



Energy research Centre of the Netherlands

International technology-oriented agreements to address climate change

Heleen de Coninck, May 14th, 2007



Introduction

Work done in the context of two ECN projects:

1. Technology-oriented agreements (TOAs) to address climate change (with Resources For the Future)
2. Compatibility of TOAs with cap-and-trade approaches (with VU University of Amsterdam, and Utrecht University); still in progress

Acknowledge Dutch government for funding and support, however, this presentation is not meant to represent the views of the Dutch government

Side-event to solicit comments

Context and forms of TOAs

“International agreements that are aimed at advancing specific technologies”

Additional to cap-and-trade systems:

- Sectorally/instrumentally
- Geographically

Arguments for considering TOAs

Dynamic efficiency of cap-and-trade schemes (innovation market failure)

Risk that large emitters won't participate, or participate but won't comply with cap-and-trade schemes

- Negative perception of caps (constraint), positive of technology (progress!)
- Perceived first-mover advantage (export potential)

Research, development and demonstration are important

If geared towards implementation, TOAs can also reduce greenhouse gas emissions

Context and forms of TOAs – types of TOAs

Type 1: Knowledge sharing and coordination	<ol style="list-style-type: none"> 1. Carbon Sequestration Leadership Forum (CSLF) and the International Platform on the Hydrogen Economy (IPHE) 2. Methane to Markets Partnership (M2M) 3. Task sharing within IEA Implementing Agreements (IEA-IA) 4. Asia-Pacific Partnership on Clean Development and Climate (APP) 5. Energy Star bilateral agreements
Type 2: RD&D	<ol style="list-style-type: none"> 1. European Organization for Nuclear Research (CERN) 2. ITER fusion reactor 3. Cost sharing within IEA Implementing Agreements (IEA-IA) 4. The Solvent Refined Coal II Demonstration Project (SRC-II)
Type 3: Technology transfer	<ol style="list-style-type: none"> 1. Multilateral Fund under the Montreal Protocol 2. Global Environment Facility (GEF)
Type 4: Technology incentives, mandates and standards	<ol style="list-style-type: none"> 1. International Convention for the Prevention of Pollution from Ships (MARPOL) 2. European Union Renewables Directive

Context and forms of TOAs - conclusions

Knowledge sharing and coordination, and RD&D (Types 1 and 2) not environmentally effective on their own

Technology transfer agreements (Type 3) can be effective if substantial funds committed, but unlikely to be sufficient in scope on their own

Technology incentives, mandates and standards (Type-4) can be environmentally effective on their own, although in most cases less cost-effective than cap-and-trade approaches

Context and forms of TOAs - conclusions

Type-4 agreements may be more effective for:

- Sectors with significant ancillary benefits
- Highly trade-sensitive sectors
- Sectors not covered by cap-and-trade systems
- Sectors that might benefit from international coordination

The project progress so far

“Compatibility of technology-oriented agreements with cap-and-trade approaches”

Project steps so far:

- Identify potential TOAs
 - Ammonia production, sugar-cane-based bioethanol, carbon efficiency in cars, CO₂ capture and storage, cement industry, (nuclear energy)
- Assess them for environmental effectiveness, costs, and political feasibility
- Invite comments on them (this event!)

Conclusions

Technology-oriented agreements can take many forms and can be appealing for different reasons, e.g. more manageable number of actors, low costs, innovation benefits, large emission reductions

It makes sense to explore TOAs, as they may offer political advantages

In order to be environmentally effective (and do more than RD&D), TOAs should primarily be aimed at implementation

It might be possible to pursue TOAs without straying from the cap-and-trade track

The project: next steps

“Compatibility of technology-oriented agreements with cap-and-trade approaches”

Next steps:

- Assess what is likely to happen with the cost effectiveness of the TOA and a cap-and-trade agreement if the two types of treaties would co-exist
- Assess what is likely to happen with the institutional setting
- Write full report and policy paper
- Possibly report on this at COP13

Thank you!

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