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

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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
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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
I. Sectoral Approaches and a Post-Kyoto Climate Regime

A Kyoto-style architecture or an alternative approach?
Engaging major emerging economies is key.
I. Sectoral Approaches and a Post-Kyoto Climate Regime

Competing approaches to a future climate regime.

**Top-down** approaches
- Multilateral
  - and/or
- Economy-wide

**Bottom-up** approaches
- Domestic/regional
  - and/or
- Sectoral

I. Sectoral Approaches and a Post-Kyoto Climate Regime

Babylonian confusion about sectoral approaches in current debate.

- Developed countries, e.g., Japan
- Developing countries, e.g., China
- Energy-intensive Industry, e.g. cement, steel
- Think tanks, e.g. CCAP, CEPS
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.
II. Three Types of Sectoral Approaches

Three Types of Sectoral Approaches
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2 x 2 Matrix

<table>
<thead>
<tr>
<th>Content</th>
<th>Targets &amp; Timetables</th>
<th>Technology RD&amp;D Cooperation</th>
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<tr>
<td>Public - Public</td>
<td>Government Target &amp; Timetables</td>
<td>Transnational Technology Cooperation</td>
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<td>Private - Private</td>
<td>Industry Target &amp; Timetables</td>
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II. Three Types of Sectoral Approaches

Type 1: Government Targets & Timetables

- Developed
- Developing

Calculation method for Mitigation potential/Reduction Targets

Economy-wide targets “hard”/binding

- Assistance
- Credits

Sectoral Targets “soft”/”no-lose”

- Commitment
- Gradual Expansion
II. Three Types of Sectoral Approaches

Type 1: Government Targets & Timetables

Expanding the CDM: Sectoral CDM
(Samaniego & Figueres, 2002)

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<th>CDM</th>
<th>Sectoral CDM</th>
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<tbody>
<tr>
<td>Boundary</td>
<td>Single Project</td>
<td>Sector or region (Sub-, Cross-sector)</td>
</tr>
<tr>
<td>Additionality</td>
<td>Investment in technology upgrade</td>
<td>Policies and measures (“beating the baseline”)</td>
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<tr>
<td>Baseline</td>
<td>Project-based</td>
<td>Multiple projects, sectoral or regional (better than business-as-usual)</td>
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II. Three Types of Sectoral Approaches

Type 1: Government Targets & Timetables

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

Incentives

1\textsuperscript{st} order: up-front financing, capacity-building, technology assistance

2\textsuperscript{nd} 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”)
II. Three Types of Sectoral Approaches

Type 2: Industry Targets & Timetables

World GHG Emissions Flow Chart
II. Three Types of Sectoral Approaches

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)
II. Three Types of Sectoral Approaches

Type 2: Industry Targets & Timetables

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

PFC reductions

“CO₂ Breakthrough Program”

“Getting the Numbers Right”
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
II. Three Types of Sectoral Approaches

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

**Government targets & timetables**
- Sector-based calculation of mitigation potential for target setting

**Industry targets & timetables**
- Emerging economies: Sectoral targets (incl sectoral crediting)
  - Japan
  - CCAP
- Energy-intensive industries
  - IAI (aluminium)
  - CSI (steel)
  - WSA (Iron)

**Transnational technology cooperation**
- RD&D cooperation and technology transfer
  - APP
  - IPHE (hydrogen)
  - Etc.
III. The Politics of Sectoral Approaches

Conflicts and Potential Compromise
### III. The Politics of Sectoral Approaches

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<th>Technology cooperation and transfer</th>
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#### A polarized debate

- **Competitiveness agenda**
  - Japan
  - Energy-intensive industries

- **Technology transfer agenda**
  - 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 
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Discussion paper available at 
www.energytechnologypolicy.org.