



Center for
Clean Air Policy

Sectoral Programs in Developing Countries: Goal-Setting and Lessons Learned

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Outline of Presentation

- International Policy Context
- Sectoral Study Status Report
- Sectoral Study Lessons Learned to Date
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International Policy Context

- Bali Action Plan calls for verifiable nationally appropriate mitigation actions (NAMAs) by developing country Parties in the context of sustainable development
- NAMAs are supported and enabled by verifiable technology, financing, and capacity-building support from Annex 1 countries
- Developing countries would submit climate plans (e.g., low-carbon growth strategies) that list their intended NAMAs and associated requests for support
- NAMAs could be grouped to achieve broader objectives, such as sectoral program goals and reductions from deforestation and degradation (REDD)
- ➔ A sectoral approach can be made up of a single NAMA or a group of NAMAs

The Sectoral Study

- CCAP is leading a “proof of concept” study of sectoral programs in China, Mexico and Brazil (w/ parallel efforts in India & Indonesia)
 - » Funded by EC, Hewlett Foundation, BP Foundation, UK Special Programme Fund
 - » Partners are CEPS, ZEW, CCC, IDDRI
 - » Sectors: electricity, cement, iron and steel, aluminum, oil (Mexico only)
- Key questions/issues:
 - » What data is available (technologies, costs, emissions, fuel use?)
 - » Can potential sectoral goals and support needs be determined from the available data? If so, how?
 - » How big an impact can sectoral programs have on global emissions?
 - » How can sectoral programs fit into the Copenhagen agreement?
- First attempt at developing potential sectoral goals in Mexico and China

Sectoral Study Status Report: Analysis

- China
 - » Case studies complete for electricity, cement, iron and steel (I&S) sectors
 - » Aluminum sector case study being revised
 - » Initial work on technology-based approach for cement and iron & steel complete
- Mexico
 - » Case studies near completion (electricity, cement, I&S)
 - » Initial proposal for sectoral goals in cement and oil refining undergoing revision, electricity and steel ahead
- Brazil
 - » Case study for cement sector complete
 - » Case study for electricity sector in progress

Sectoral Study

Key Publications

- Publications released in 2009:
 - » *Sectoral Approaches: A Pathway to Nationally Appropriate Mitigation Actions*
 - » *Setting Mitigation Goals for Sectoral Programs: A Preliminary Case Study of Mexico's Cement and Oil Refining Sectors*
 - » *Getting Started Now: Capacity Building for the Data Systems Foundations of Sectoral Approaches (CEPS)*
 - » *Financing Energy Efficiency in the Iron and Steel and Cement Industries in China (CCC)*
 - » *The Financing Mechanism for a Post-2012 Agreement on Climate Change*

The Sectoral Study: Lessons Learned to Date

Broad Sectoral Approach Lessons I

Sectoral approaches should:

- » have clearly defined objectives
- » build on ongoing unilateral mitigation actions
- » produce material participation and material emission reductions across sectors and countries
- » support national sustainable development strategies

Broad Sectoral Approach Lessons II

Sectoral approaches should:

- » produce technological innovation and transfer
- » offer sufficient incentives to both governments and industry in both developing and developed countries

Sectoral Goal-Setting Lessons

- Significant data gaps exist – lack of plant-specific and cost data, and concerns about confidentiality → we cannot create “objective” intensity goals
 - » EU followed similar process in pilot phase of ETS when data on industry emissions and costs was lacking
- There is no substitute for in-depth bottom-up analysis and consistent data – capacity building for developing countries needs to begin immediately

Sectoral Goal-Setting Lessons (2)

- Accounting for **national circumstances** is the key to setting equitable and feasible sectoral goals.
- Sector boundaries need to allow flexibility for local realities (e.g., Mexico cement and oil refining)
- Goals should not be rigidly limited to sector-wide carbon-per-ton-of-production goals
 - » Technology-based goals can be more effective in some settings and more easily implemented (e.g. China; Mexico co-generation)
 - » Can also serve as transitional goals while data capacity is built

Sectoral Goal-Setting Lessons (3)

- Bottom-up analysis of barriers to cost-effective options can uncover need for tailored incentives (e.g. Mexico barriers to co-generation) and links to policy reform
 - » Not a part of McKinsey cost curves
 - » Support can be contingent on policy reform
- Key is implementation – what policies and measures will country adopt to achieve the sectoral goals?
 - » Mexico chose trans-sector cap-and-trade system + policy reform
 - » Cap-and-trade to include oil, electricity, cement and iron and steel sectors – goal is to have system operational by 2011
 - » New Energy Reform and electricity pricing laws
- Setting goals in developing countries will be like that in Annex I – a policy and political negotiation process

Sectoral Programs in Mexico — Implementation

- Working w/ Mexico, CCAP developed potential sectoral intensity targets for oil refining and cement sectors
- In Poznan, Mexico announced that it will pursue a trans-sector cap-and-trade program to include the electricity, oil, cement, and iron and steel sectors
 - » Initiation slated for 2011 (iron and steel may be later)
- Hard caps for the 2011-2020 period will be derived from the sectoral emissions intensity goals and expected production levels and be adjusted in subsequent periods
- Mexico is also putting some complementary policy reforms (NAMAs) in place:
 - » Energy Reform – provides more budgetary flexibility for PEMEX and permits some degree of private investment
 - » New law that allows CFE to consider externalities in its pricing decisions and gives CRE more control over contracting terms with independent power producers

Setting Goals for China's Cement and Iron & Steel Sectors

- Tsinghua team performed a preliminary analysis of China's cement and iron & steel industries to estimate their GHG emissions reduction potentials through 2025
- The analysis involved estimating:
 - » BAU emissions through 2025, based upon expected growth in production and projected changes in production capacity, energy intensity, electricity intensity, fuel mix, industry practices
 - » Current penetration of key technologies in the sectors
 - » Impacts of recent and potential industry policies
 - » Maximum deployment of mitigation options, both individually and as packages of options
 - » Implementation cost of improving technology penetration to different level

Setting Goals for China's Cement and Steel Sectors

- The most promising mitigation options for China's cement sector are:
 - » Installation of waste heat recovery systems
 - » Increased use of fly ash, slag, and other supplemental cementitious materials to produce low-clinker blended cements
 - » Accelerated replacement of older and less efficient capacity (particularly the vertical shaft kilns) w/ state-of-art replacements
- The most promising mitigation options for China's iron & steel sector are:
 - » increasing the share of facilities using coke dry quenching (CDQ) technology
 - » using Combined Cycle Power Plant (CCPP) to recover overflowed blast furnace gas (BFG)
 - » accelerated retirement of older and less efficient production facilities w/ state-of-art replacements

Sectoral Study Next Steps

- Workshops:
 - » Mexico (week of Aug 3, 2009)
 - » US technical/industry workshop (week of Aug 31, 2009)
 - » India workshop (week of Sept 21, 2009)
 - » Final study workshop (March 2010)
- Policy lunches for key negotiators
- Side events at upcoming UNFCCC negotiating sessions in Bonn, Bangkok, Barcelona, and Copenhagen

Sectoral Study Next Steps

- Topics of future publications:
 - » Further development of sectoral goals for China & Mexico
 - » Mexico and China finance options
 - » Final case studies
 - » Policy paper on integrating sectoral approaches into NAMA/registry context
 - » The potential role for industry in building capacity and fostering support for sectoral approaches
 - » US legislative options for financing developing country mitigation efforts
 - » Final report of Study's results

Advantages of a Sectoral Approach

- A bridge strategy for the next commitment period (2012–2020) to encourage further developing country actions
- Creates strong technology finance incentives in key internationally competitive sectors (e.g. steel, cement, electricity) to:
 - » deploy advanced low carbon technologies (such as CCS that are not market ready and cost effective) in developing countries
 - » encourage developing countries to set more aggressive emissions reduction targets than in their current laws and regulations.
- Fits into the Nationally Appropriate Mitigation Actions (NAMAs) and Registry concepts that are at the center of debate in the AWG-LCA process now

Thank you!

For more information:

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