



Sectoral Approaches for Greenhouse Gas Mitigation in the Power Sector

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Sectoral Crediting Mechanisms

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Sectoral Crediting Mechanisms (SCMs)

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Annex I Expert Group



Presentation outline

- Background
- Common SCM requirements
- Electricity sector insights

Background (1)

- Working assumptions / goals
 - A future climate regime post-2012
 - How to move GHG crediting to a bigger scale than what CDM manages so far?
 - Possible answer: move from projects to sectors?

(Note: CDM « projects » based on programmes indicate a move in this direction)

Background (1)

- Why electricity?
 - We expect significant demand growth in developing countries
 - Significant emission reduction opportunities (from no/low to high cost)
- Have examined how SCMs that are rate-based, policy-based or fixed limits could work in each sector

Background (2): three structures for SCMs

- Policy-based
 - Evaluate and credit reductions pertaining to well-identified policies
- Rate-based
 - Baseline set in terms of t CO₂/MWh
- Fixed limits
 - Fixed caps on and installations' emissions

Common themes for SCMs

- Definition of eligibility and boundaries
 - sources, gases, size/type of plant etc.
- Baseline definition
 - international/national, average or technology/fuel-specific etc.
- Projections of business-as-usual output and emissions
 - can be difficult, especially in fast-growing sectors
- **Environmental effectiveness determined by details of SCM design (e.g. baseline level), rather than its structure (e.g. rate-based, policy-based)**

Various options for SCM in electricity (rate-based)

	Plant by plant	Average of new plants, "combined margin", etc.
Sector-wide	1. Credits to new plants with less than x tCO ₂ /MWh.	2. Credits are computed based on average CO ₂ content of electricity produced by all new plants. Plants that emit more than baseline lower credits attributed to the sector as a whole.
Fuel-by-fuel (x, y, z)	3. New coal, oil, gas plants with less than x , y and z tCO ₂ /MWh, respectively, are credited	4. For each fuel type, credits are computed based on the average CO ₂ content of all new plants.

Preliminary conclusions

- For electricity: a domestic framework more appropriate than an international baseline
 - Fuel mixes differ radically across countries
- Rate-based seems to be the option of choice
 - CDM practice
 - Problem: electricity savings deliver no credits
- Hard caps on emissions for crediting?
 - Acceptability by developing countries seem limited!
 - Likely to lead to rather high caps, to ensure that crediting will occur...
- Policy-based: could evolve from the “programmes”



Sectoral Crediting Mechanisms for Greenhouse Gas Mitigation: *Institutional and Operational Issues*

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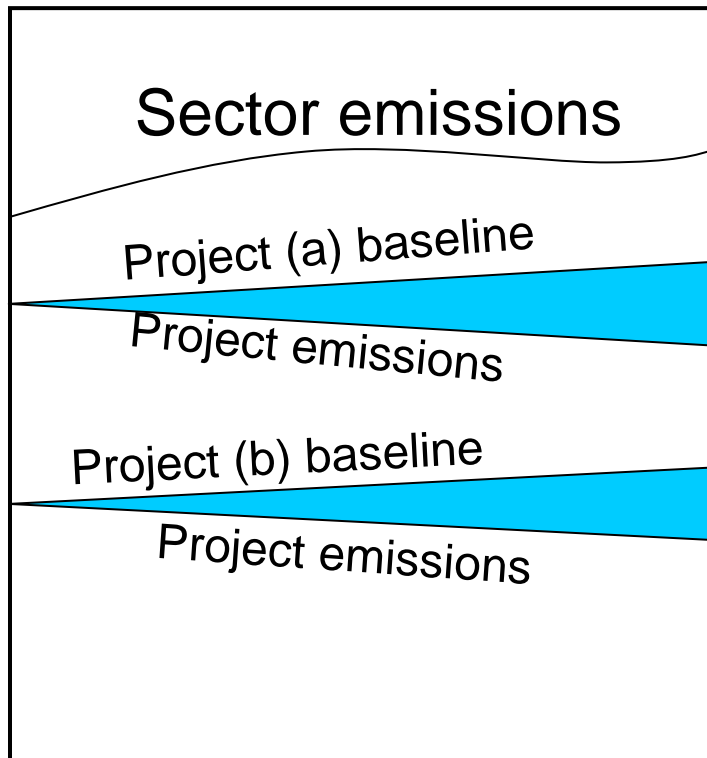
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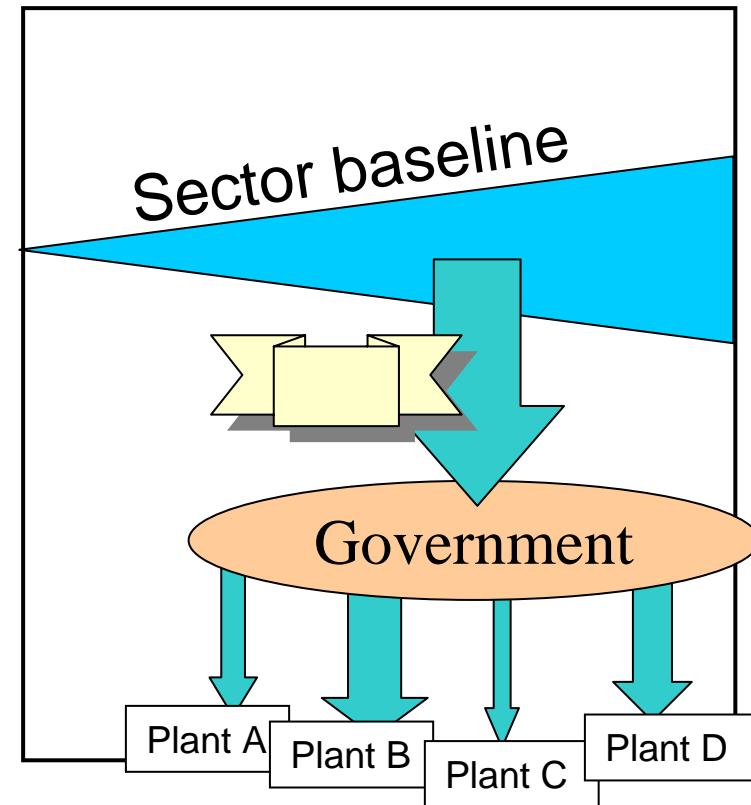
Can SCM work?

How to manage domestic incentives?

CDM Case



SCM Case



 Credited reductions

 Certification

Summarising SCM

- **Sector definitions and baseline setting unlikely to be trivial**
 - ◆ Data availability
 - ◆ (Competitiveness concerns related to sector-wide crediting)
 - **Not an issue for electricity**
- **New administrative duties for host countries**
 - ◆ **Build incentives for individual sources to take action**
- **Moving crediting to a much larger scale raises new concerns: How many credits could SCM trigger?**
 - ◆ Should all GHG-reducing policies be credited? Including clear “win-win” options?
 - ◆ If SCM were feasible and successful, would there be a demand level matching such a large quantity of credits?
- **CDM could evolve naturally towards sector-based crediting. Don't force this evolution?**



Important Last Points

- **Potential for GHG reductions in electricity in developing countries remains very large**
- **Clean coal remains untapped (unfeasible?) under CDM**
 - Economically justified on its own merits?
 - Reluctance to lock-in more carbon use?
- **End-use efficiency improvements: also a small contribution to CDM credits**
 - Often economically justified on their own merits
- **Other vehicles for international collaboration on electricity supply and demand could be (are) designed to reduce GHG emissions – beyond crediting mechanisms**

Coming up

- **“Sectoral Approaches to GHG Mitigation: Scenarios for Integration”**