

International Organizations and National Carbon Management

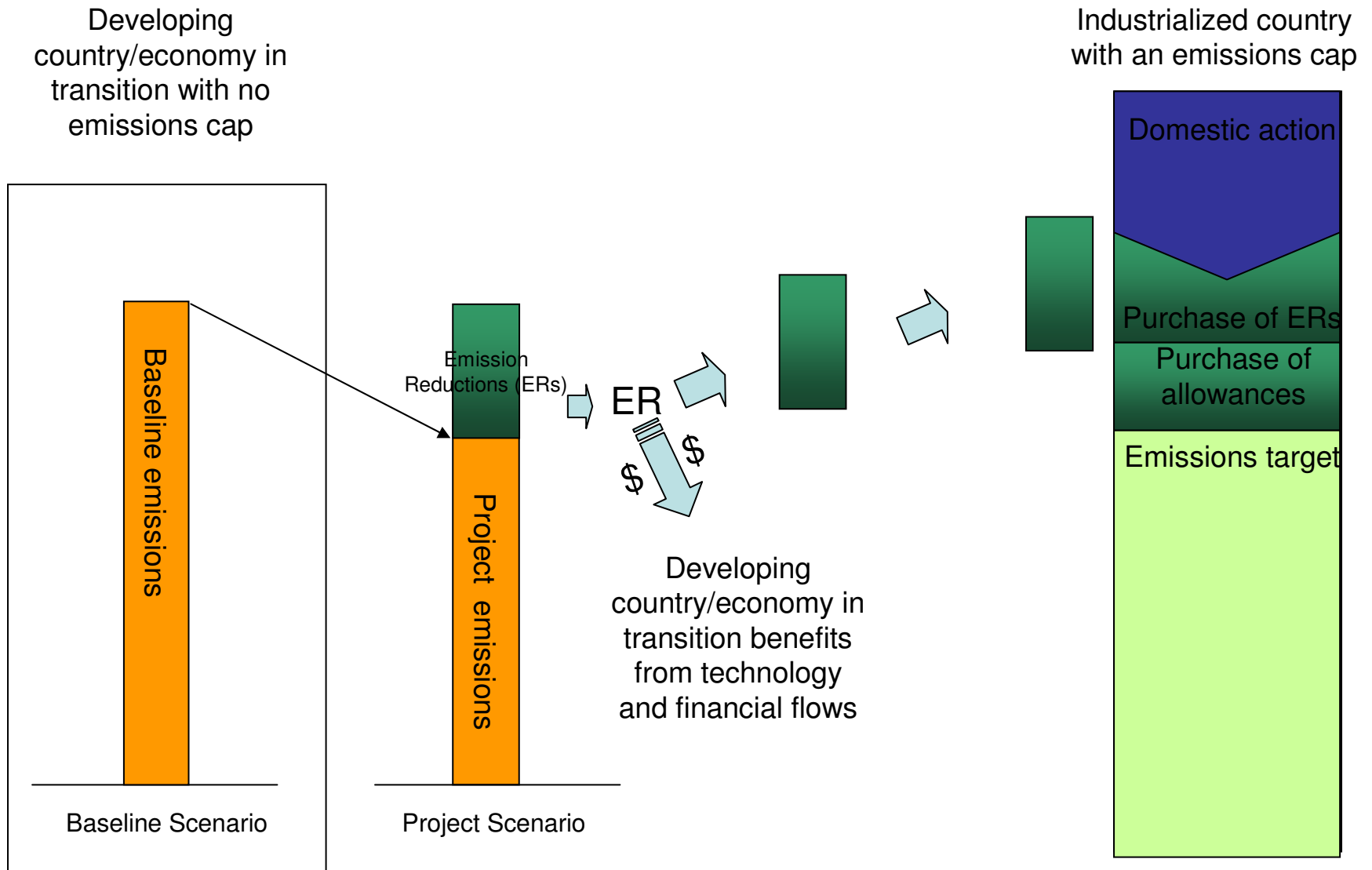
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University of Michigan

International Workshop on
Institutional Dimensions of Carbon Management at the
Urban and Regional levels
Bali, Indonesia
December 5, 2006

Context of Global Carbon Management

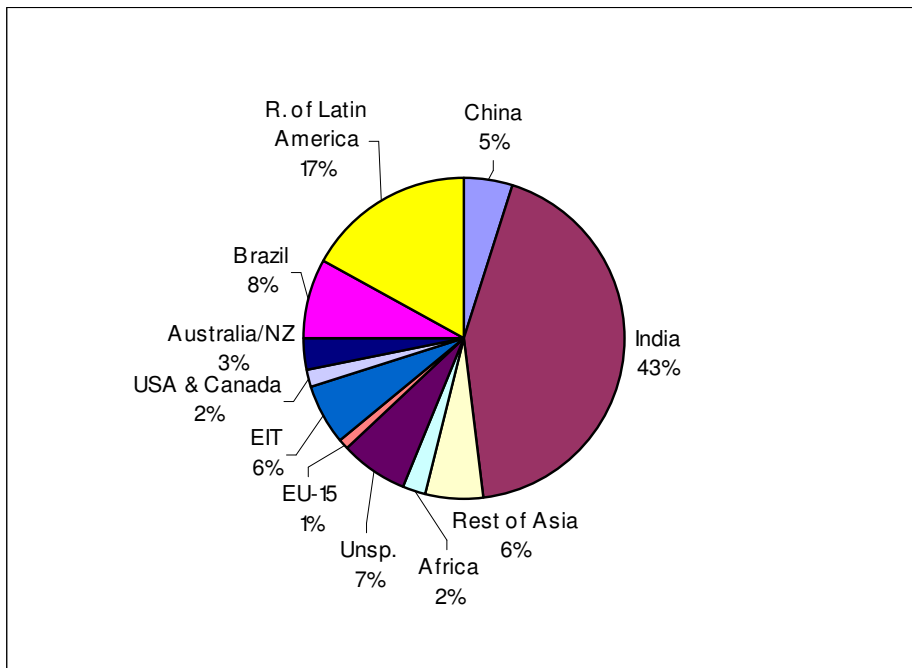
- UN Framework Convention on Climate Change, and its Kyoto Protocol-an instrument for intergovernmental efforts for climate change mitigation
- 189 countries ratified the Kyoto Protocol and 38 are required to reduce their emissions (Annex 1 countries) by an average of 5.2% below 1990 levels (5.0 to 5.5 billion tons) during the period 2008-2012
- Spirit of the Convention: “common but differentiated responsibilities”
- Kyoto targets to be achieved through:
 - Reductions in home country emissions
 - Purchasing emission reduction credits and international emissions allowances
 - Credits from projects in developing countries (Clean Development Mechanism – CDM)
 - Credits from projects in economies in transition (Joint Implementation – JI)
 - International Emissions Trading (IET) of allowances

CDM Mechanism

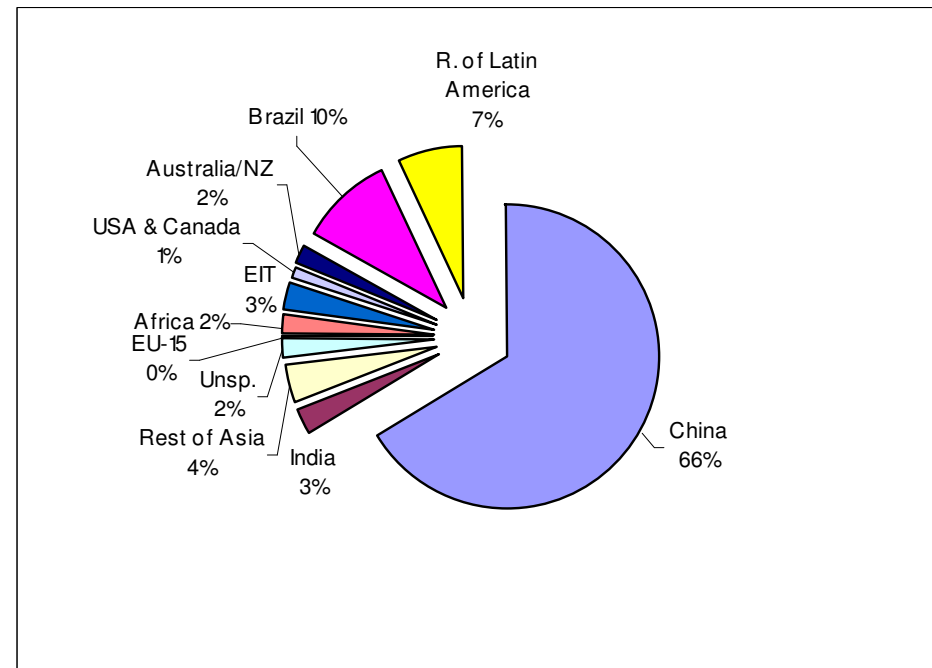


Carbon Market Sellers

(as shares of volume supplied)



January 2004-December 2004

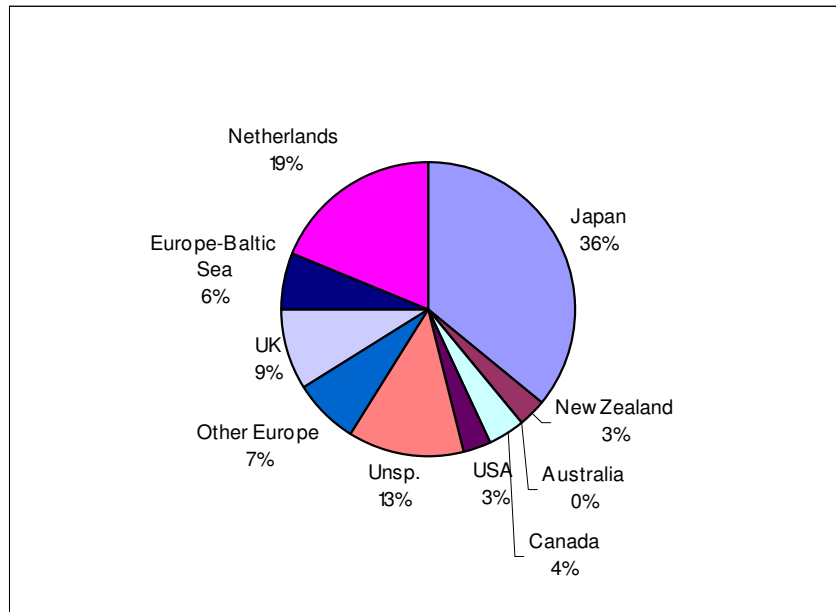


January 2005-March 2006

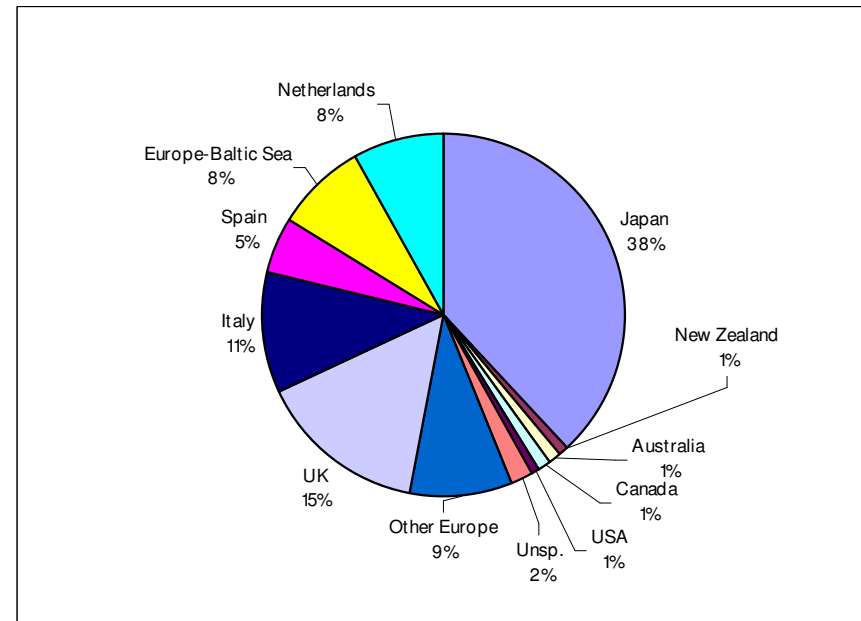
Source: State and Trends of the Carbon Market 2006

Carbon Market Buyers

(as shares of volume purchased)



January 2004-December 2004



January 2005-March 2006

Global Carbon Market

- The overall value of the global aggregated carbon markets was over US\$10 billion in 2005 and is expected to be US\$25-30 billion in 2006
- Asia accounted for the largest share (73%) of contracted volume of project-based transactions signed between 1/2005 and 3/2006
- China replaced India as the leader of the carbon seller market (66%)
- Africa still occupied a very small share of the market
- European and Japanese private entities dominated the buy-side of the market
- Multilateral agencies and public sector buyers, e.g. the World Bank, are the most secure source of purchasing

Major International Organizations in Carbon Management

- **Global Environment Facility**

Missions

- Climate change mitigation
- Climate change adaptation

Implementing Agencies

- World Bank
- United Nations Development Programme (UNDP)
- United Nations Environment Programme (UNEP)

- **World Bank Carbon Fund Unit (CFU)**

- CDM
- JI

- **Asian Development Bank**

- A new carbon trust fund: Asia Pacific Carbon Fund (APCF)

World Bank Carbon Funds Unit

Total funds pledged = US\$ 1.93 billion (13 governments, 62 companies)



- **Prototype Carbon Fund.** \$180 million. Multi-shareholder. Multi-purpose.



- **Netherlands Clean Development Mechanism Facility.** \$268.3 million. Netherlands Ministry of Environment. CDM energy, infrastructure and industry projects.



- **Community Development Carbon Fund.** \$128.6 million. Multi-shareholder. Small-scale CDM energy projects.



- **BioCarbon Fund.** \$53.8 million. Multi-shareholder. CDM and JI land use and forestry projects.



- **Italian Carbon Fund.** \$155.6 million. Multi-shareholder (from Italy only). Multipurpose.



- **Netherlands European Carbon Facility.** \$56.6 million. Netherlands Ministry of Economic affairs. JI projects. IFC manages similar fund.



- **Spanish Carbon Fund.** \$282.4 million. Multi-shareholder (from Spain only). Multipurpose.

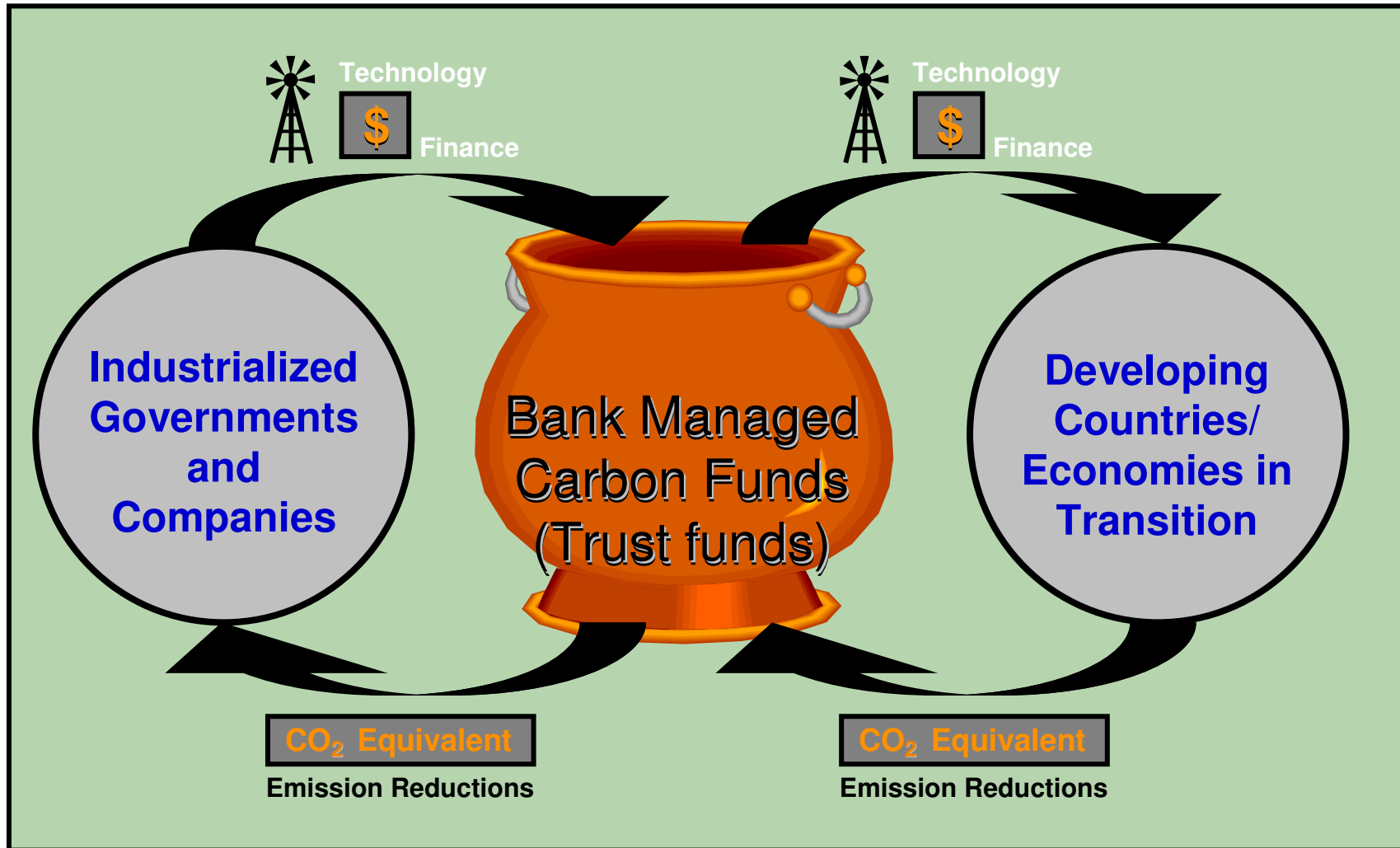


- **Danish Carbon Fund.** \$69.4 million. Multi-shareholder (from Denmark only). Multipurpose.

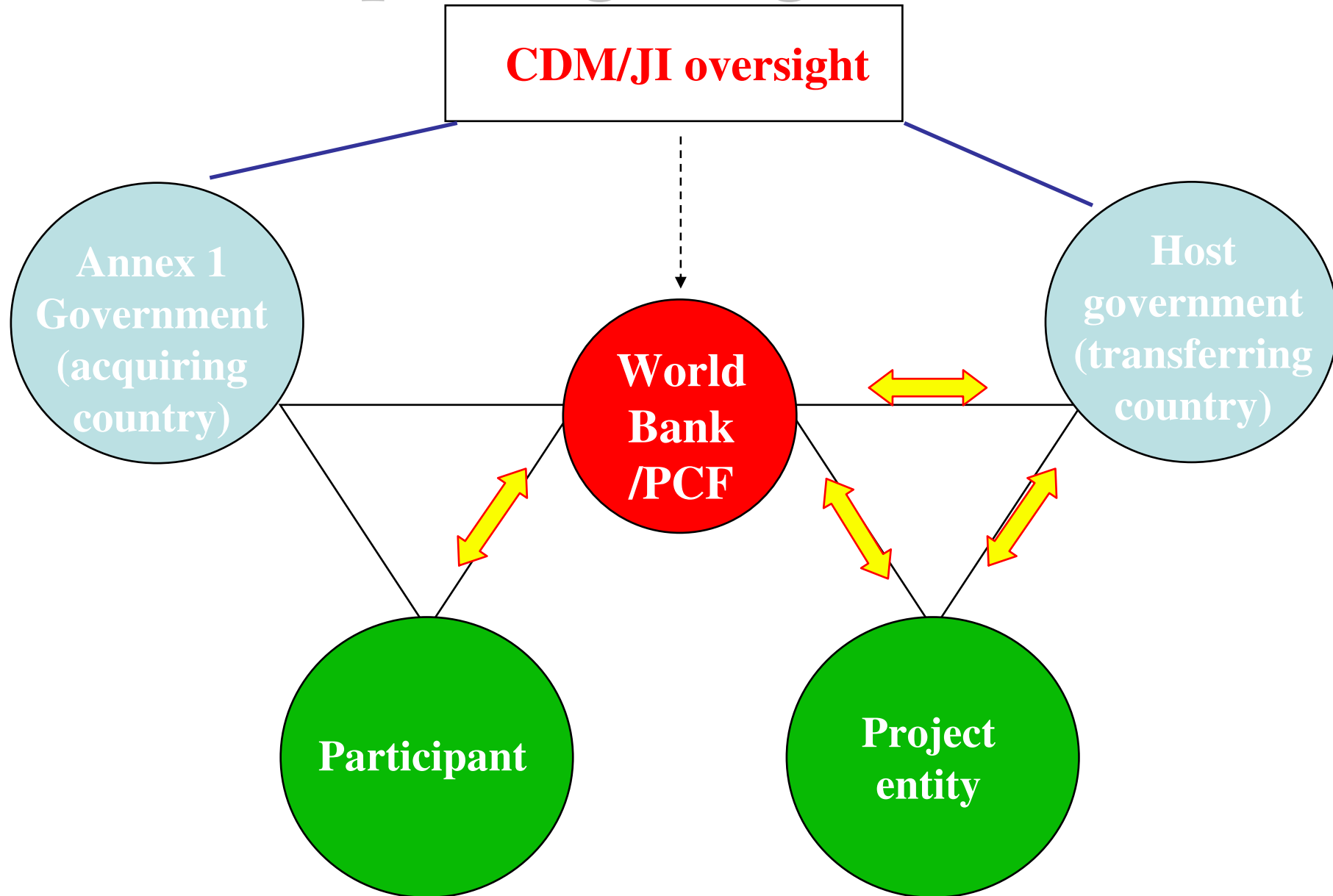


- **Umbrella Carbon Facility.** \$737.6 million. 2 HFC-23 projects in China.

How World Bank carbon funds work



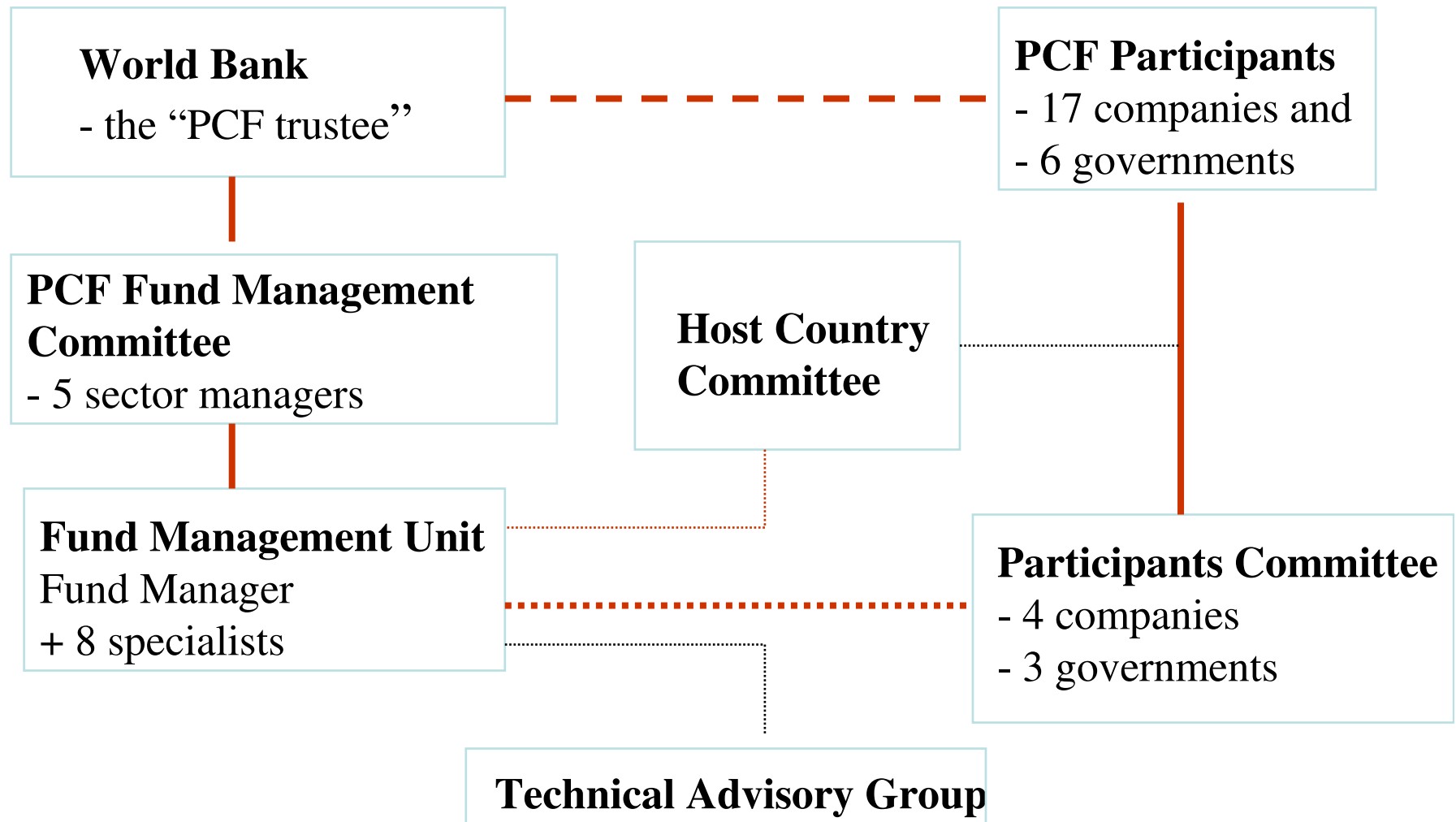
Unique Legal Agreements



Prototype Carbon Fund (PCF)

- Pilot fund to create a global market in carbon credits
- Multi-donor trust fund—6 governments and 17 companies, US\$183 million
- Multi-objectives:
 - providing “learning by doing” experience for Parties to the Protocol on key policy issues (for example, defining and validating baselines)
 - demonstrating how CDM and JI projects can contribute to sustainable development
 - building confidence that the CDM and JI can benefit both developing countries and buyers of emission reduction credits

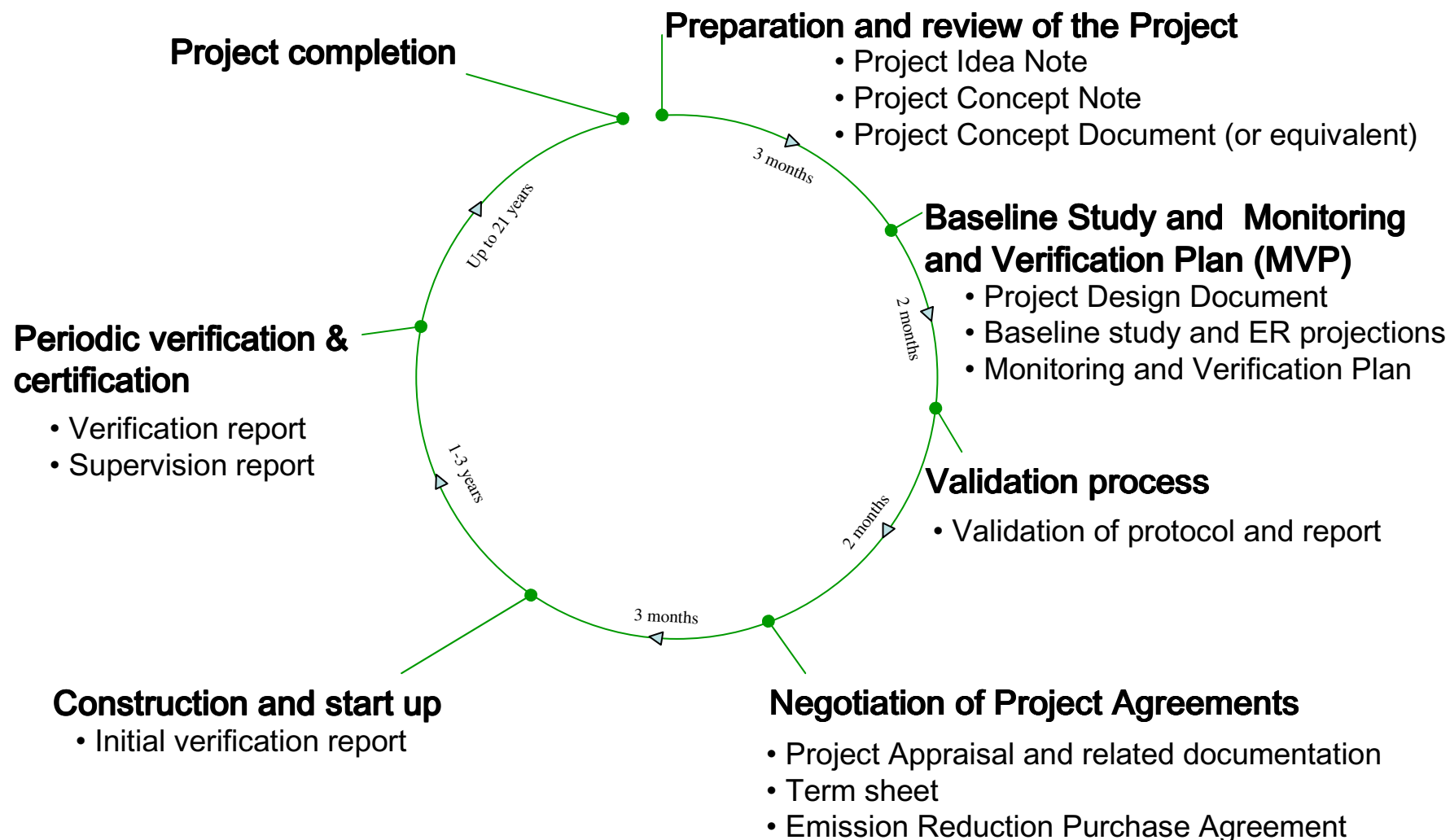
Organizational Structure of the PCF



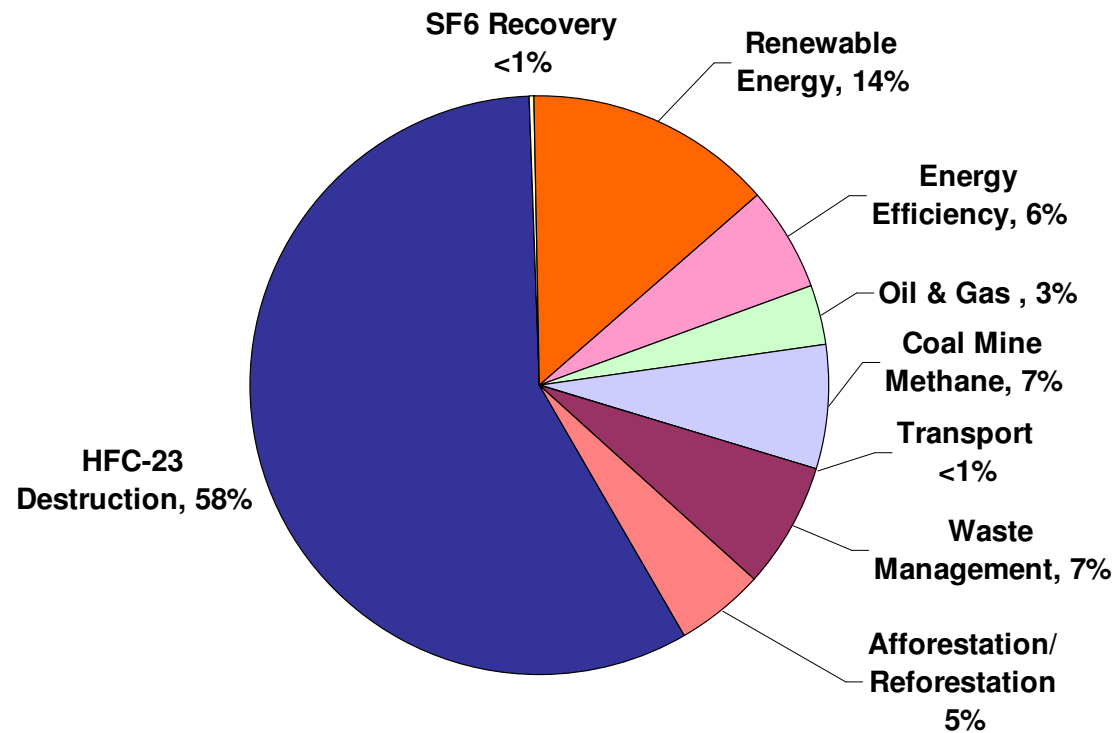
CDM Project Criteria

- Any proposed activity, with a boundary (e.g., a manufacturing plant, or a hydro reservoir and generating station)
- Must be consistent with national sustainable development priorities (e.g., 11th Five-Year Plan)
- Under CDM rules, must be real, measurable, verifiable, and additional (would not have happened without CDM)
- CDM therefore addresses a barrier (financial, technological, other)

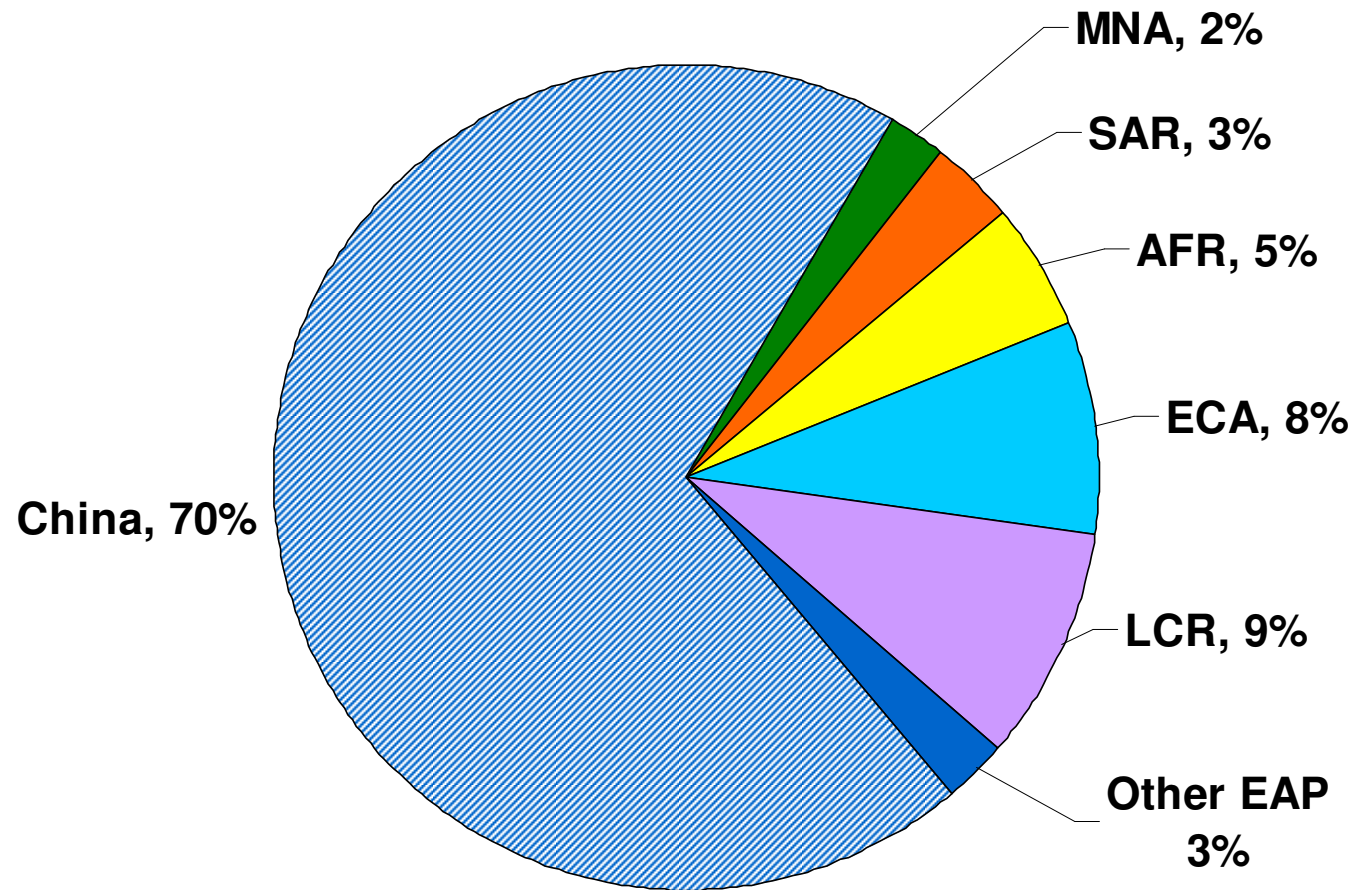
PCF Project Documentation



Distribution of CF portfolio (by volume of emission reductions)



Regional distribution of CF portfolio (by volume of emission reductions)



World Bank's Contribution to China's CDM Projects

- Signed contracts
 - Gansu Xiaogushan Run-of-river Hydro
 - Shanxi Jincheng Coal Mine Methane
 - Guanxi Forestry
 - Jiangsu Meilan HFC-23
 - Jiangsu Changshu 3F HFC-23
 - Nanjing Iron & Steel
- Forthcoming
 - Hubei Guangrun Hydropower
 - Inner Mongolia Huitengxile Wind farm
 - Shanxi Qingshui Coal Mine methane
 - Shanghai Sludge
 - Shanghai Laogang Landfill
 - Shandong Landfill
- Pipeline
 - Several Iron & Steel (Anben, Bao Tou)
 - Shandong chicken manure (methane for energy)

Slow Start of CDM in China

Skeptical attitude towards CDM mechanism before 2005

- CDM market was smaller than expected and competitive due to withdrawal of US from Kyoto
- Uncertainty over when the Kyoto Protocol would enter into force
- Technology transfer from CDM is different from regular technology transfer, lacking capacity building
- The risk of “giving up the low fruit”: having low-cost CDM projects undertaken early with international partners and then not having these options available later when or if binding commitments are made by developing countries

Proactive participation in CDM projects since 2005

World Bank's Role in Reducing China's Institutional and Technical Barriers to CDM Projects

- World Bank's PCF intended to engage China in CDM projects since its inception in 2000
- China hesitated to sign up as a host country of PCF projects until September 2003
- Assisted a project "Country Study on CDM Methodology and its Application"
- Supported and assisted in the report Clean Development Mechanisms in China, which was completed in June 2004 and provided Chinese government and industries with more knowledge of CDM
- PCF's early work with China offered "learning by doing" experience to China, increasing its capacity to initiate and undertake CDM projects

A solid foundation for the exploration of CDM projects in China beginning in 2005

China CDM Projects Portfolio

- **Dominate the CDM credit market:** China occupied 73 percent of the CDM credit market in 2005 and 60 percent by September 2006 (Brazil 11%)
- A total of 79 Chinese CDM projects had sold 384 million tons of carbon dioxide equivalent to developed countries by September 2006, at an average price of US \$7.53 per ton
- NDRC approved 164 CDM projects by November 2006, expected to reach 200 by the end of 2006 and 500 by 2007
- CDM projects cover wind power, hydropower, landfill gas power generation, coal bed methane utilization, afforestation and HFC-23 decomposition
- **Priority areas:**
 - Energy efficiency improvement,
 - Development and utilization of new and renewable energy
 - Methane recovery and utilization

Ways to Facilitate CDM Projects— China's Perspective

- Awareness campaign and capacity building, especially at local levels
- More involvement of national and local organizations and experts
- Initial risk sharing by developed countries
- Good price for projects of good quality
- Expeditious approval process

Ways to Facilitate CDM Projects— PCF's Perspective

An enabling policy and regulatory environment

- An effective Designated National Agency (DNA) with a clear and simple approval procedure within specific timelines
- Clear and consistent approach to sustainable development

Business environment for successful projects

- Project makes basic business sense
- Experienced and committed project sponsors / owners
- Mature project idea and well prepared
- Local financial institution as intermediaries
- Consistent with national and sector development and environmental goals

Methodology and monitoring for CDM projects are still challenging