



Center for  
Clean Air Policy

# ***The Bali Roadmap: Nationally Appropriate Mitigation Actions and Sectoral Approaches***

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*UKDFID Regional Workshop on mitigation potentials in  
India and China and linkages to NAMAs*

Beijing, 13 May 2009

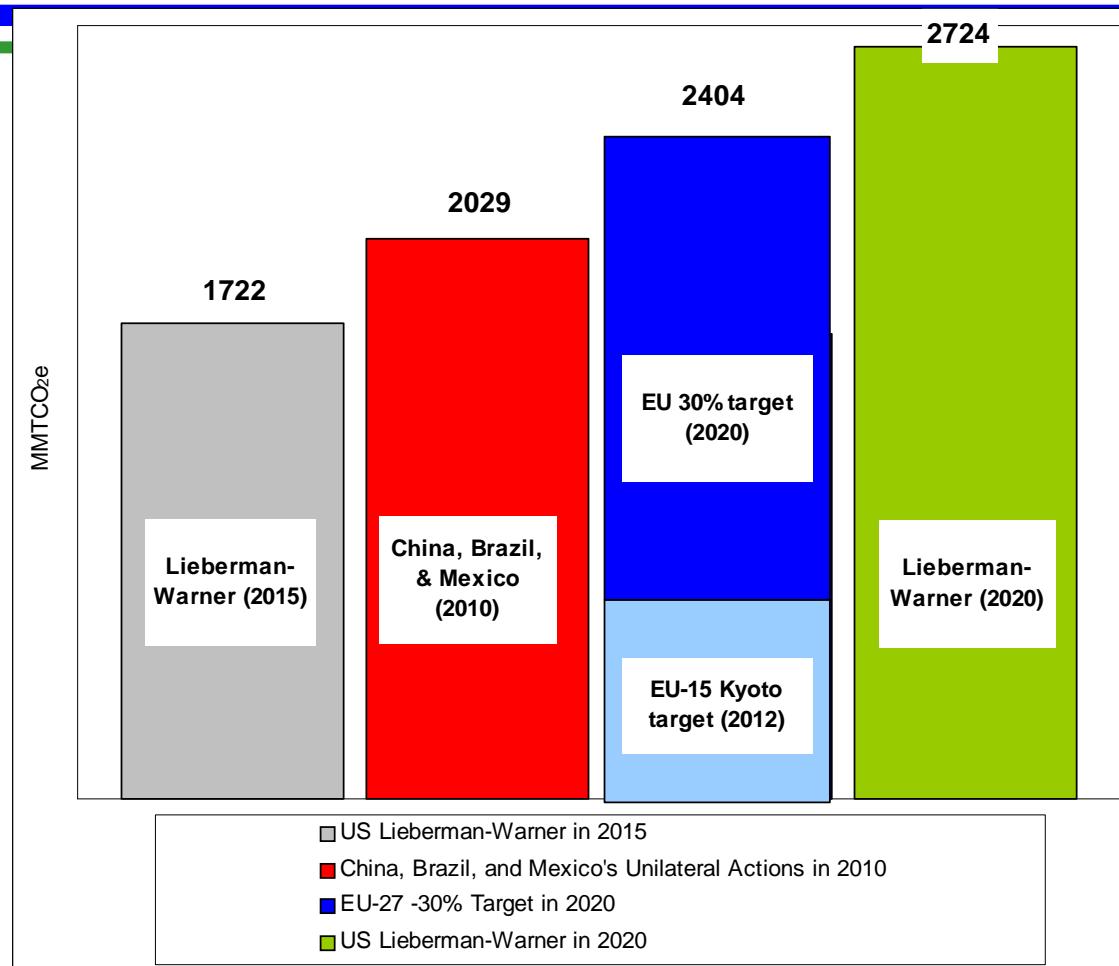
# Outline of Presentation

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- International Policy Context
- NAMAs and Financing Incentives
- Sectoral NAMA Goal-Setting in Mexico's Cement and Oil Refining Sectors
- Lessons Learned to Date
  - » Goal-Setting Lessons
  - » Broad Lessons
- Advantages of a Sectoral NAMAs Approach

# Developing countries are already doing more than many believe



## Reductions from BAU

Source: CCAP, updated

# International Policy Context

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- 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
- Both NAMAs and A1 support are subject to MRV
- 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)

# Nationally Appropriate Mitigation Actions (NAMAs)

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- Internatl debate centers on three possible types of NAMAs: unilateral, conditional, and credit-generating
- NAMAs would be registered once up-front financing is agreed to
- Goal of unilateral/conditional NAMAs is to produce reductions by DCs that are not offsets – their contribution to climate protection
- 6-10 large developing countries are responsible for 80-90% of DC emissions in key sectors

# Technology Finance Assistance to Encourage Stronger Actions

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- Technology & finance assistance could be provided:
  - » To build first-of-a-kind advanced technologies which are not cost effective
  - » To accelerate deployment by bringing down the cost of advanced technologies
  - » As incentive for participating developing countries to establish more aggressive “performance goals”
- Nature of support:
  - » Finance for advanced technologies
  - » Finance for policy implementation (e.g., to write down the costs of a feed-in tariff for renewables)
  - » Finance to help overcome domestic barriers (e.g., capacity building; creation of Special Purpose Entities by IFIs like the IADB)

# Sources for Technology Finance

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- Countries could provide financing by setting aside a portion of allowances or auction revenues in domestic trading systems, e.g.,
  - » German Parliament has earmarked 30% of auction revenues
  - » European Commission has suggested that up to 50% of auction proceeds should be used by EU member states for technology, CCS deployment, int'l EE/RE, adaptation, and measures to avoid deforestation.
  - » Norwegian Finance Minister has proposed use for international programs including adaptation, technology, and reducing deforestation
  - » US Waxman-Markey bill sets aside 5% of allowances to reduce deforestation rates in developing countries

# 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)
- CCAP also completing separate GHG policy analyses for India and beginning new UKDFID Indonesia study
- 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?
  - » 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

# 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 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:** expanded blending and renewable energy options
  - » **No-lose (with EE financing assistance):** based upon full deployment of all three options → incorporates a greater unilateral commitment than unilateral goal above

# Sectoral NAMAs 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
    - **No-lose (with energy integration financing assistance):** Reduce Solomon EII by 25% from the 2007 level by 2020
  - » **Technology-based goals:**
    - **Unilateral:** 1500? MW of cogeneration by 2020
    - **No-lose (with loans):** 3100 MW of cogeneration by 2020

# Sectoral NAMAs in Mexico — Implementation

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- 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 could be derived from the emissions intensity goals and expected production levels and be adjusted in subsequent periods
- Mexico has also put some complementary policy reforms 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

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# ***Lessons Learned to Date***

# Sectoral NAMA 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 NAMA Goal-Setting Lessons (II)

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- 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
- Tsinghua analyses define barriers to best policy options and ways to overcome them
- Setting goals in developing countries will be like that in Annex I – a policy and political negotiation process

# Broad Sectoral NAMA Lessons

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Sectoral NAMA 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 NAMA Lessons (II)

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Sectoral NAMA approaches should:

- » Be flexible and take national and local circumstances into account (e.g., with respect to sector boundaries)
- » Produce technological innovation and transfer
- » Offer sufficient incentives to both governments and industry in both developing and developed countries

# Advantages of a Sectoral NAMA Approach

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- 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
- Can be tailored to policies and sectors that are high priorities for a country and that contribute to achievement of sustainable development

# Thank you!

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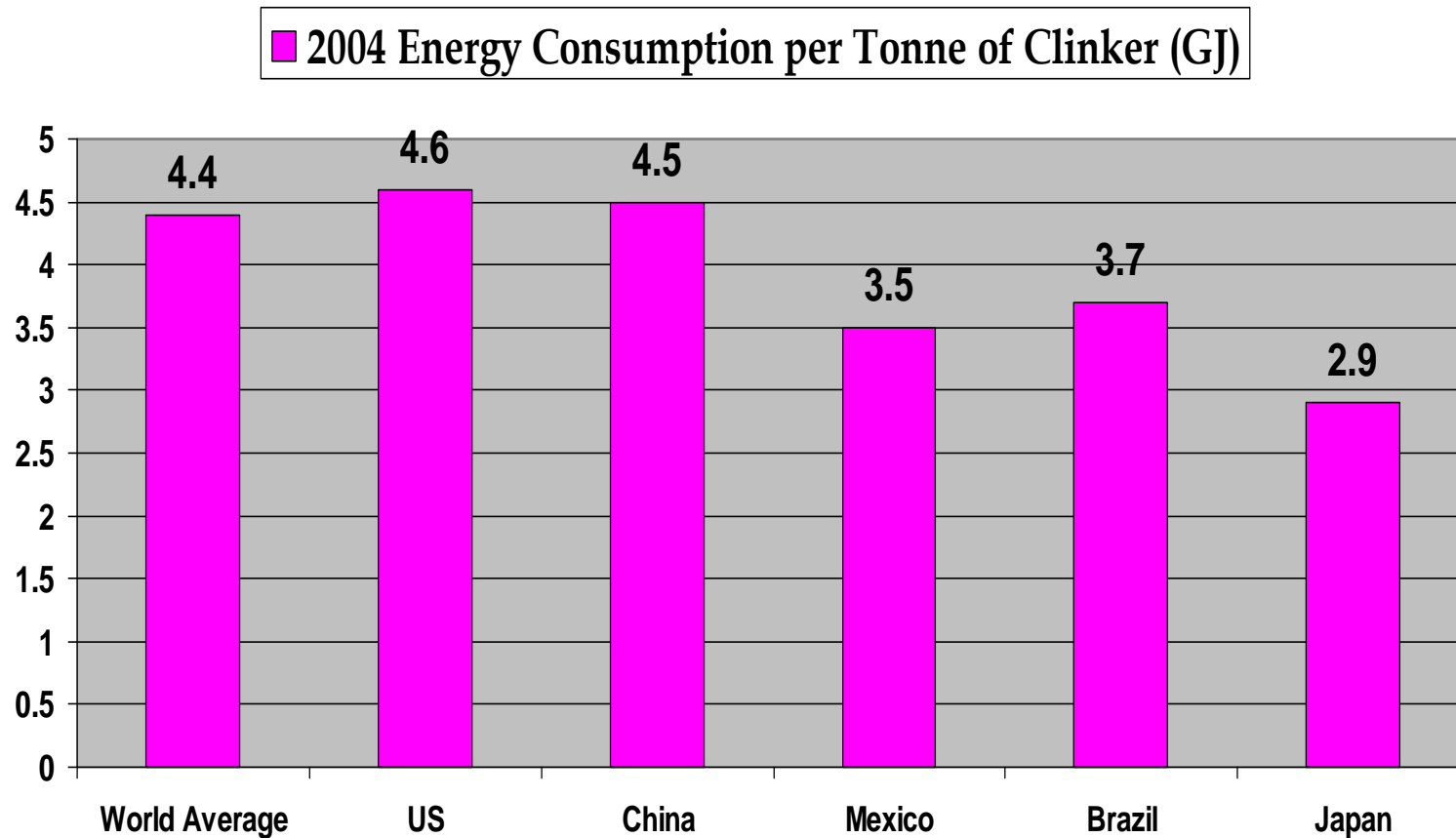
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***For more information:***

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# Mexico's Cement Sector — Energy Efficiency

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



# Governance of NAMA Finance/Support

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- Structure of governance is critical – who decides what NAMAs get support and who distributes the support?
- Some options:
  - » Indirect – World Bank or similar institution decides how the funding is distributed
  - » Direct access – similar to Adaptation Fund
  - » New UNFCCC matchmaking body aligns requests and pledges
  - » Multi-Step – Facilitative Mechanism for Mitigation Support determines eligibility for funding, which is negotiated separately

# How financing could work

