



Center for
Clean Air Policy

Potential Sectoral Goals in the Cement and Oil Refining Sectors in Mexico

Mark Houdashelt, Policy Analyst
Center for Clean Air Policy

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Outline of Presentation

- International Policy Context
- The Sectoral Study
- Sectoral Goal-Setting in Mexico's Cement and Oil Refining Sectors
- Lessons Learned to Date
- Key Questions

International Policy Context

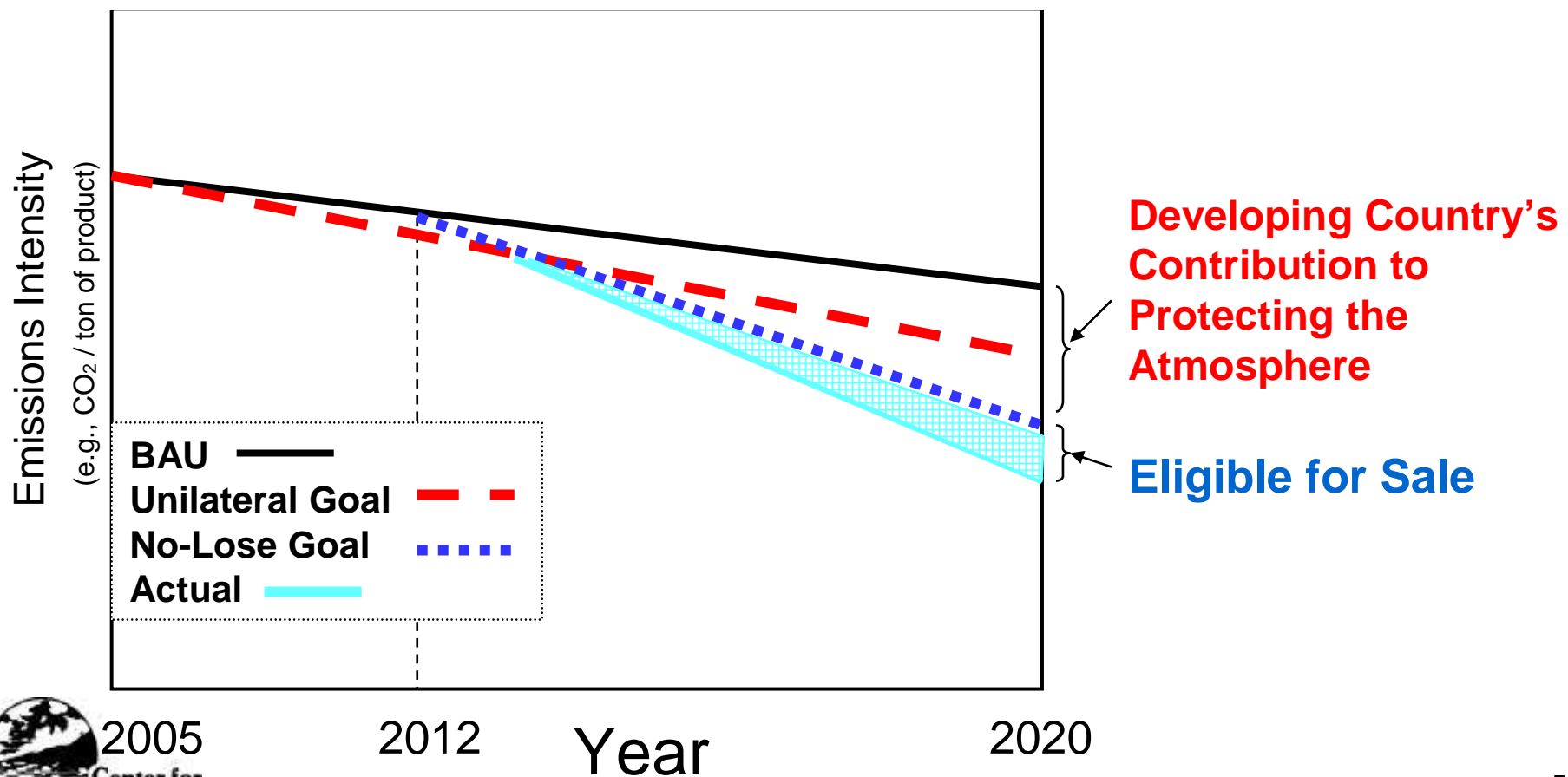
- Bali Action Plan calls for verifiable nationally appropriate mitigation actions (NAMAs) by developing country Parties in the context of sustainable development
- NAMAs are supported and enabled by verifiable technology, financing, and capacity-building support from Annex 1 countries
- Developing countries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

The Sectoral Study

- CCAP is leading a “proof of concept” study of sectoral programs in China, Mexico and Brazil
 - » Funded by EC
 - » 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, etc.)?
 - » Can potential sectoral goals and support needs be determined from the available data? If so, how?
 - » What is the role of technology deployment goals?
 - » How big an impact can sectoral programs have on global emissions?
- First attempt at developing potential sectoral goals: Mexico’s cement and oil refining sectors

Sectoral Approach: An Example with a “No-Lose” Goal

- Emissions reductions beyond the country’s “no-lose” sectoral goal are eligible for sale



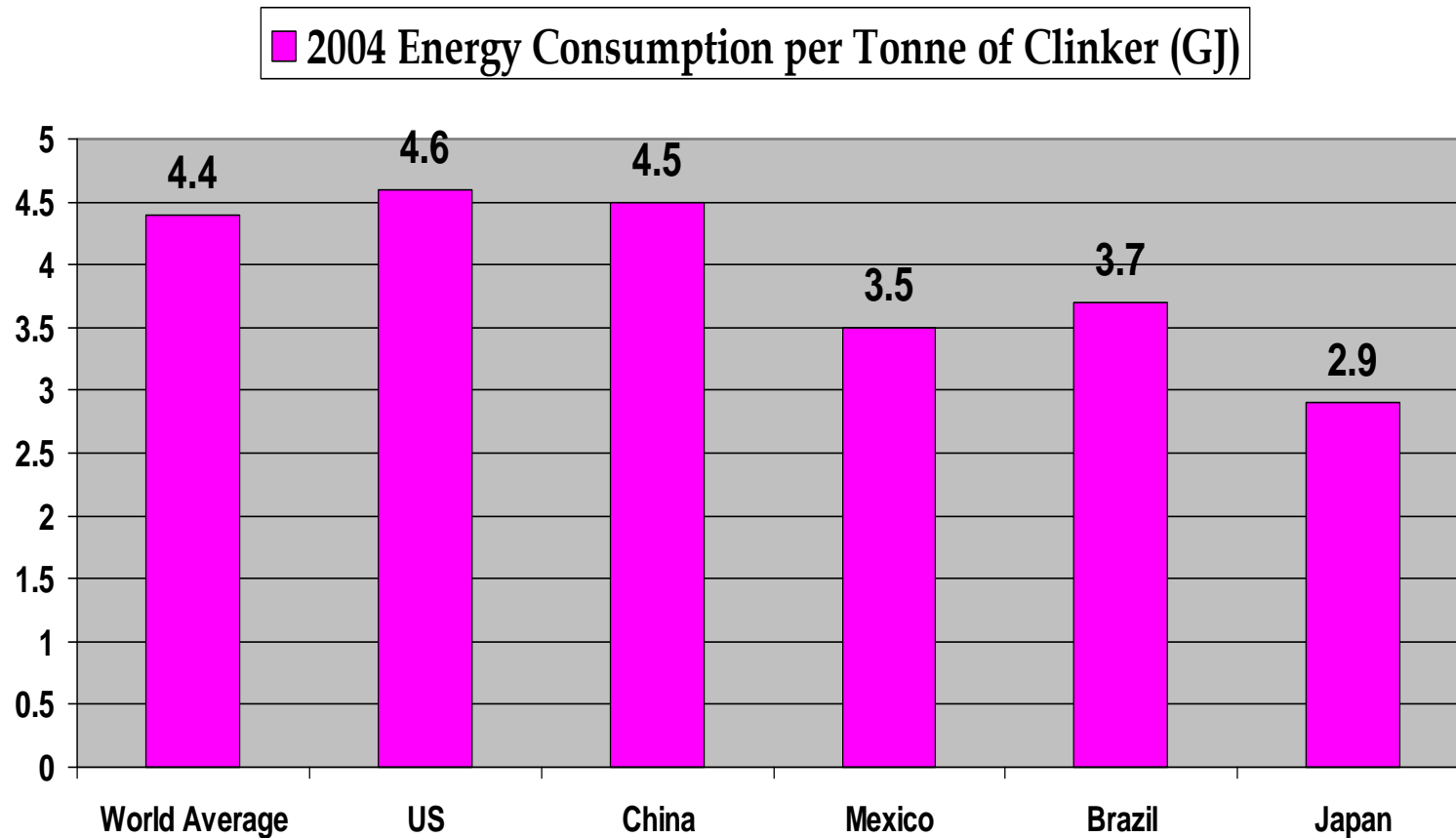
Proposing Sectoral Goals for Mexico: Cement and Oil Refining

Setting Goals for Mexico's Cement and Oil Refining Sectors

- CCAP performed a preliminary analysis of Mexico's cement and oil refining industries to estimate their GHG emissions reduction potentials in 2020
- The analysis involved estimating the:
 - » 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 different technologies in the sectors
 - » Impacts of projects currently in the pipeline (CDM, other)
 - » Emissions reduction options and implementation costs
 - » Maximum deployment of mitigation options, both individually and as packages of options
- CCAP then suggested unilateral and no-lose sectoral goals for the Mexican cement and oil refining sectors

Mexico's Cement Sector — Energy Efficiency

Mexico's cement sector is one of the most energy efficient in the world



Sectoral Programs in Mexico – Cement

- The most promising mitigation options for cement are:
 - » Cement blending (low to modest cost; may be supply barriers)
 - » Replacement of fossil-fuel based electricity generated by CFE with electricity produced by renewable sources built by the cement industry (expanded cement sector boundary; may be profitable or may require loans to overcome domestic barriers)
 - » Improvements in kiln energy efficiency (relatively expensive)
- Proposed sectoral goals:
 - » **Unilateral:** based upon maximum deployment of blending or renewable energy options (or some combination of the two)
 - » **No-lose (with EE financing assistance):** based upon maximum deployment of all three options → incorporates a greater unilateral commitment than unilateral goal above

Sectoral Programs in Mexico – Oil Refining

- Unlike the cement industry Mexico's oil refineries are not among the world's most energy efficient
- The most promising mitigation options for oil refining are:
 - » Specific energy efficiency improvements (low cost)
 - » Energy Integration (very expensive)
 - » 3100 MW Co-generation (may be profitable; domestic barriers exist)
- Proposed sectoral goals:
 - » **Intensity-based goals:**
 - **Unilateral:** Reduce Solomon Energy Intensity Index (EII) by 17% from the 2007 level by 2020 (11% below BAU)
 - **No-lose (with energy integration financing assistance):** Reduce Solomon EII by 25% from the 2007 level by 2020 (19% below BAU)
 - » **Technology-based goals:**
 - **Unilateral:** 1500? MW of cogeneration by 2020
 - **No-lose (with loans):** 3100 MW of cogeneration by 2020

Sectoral Programs in Mexico — Implementation

- 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 (cement, iron and steel may be later)
 - » Programa Especial de Cambio Climatico (PECC) will have more details (just posted for public comment yesterday)
- Hard caps for the 2011-2020 period could be derived from emissions intensity goals and expected production levels and be adjusted in subsequent periods
- Mexico is also enacting complementary policy reforms:
 - » 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

Lessons Learned to Date

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
- Flexibility is important
 - » National circumstances and data availability
 - » Sector boundaries (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 (II)

- Energy efficiency does not always imply a lack of mitigation opportunities (e.g., Mexico's cement sector)
- 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 a country adopt to achieve the sectoral goals?
 - » Mexico chose trans-sector cap-and-trade system + policy reform
- Setting goals in developing countries will be like that in Annex I – a policy and political negotiation process
 - » Initial feedback is that proposed sectoral goals were too stringent

Key Questions

- What level of unilateral effort is required to obtain assistance?
 - » How and by whom is that determined? (EU Facilitative Mechanism)
 - » Must a country implement all/most low-cost options before getting international assistance for more costly measures?
 - » Must a climate plan address a minimum set of sectors or policy areas before it can be considered for international support?
- How is the finance negotiated, governed and distributed?
 - » How is this done in a timely manner, while still achieving sufficient emissions reductions, if many developing countries propose conditional NAMAs?
- Do we need to compare goals to benchmarks?
 - » Global performance levels
 - » Technology or process benchmarks

Key Questions

- Does the stringency of MRV (and the entity responsible for MRV) depend on:
 - » the level of support provided by developed countries (for MRV of developing country mitigation activities)?
 - » the level of commitment by developing countries (for MRV of assistance from Annex I countries)?
- How much justification does a developing country need to provide for its specific technology or finance request in terms of:
 - » Baselines
 - » Technology costs
 - » Expected emissions reductions
 - » SD impacts
 - » Extent of technology deployment

Gracias!

For more information:

sectoral@ccap.org