



Center for
Clean Air Policy

***Technical workshop on sectoral approaches:
Benchmarking, sector boundary &
monitoring, reporting & verification issues***

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Brussels Workshop

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About the Center for Clean Air Policy (CCAP)

- Washington and Brussels-based environmental think tank
- Committed to advancing pragmatic and cost-effective climate and air quality policy through analysis, dialogue, & education
- CCAP's 30-country *Future Actions Dialogue* has produced agreements on emissions trading, design of Clean Development Mechanism; now focused on post-2012 climate policy
- Working with key developing countries (China, India, Brazil, Mexico) and U.S. states to **design climate policies**
- Running multi-stakeholder dialogues in the U.S. and the EU to build agreement on elements of a US national climate policy package and EU strategy

What we'll be covering

- International Policy Context
- Sectoral Study: “Proof of Concept”
- Overview of work efforts
- Key Questions to be explored
 - » Measurement & benchmarking
 - » Boundary issues
 - » MRV issues

International Policy Context

- Bali Action Plan calls for:
 - » “Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development,”
 - » “Supported and enabled by technology, financing, and capacity-building,”
 - » “in a measurable, reportable and verifiable manner.”
- Bali roadmap envisions a menu of options that developing countries can elect to pursue including tech transfer, CDM, sectoral approaches, and reducing emissions from deforestation and degradation (REDD)
- Also envisions a range of assistance (finance and technology transfer) from Annex I countries, including expanded carbon market mechanisms (based on tougher Annex I targets) and new financing beyond ODA

Can Sectoral Approaches help achieve Climate Progress?

- Global GHG goals require contributions from developing countries
 - » Annex I reductions alone can't ensure stabilization
 - » Most future GHG emissions growth will be in developing countries
- Sectoral approaches can facilitate these contributions
 - » Focus on energy and GHG-intensive sectors
 - » Supported and enabled by technology, financing, and capacity-building
- Together with stringent Annex I targets, sectoral approaches can help to keep global emissions at levels that preserve potential for longer-term stabilization

Does one approach work for both developed & developing countries?

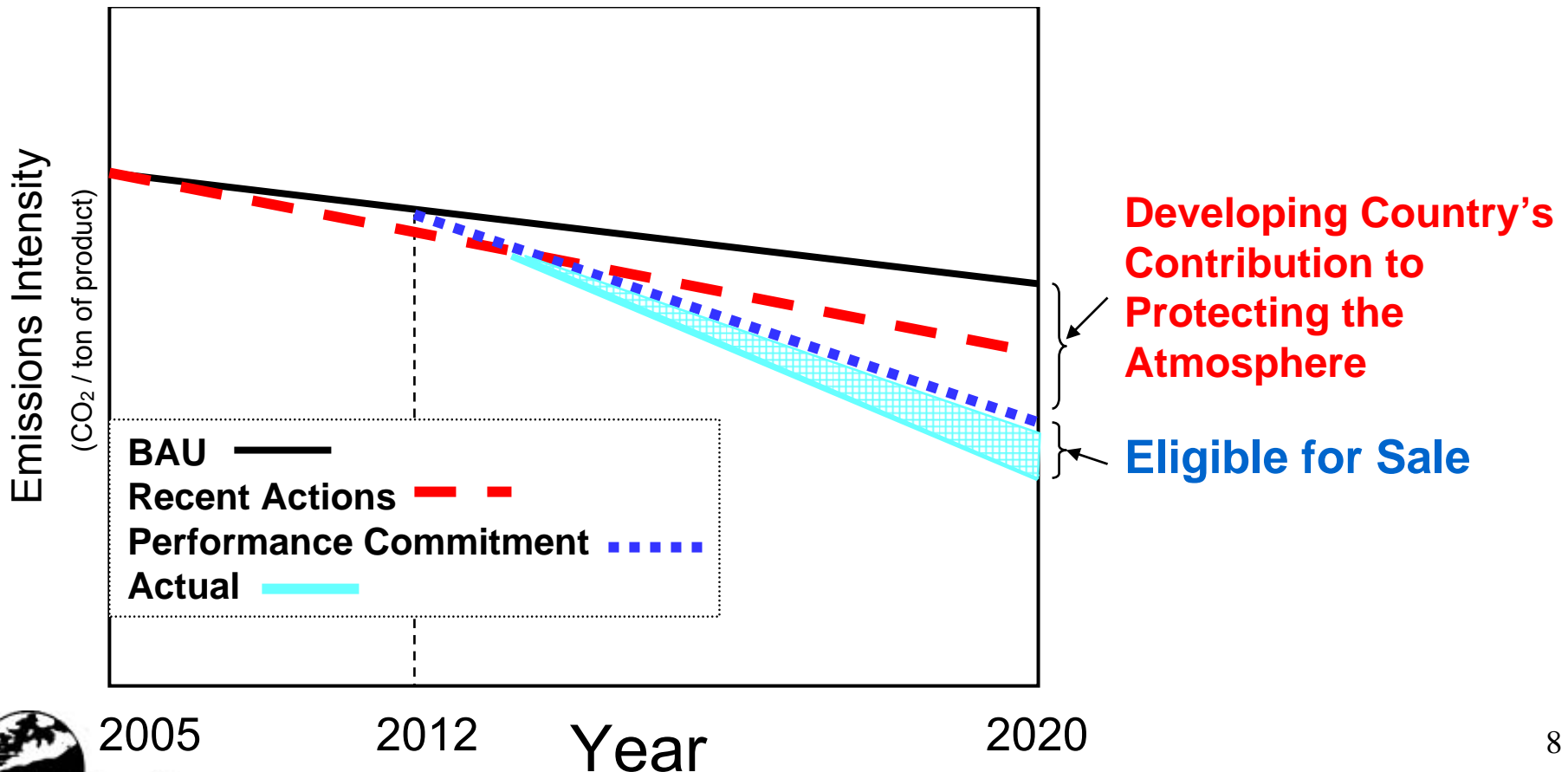
- Many different “sectoral” ideas around. Focus *in this study* is on developing countries & energy-intensive industries
- *Developed* countries take on binding commitments
 - » Sectoral approaches may inform, but should not replace
 - » For economy-wide, no guarantee that every sector can be evaluated
 - » Issues and interactions across sectors affect potential for individual sectors
- For *developing* countries, sectoral approaches *may* play a more definitive element of a post-2012 framework
 - » But does one approach work for all countries?
 - » Does one approach work for all industries and sectors?

Primary Sectoral Approaches

- Different sectoral approaches have been proposed:
 1. Transnational Sectoral Approach
 2. Sectoral Bottom-up Approach
 3. Sectoral Carbon Finance Approach (aka Sectoral CDM)
- “One size may not fit all” – a hybrid approach could combine best elements of each
- International deliberations have begun to narrow the differences among the different approaches
- The real goal is a sectoral *agreement*. The sectoral *approaches* are essentially different routes to get there

Sectoral Approach: An example with a “No-lose” Target

- Emissions reductions beyond the country’s sectoral target are eligible for sale



China Workshop

- Preferred:
 - » Bottom-up approach
 - » Nationally binding approach rather than an internationally binding one.
 - » Specific future technology penetration commitments linked to A1 financing, rather than carbon intensity targets,
- Cement
 - » Focused on waste heat reduction technology. A broader set of policy options including cement blending to be considered in the future analysis as well as social costs of policies.
- Iron & steel
 - » A single standard for the entire sector might not work; standards for different processes need to be considered

Mexico Workshop

- Supportive of sectoral approaches.
- Working on possible sectoral target for oil refining based on Solomon index and emission reduction options, coupled w financing to overcome Mexican governmental policy barriers
- Climate plan envisions implementation of a cap-and-trade system as path to meeting sectoral target
 - » First in PEMEX, then including CFE as well, and eventually economy-wide, First priority is to build monitoring and reporting capacity.
- Cement sector willing to consider sectoral approach but less optimistic that there is much room for emissions reductions.

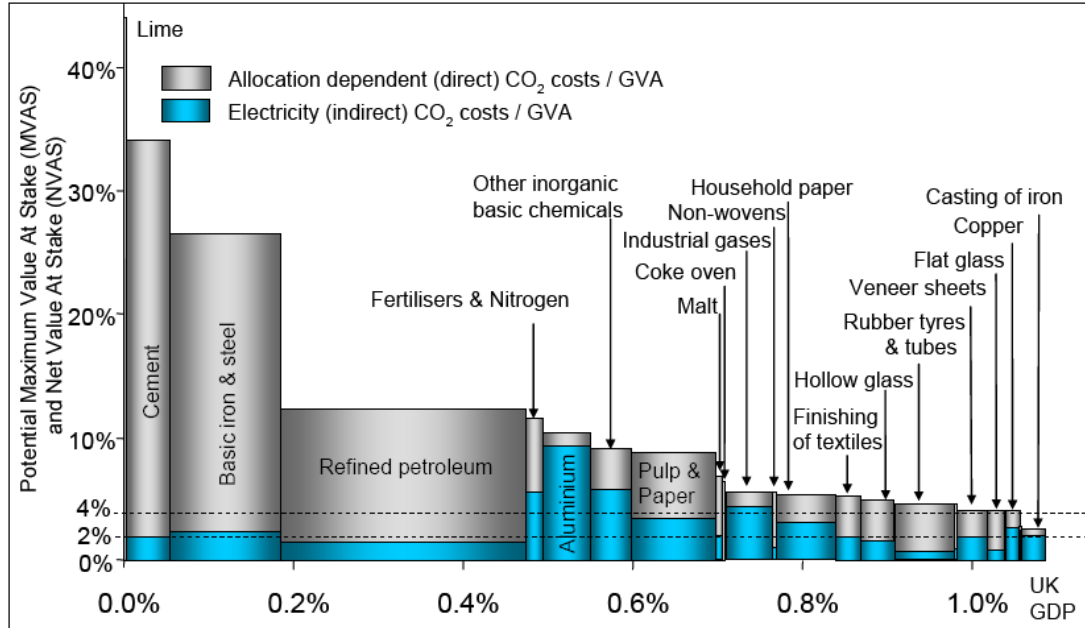
Why focus on internationally competitive sectors?

- For some energy-intensive industries, climate policies can affect trade dynamics
- Internationally competitive sectors like cement, steel, paper, and aluminum account for roughly 8% of global emissions,* but
 - » are important politically because of fears of loss of competitiveness, GHG leakage, and jobs/plant migration
- EU ETS allocation problems have demonstrated the importance of these sectors to competitiveness
 - » Decisions on auction vs. grandfathering have profound competitiveness implications
 - » Study showed that competitiveness in EU was affected both by allocation decisions by Member States and by potential leakage to nearby developing countries

* *Doesn't include emissions from LULUCF; Only direct emissions, which don't account for emissions associated with electricity use in these sectors*

Limited number of International Competitive industries at risk

Subsectors potentially exposed under unilateral CO₂ pricing



Source: Climate Strategies (Hourcade, Demailly, Neuhoﬀ and Sato), *Differentiation and Dynamics of EU ETS Industrial Competitiveness Impacts*

- Addressing carbon differences within Annex I and between developing countries and Annex I may not eliminate job and plant shifts
 - » because of differences on taxes and labor costs etc
 - » but can reduce the impact of carbon regulation on those shifts
- If these sectors can be addressed, it will be easier for Annex I countries to set aggressive national reduction targets

“Proof of Concept” Study: Overview

- DG Enterprise: “Proof of Concept” of Sectoral Approaches
 - » Lead Partner: Center for Clean Air Policy – Europe
 - » Other Partners: CEPS, Climate Change Capital, IDDRI, ZEW
- Actions necessary for sectoral approaches to become a tool in the mitigation of GHG emissions and necessary links to the world carbon markets
- Encouraging contributions from developing countries
 - » Focus on major emitting sectors
 - » Efficiency and intensity improvements
 - » Incentives: technological and financial assistance; other?
 - » Ensure sustainable development
- All feeding into the Bali Roadmap, Poznan 2008. and Copenhagen 2009

Focus of Efforts

- Four sectors
 - » Iron & Steel
 - » Cement
 - » Aluminum
 - » Electric Power
- Three countries: China, Brazil, Mexico
- Quantitative analysis
 - » Baseline forecasts
 - » Technology benchmarks
 - » Int'l trade & competitiveness analysis
 - » Mitigation cost curves
 - » Financial analysis

Overview of analytical work

- Acquisition of plant-specific data (location, capacity, annual production, annual fuel consumption by type, technologies and production processes employed, etc.)
- Development of annual BAU estimates of key parameters through 2025 in each sector
 - » Production and demand
 - » Fuel consumption by type
 - » CO₂ emissions
 - » Energy and emissions intensity
 - » Construction of new plants, expansion of existing plants, and retirements associated with production projections

Overview of analytical work (cont.)

- Identification and analysis of potential mitigation options
 - » Technologies required, availability, emission reduction potential, development of marginal abatement cost curves
 - » Technical, financial or other barriers to implementation
- Development of lower-emission scenarios under each sectoral approach
- Estimation of funding levels required and potential financing options
- Global modeling analysis to estimate impacts of sectoral approaches on international trade in one sector
- Identification of gaps in data and development of country-specific options to address them
- Development of potential govt. and private sector policies to implement mitigation options and sectoral programs

Key Questions: Design and Institutional Issues

- Design & Institutional issues
 - » Levels & incentive structures needed for additional GHG reductions?
 - » Barriers/issues associated with various types of sectoral approaches?
 - » Developing country capacity building and expertise in monitoring and reporting GHG emissions?
- Criteria for evaluating Sectoral Options
 - » GHG environmental effectiveness
 - » Contribution to sustainable development
 - » Cost effectiveness
 - » Equity
 - » Operational feasibility
 - » Political feasibility
 - » Impact on international competitiveness

Going from theory to “Proof of Concept”

- A number of benchmarking, measurement, & boundary issues in each sector
 - » Differences among industries
 - » Variations within each industry
- These issues are especially important when incentives are introduced
 - » Before, measurements had fewer consequences
 - » After, measurements have financial implications
 - » *What* you measure, and *how* you measure, affects how rewards/penalties are distributed
 - » Resolution of measurement and boundary issues reflects policy and preferences
 - » Let the end goals drive the process. Start with the end in mind

Benchmarking

- Benchmarking is composed of two main elements:
 1. measurement protocols (*how & what to measure*)
 2. performance indicators and standards (*how to use the measures*)
- Benchmarking used in two primary ways:
 1. non-incentivized comparisons (passive)
 2. incentivized (rewards/penalties) systems (active)
- Primary goal for this study is the enumeration of performance indicators and standards.
 - » However, much more work has been done on measurement protocols than on performance metrics.
 - » In using existing industry efforts, we need to recognize limits in the scope of performance indicators and standards that can be developed.

Performance Indicators & Standards

- Goal: identifying & closing the “gap” between current efficiency and what could be achieved
- But these differences can reflect many things:
 - » Inefficiencies & opportunities for improvements
 - » Differences in process inputs
 - » Differences in product output mix

} *often beyond a plant's control*

The Challenge: How to tell which is which?

- How to find the “right level” for benchmarks?
 - » Not too detailed for industry-wide agreements
 - » Not too simplified for plant-level operations

Boundary Issues

- Where we draw the measurement boundary, or “fence,” has important implications for sectoral agreements
 - » What we choose to measure (or not measure)
 - » Energy use vs. emissions
 - » Direct use, indirect use, & process emissions
 - » How far to go “upstream”?
 - » How far to go “downstream”?
- Poor choices for boundaries and metrics can limit the potential benefits
 - » Attractive opportunities may be overlooked
 - » Good actions may be taken but not counted
 - » Unproductive activities may be rewarded
 - » “Gaming” opportunities can undermine confidence

Measurement Issues

- *What* you measure, and *how* you measure, affects how rewards/penalties are distributed
 - » Multiple processes for making the product
 - » Multiple products from a facility
 - » How to account for indirect GHG emissions
 - » Downstream opportunities for energy & GHG savings
- This workshop seeks to dig deeper into these issues



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Questions?

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