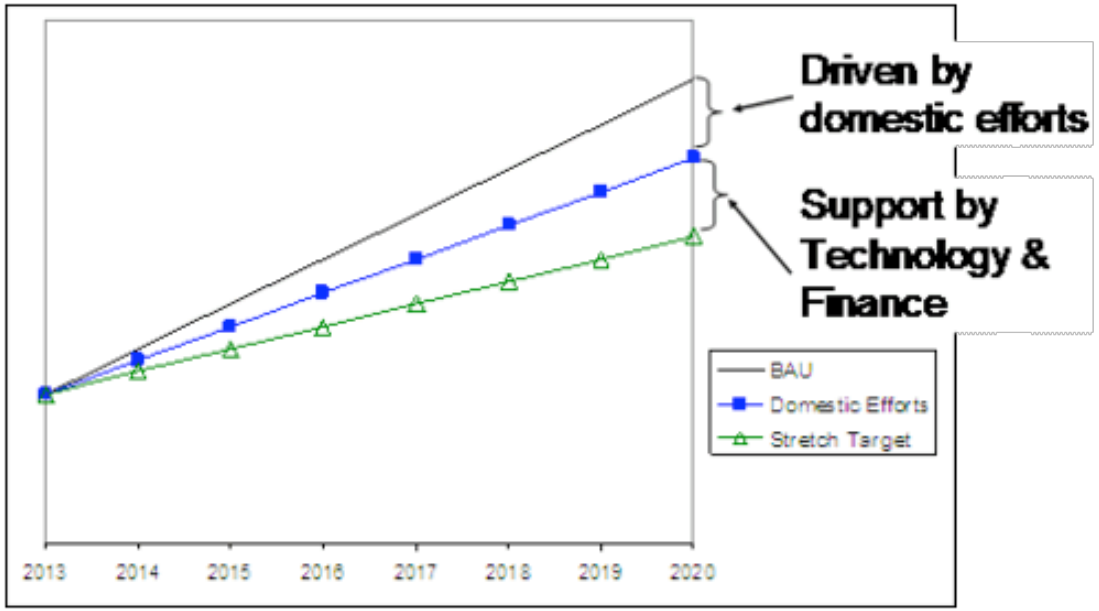
Expanding the CDM: Sectoral CDM

(Samaniego & Figueres, 2002)

	CDM	Sectoral CDM
Boundary	Single Project	Sector or region (Sub-, Cross-sector)
Additionality	Investment in technology upgrade	Policies and measures ("beating the baseline")
Baseline	Project-based	Multiple projects, sectoral or regional (better than business-as-usual)

Type 1: Government Targets & Timetables

"No-lose" Intensity Targets (Schmidt et al. 2006, 2008)



Schmidt 2009

Incentives

1st order: up-front financing, capacity-building, technology assistance

2nd order: carbon credits

" [SCMs and no-lose targets] can now be viewed as more similar than originally proposed" (CCAP 2008: 7)

Type 1: Government Targets & Timetables

Japan's Submission on Application of Sectoral Approaches (11/27/08)

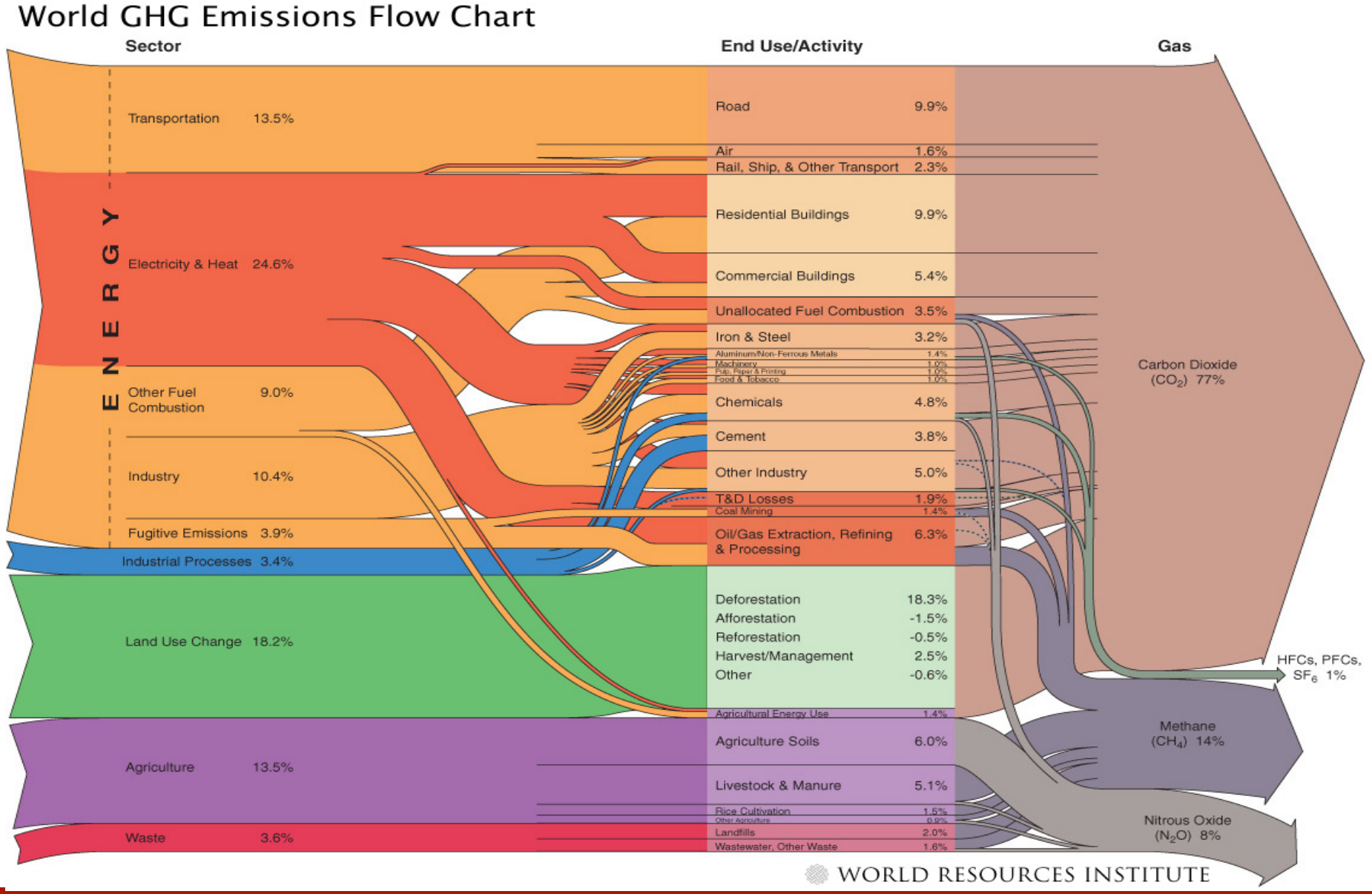
Developed countries: comparable emission targets

Developing countries:
sectoral (and some economy-wide) intensity targets

Cooperative sectoral approaches:
public-private technology cooperation, transfer, and diffusion

Financial support ("might include sectoral crediting")

Type 2: Industry Targets & Timetables



Type 2: Industry Targets & Timetables

- Global industry self-regulation

- Conducive factors
  - Product homogeneity
  - Concentration of actors
  - Trade exposure
  - Monitor, Report, Verify (MRV) feasibility (data-gathering)

Type 2: Industry Targets & Timetables

- Mostly at level of data gathering & sharing, identifying Best Available Technology (exception: Aluminum)

International Aluminium Institute — PFC reductions

worldsteel ASSOCIATION — "CO_2 Breakthrough Program"

Cement Sustainability Initiative — "Getting the Numbers Right"

World Business Council for Sustainable Development

CARS 21 Competitive Automotive Regulatory System for the 21st century

Type 3: Transnational Technology Cooperation

- Less politically controversial (IEA, UNFCCC)
- As stand-alone agreement and complement to targets & timetables
- Joint research, development & deployment, harmonization of standards, capacity-building, technology transfer
- Inter-governmental, intra-industry, private-public cooperation

Type 3: Transnational Technology Cooperation

Asia Pacific Partnership on
Clean Development and Climate

- 7 member countries, 8 task forces of government and industry representatives
  - 5 demand sectors: cement, steel, aluminum, buildings/appliances and coal-mining
  - 3 supply sectors: renewable energy / distributed generation, generation and transmission, cleaner fossil energy
- Task forces oversee private-public collaboration on "sectoral assessment, capacity building, best practice identification, technology R&D"

II. Three Types of Sectoral Approaches

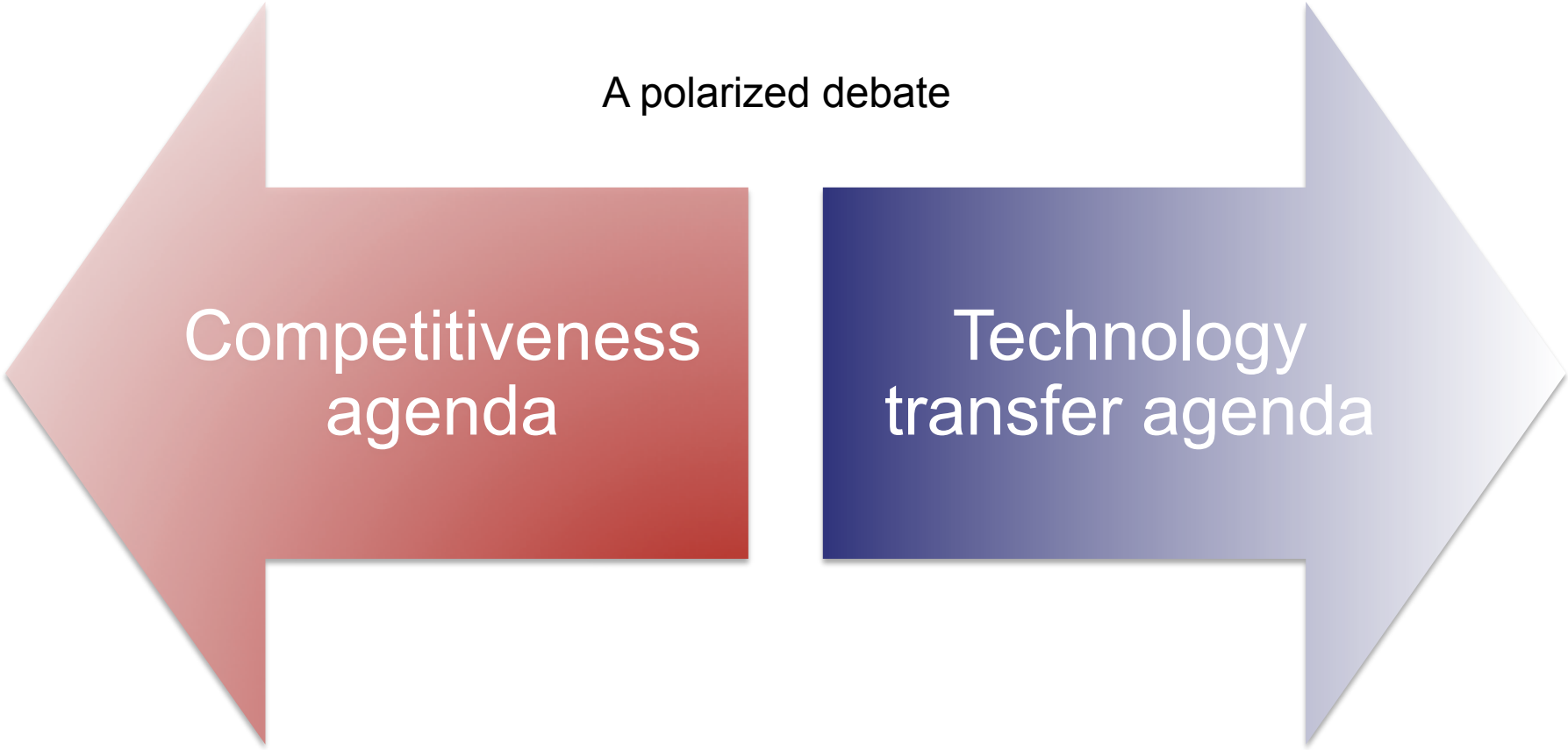
Sectoral Approaches

Government targets & timetables	Industry targets & timetables	Transnational technology cooperation
Sector-based calculation of mitigation potential for target setting	Sector-based calculation of mitigation potential for target setting	RD&D cooperation and technology transfer
Developed countries: economy-wide targets - Japan	Emerging economies: Sectoral targets (incl sectoral crediting) - Japan - CCAP	Energy-intensive industries - IAI (aluminium) - CSI (steel) - WSA (Iron)	- APP - IPHE (hydrogen) Etc.

Conflicts and Potential Compromise

III. The Politics of Sectoral Approaches

Government targets and timetables Industry targets and timetables	Technology cooperation and transfer



Japan Energy-intensive industries	Developing countries, esp. China and India

Competitiveness Agenda

- Creating a level playing field by including energy-intensive industries in major developing countries under a GHG emission cap.

- Governments reducing their Kyoto burden through a sector-based calculation of mitigation potential based on available technologies.

- Industry reducing its Kyoto burden by entering global industry self-regulation.

Technology Transfer Agenda

- Developing countries reject sectoral approaches as target-setting exercise.
- They sense trade protectionism behind sector-based technology benchmarking.
- They interpret sectoral approaches as sector-based forms of RD&D cooperation and technology transfer (Art. 4, 1(c), UNFCCC).

Whither Sectoral Approaches?

- North-South divide is widening.
- But: Sectoral approach could bridge the divide.
- Opportunity: no-lose targets with sectoral crediting and technology RD&D and transfer (e.g., APP).

Thank you!

Please, send comments and questions to jonas.meckling@ksg.harvard.edu and guyoonchung@gmail.com.

Discussion paper available at www.energytechnologypolicy.org.