Will Monetized Carbon Emission Reductions Buy Enhanced Building Operations?

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Outline

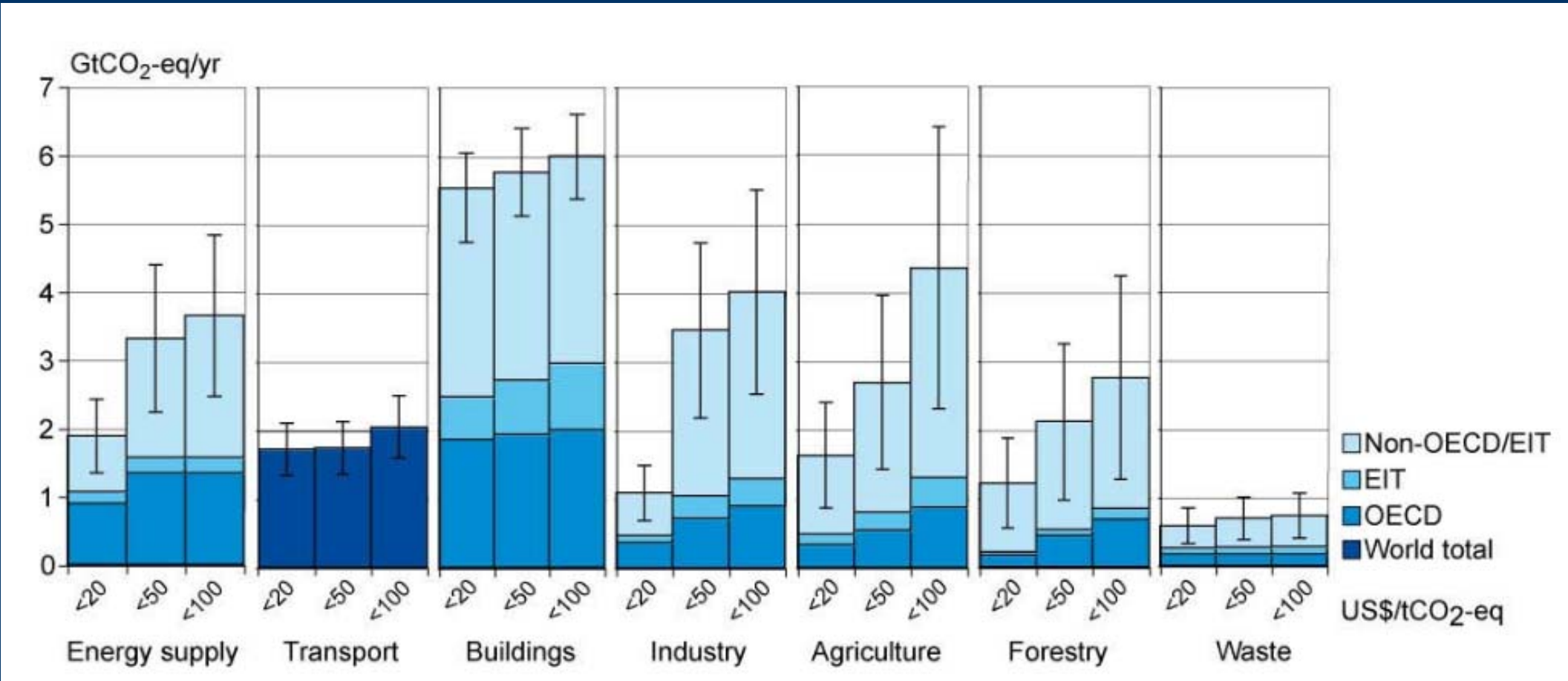
- Buildings Role in Climate Change
- How CC Programs Treat Buildings
  - Cap-and-Trade Agreements
  - Policies and Measures

  International and United State Programs
  - Kyoto Protocol
  - European Union Emission Trading Scheme
  - California Global Warming Solutions Act
  - Regional Greenhouse Gas Initiative
- Strategies for Expanding Buildings Role

Buildings Role in Climate Change

- Estimates Vary Depending on Definitions
- IPCC WG-3 Latest Estimate (2007)
  - Buildings Lead in Emission Reduction Potential
  - Buildings Lead in the Certainty of Benefits
- Collateral Benefits
  - Reduced Industrial Use for Lighting and HVAC
  - Buildings Affect Communities/Urbanization
  - Land-use Planning Affects Transportation Emissions
  - Reductions in Urban Heat Island Effects
  - Community Plans Affect Waste Treatment

Buildings: Large & Reliable



Source: *Mitigation of Climate Change*,
Bert Metz, Co-chair IPCC WG III,
UNFCCC, Bonn, May 12, 2007

Global Climate Change Programs

- Cap-and-Trade Mechanisms
  - -- Establishes Future Target
  - -- Participants Committed to a Share of the Target
  - -- Coverage Area Can Vary Greatly
  - -- Effective Implementation Potential for Covered Area
- Policies and Measures
  - -- Term for All Other GHG Emission Reduction Actions
  - -- Includes Building and Appliance Standards, Labels, all Forms of Market Transformation
  - -- Tailored to the Country/State Priorities
  - -- Varied, Uncertain Results in Different Jurisdictions

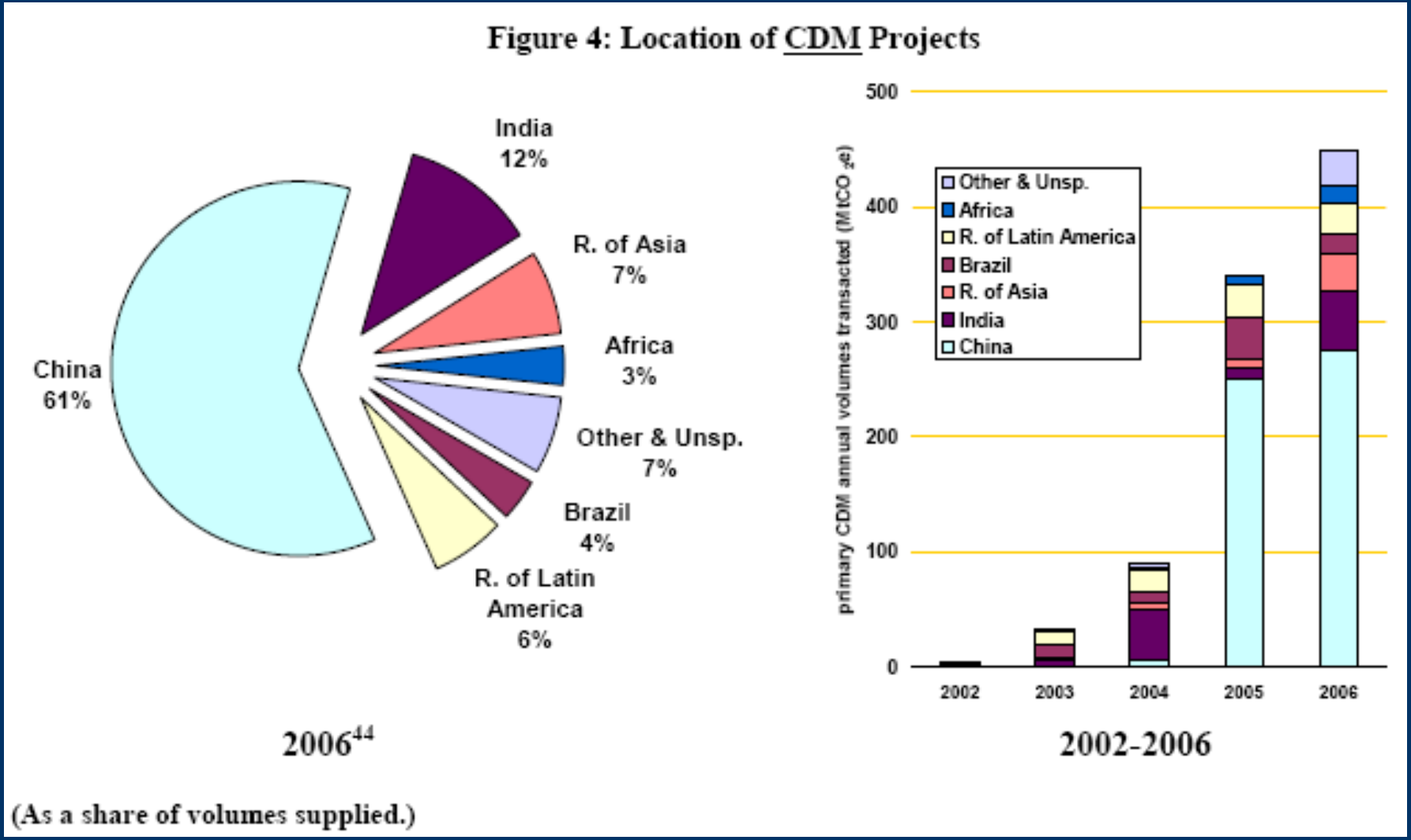
State and Trends of the Carbon Market 2007

Table 1: Carbon Market at a Glance, Volumes & Values in 2005-06

	2005		2006	
	Volume ($MtCO_2e$)	Value (MUS$)	Volume ($MtCO_2e$)	Value (MUS$)
Allowances				
EU ETS	321	7,908	1,101	24,357
New South Wales	6	59	20	225
Chicago Climate Exchange	1	3	10	38
UK-ETS	0	1	na	na
Sub total	**328**	**7,971**	**1,131**	**24,620**
Project-based transactions				
Primary CDM	341	2,417	450	4,813
Secondary CDM	10	221	25	444
JI	11	68	16	141
Other compliance	20	187	17	79
Sub total	**382**	**2,894**	**508**	**5,477**
TOTAL	**710**	**10,864**	**1,639**	**30,098**

Source: State Trends of the Carbon Market 2007, The World Bank, pg. 3.

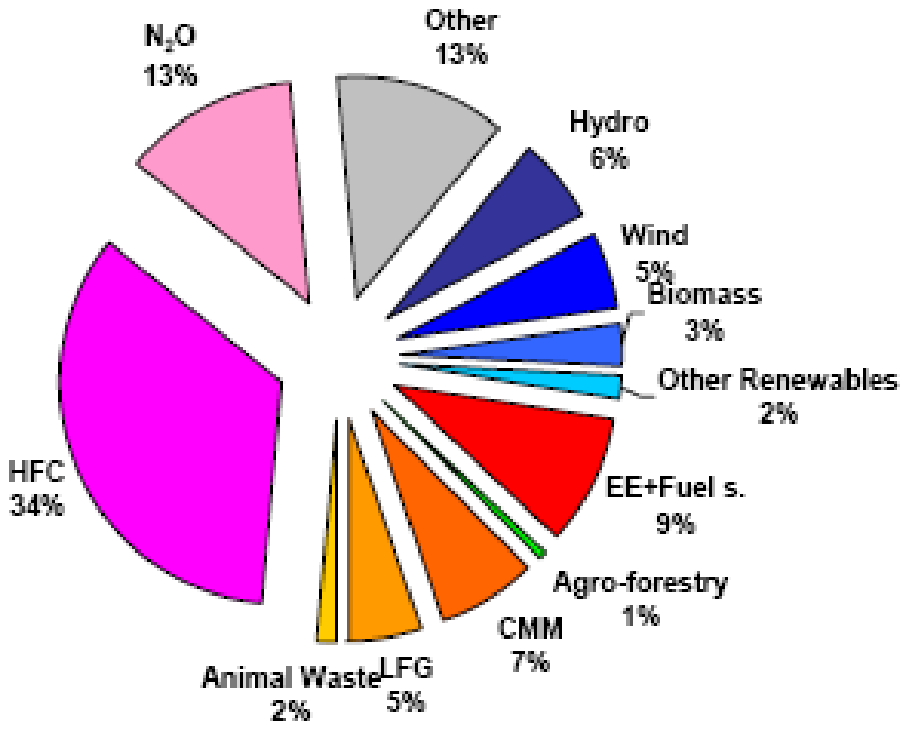
Location of CDM Projects



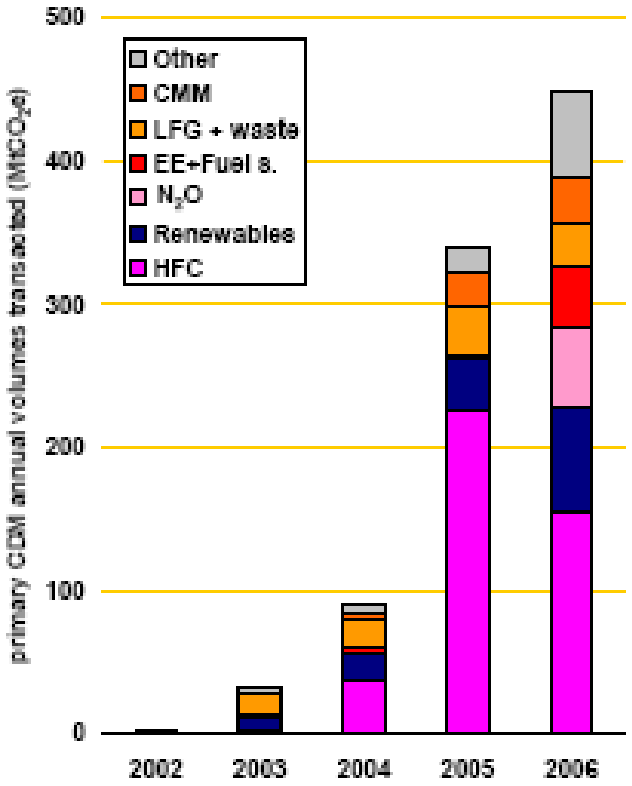
Source: State Trends of the Carbon Market 2007, The World Bank, pg. 24.

Asset Classes of CDM Projects

Figure 6: Asset Classes of CDM projects.



As a share of volumes contracted in 2006



2002-2006

Source: State Trends of the Carbon Market 2007, The World Bank, pg. 27.

International Programs

- UNFCCC Kyoto Protocol
  - Dominant Global Climate Change Program
  - Mandatory Emission Targets in 2008-2012 for 37 Annex I Countries Which Have Ratified It
  - Relies Primarily on Policies and Measures
  - Flexibility Measures Include CDMs and JIs
- European Climate Change Program
  - Reflects EU's Leadership in Implementing Kyoto
  - Coordinates EU's 22 Annex I Countries' Kyoto Plans
  - Allocation C&T for Largest Emission Emitters
  - Greatest Uncertainty is Policies and Measures

Leading New U.S. Programs

- California Global Warming Solutions
  - Passed, 2006; Development, Now; Enforcement, 2012
  - Enforceable Target: Reduce State's Kyoto GHG Emissions to 1990 Levels by 2020
  - Advisors Recommend Allocation-Based C&T with 4 Options—EU ETS Type to Broad Coverage
  - Advisors Recommend Offsets, e.g. CDMs and JIs
- Regional Greenhouse Gas Initiative
  - MOU Agreement:10 States in NE and Mid-Atlantic
  - C&T: Power Plants > 25MW, >50% Fossil Fuels
  - Limits: Current, 2009-2014; Down 10%, 2019
  - Offsets Planned in Designated Types
  - Special Consideration for Residential Projects

Critical Years: 2008-2012

- Kyoto and EU Challenges
  - Policies and Measures That Meet Their Targets
  - Successful, Debugged, Phase II EU ETS
- United States Challenges
  - Progress in Implementing California and RGGI
  - Coordination of New Federal Legislation with Developing State and Regional Programs
- Global Challenge
  - Merge Kyoto and U.S. Activities Into a Single, Global Program in 2013

Challenges for Buildings

- Participate in Climate Change Decisions or the Buildings Role Will Be Minimized
- Apply Rigorous Standards to Monitor and Verify Carbon Savings in Building Projects
- Actively Exchange Experience to Identify Successes and Problems
- Market the Contribution Buildings and Related Community Projects Make to a Wide Range of Climate Change Goals

- When Carbon is Monetized, Improved Buildings Are a Best Buy -