



# **Carbon Markets in India**

## **&**

# **Role of World Bank**

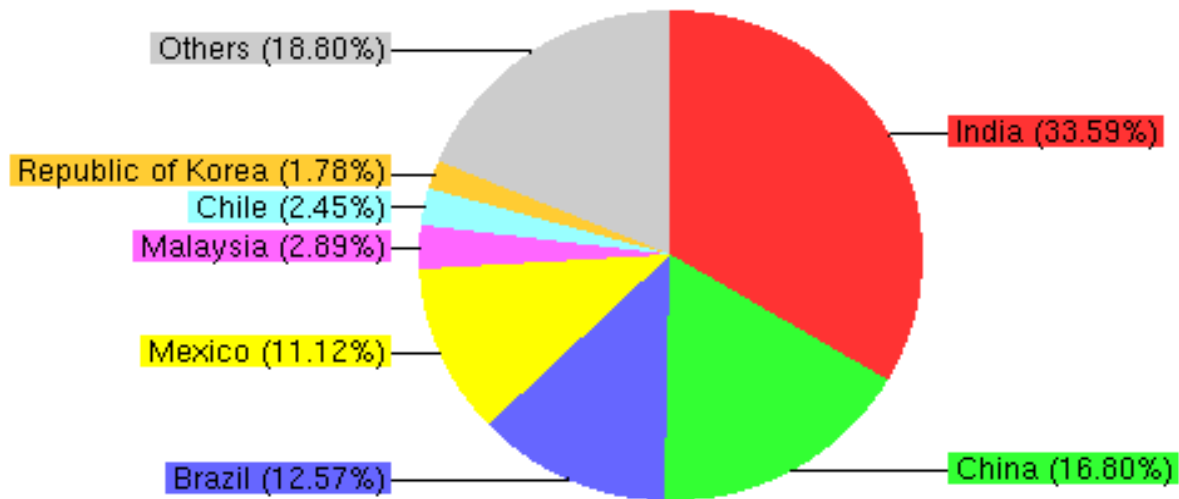
**January 18, 2008**

**Dr. Naval Karrir**



# Registered CDM Projects

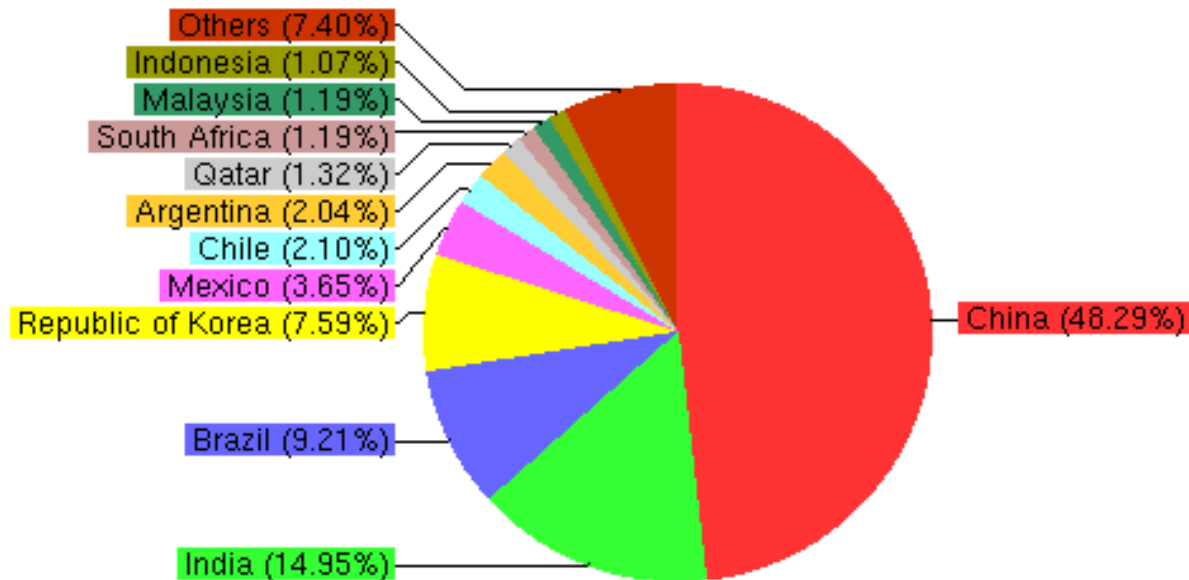
Registered project activities by host party. Total: 899





# Annual CERS from Registered Projects

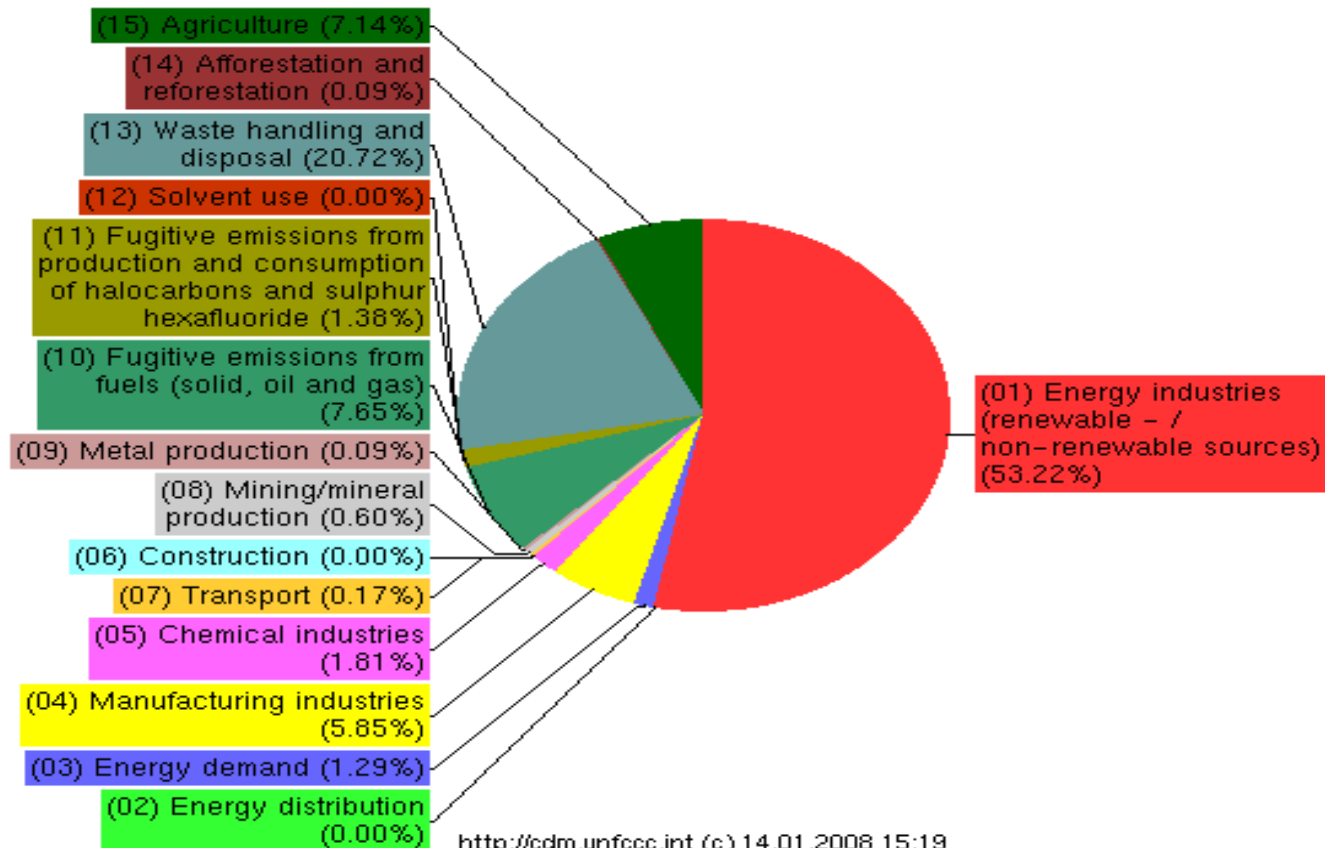
Expected average annual CERs from registered projects by host party. Total: 189,142,790





# Registered Projects by Scope

Distribution of registered project activities by scope



# Characteristics of Indian Carbon Market

- **Largest portfolio of CDM projects in the world**
  - > 800 approved by the DNA, more than 300 projects registered by the CDM EB currently
  - Second largest quantity of issue CERs after China – China entered the market only in 2005
- **...but size (400 Kt) is smaller than world average (958 Kt CO<sub>2</sub>)**
  - reflects the large presence of SMEs in the Indian economy
  - Many buyers have volume threshold, ie. small projects are disadvantaged
  - Definite lack of intermediation

# Characteristics of Indian Carbon Market



- **...largest amount of unilateral projects**
  - Many projects financed on balance sheet, reflecting ample availability of capital
  - Speculative behavior
- **...little involvement from PSUs (< 10% of portfolio)**
  - Despite significant investments in infrastructure

# World Bank Carbon Funds & Facilities

Total funds pledged = US\$ 2.02 billion (16 governments, 65 firms)



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



**Netherlands Clean Development Mechanism Facility.** \$268.3 million (closed).

Netherlands Ministry of Environment. CDM energy, infrastructure and industry projects.



**Community Development Carbon Fund.** \$128.6 million (closed). Multi-shareholder.

Small-scale CDM energy projects.



**BioCarbon Fund.** \$77.4 million (Tranche One closed totaling \$53.8 million). Multi-shareholder. CDM and JI LULUCF projects.



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

Multipurpose.

# World Bank Carbon Funds & Facilities

Total funds pledged = US\$ 2.02 billion (16 governments, 65 firms)



**Netherlands European Carbon Facility.** \$56.6 million (closed). Netherlands Ministry of Economic affairs. JI projects.



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



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



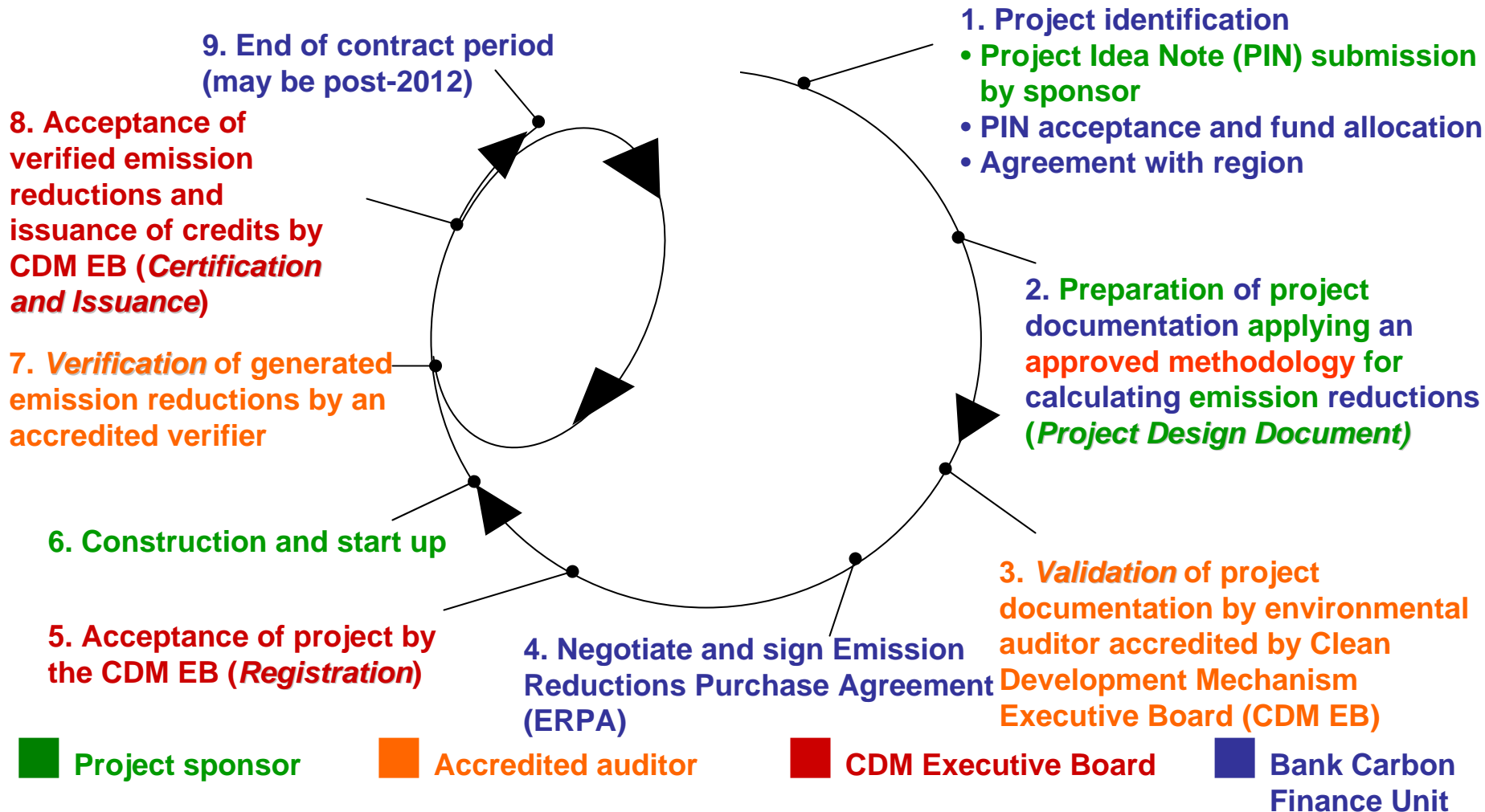
**Umbrella Carbon Facility.** \$737.6 million (Tranche One closed). 2 HFC-23 projects in China.



**Carbon Fund for Europe.** \$65 million. Multi-shareholder. Multi-purpose.



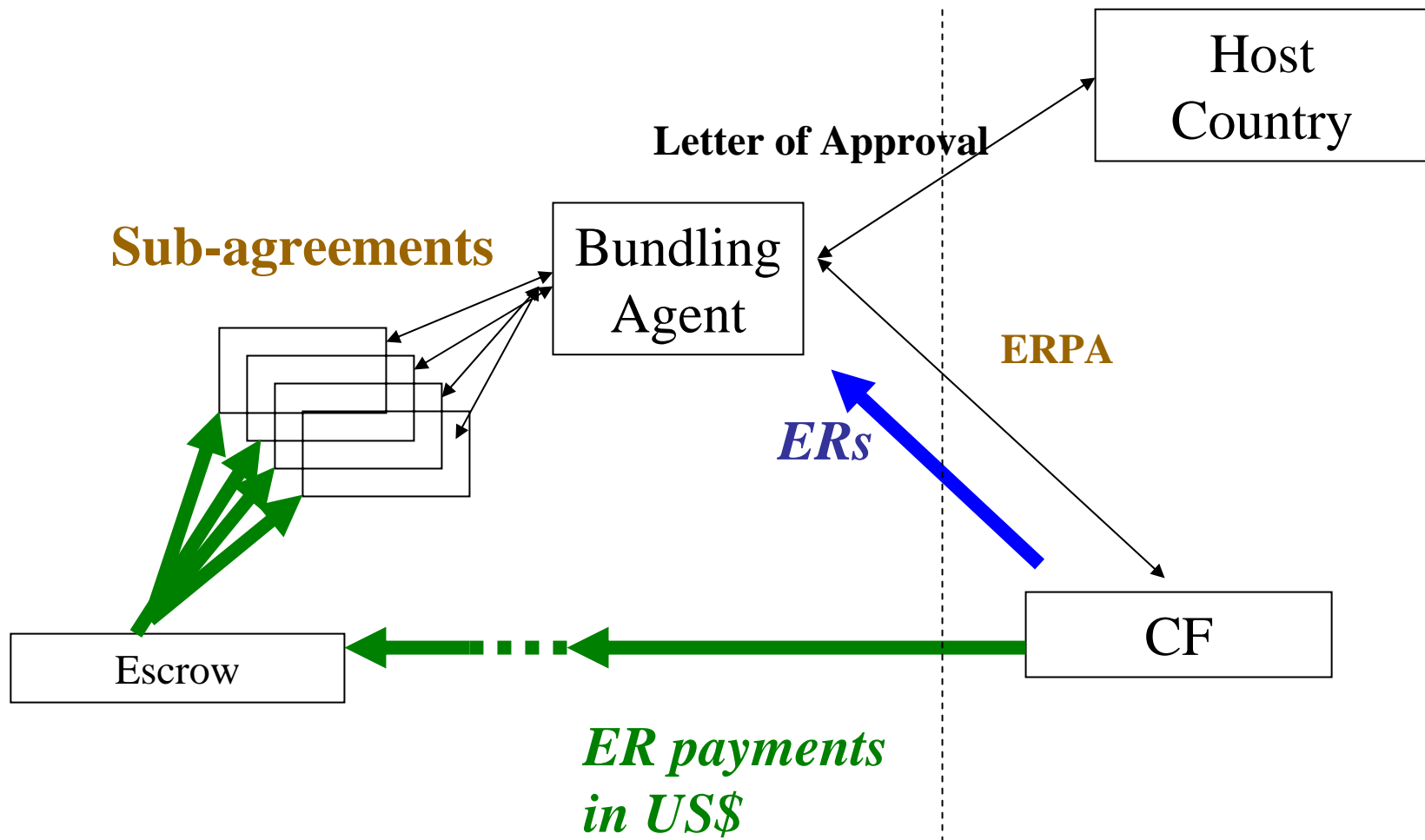
# Typical project cycle: Generating emission reductions



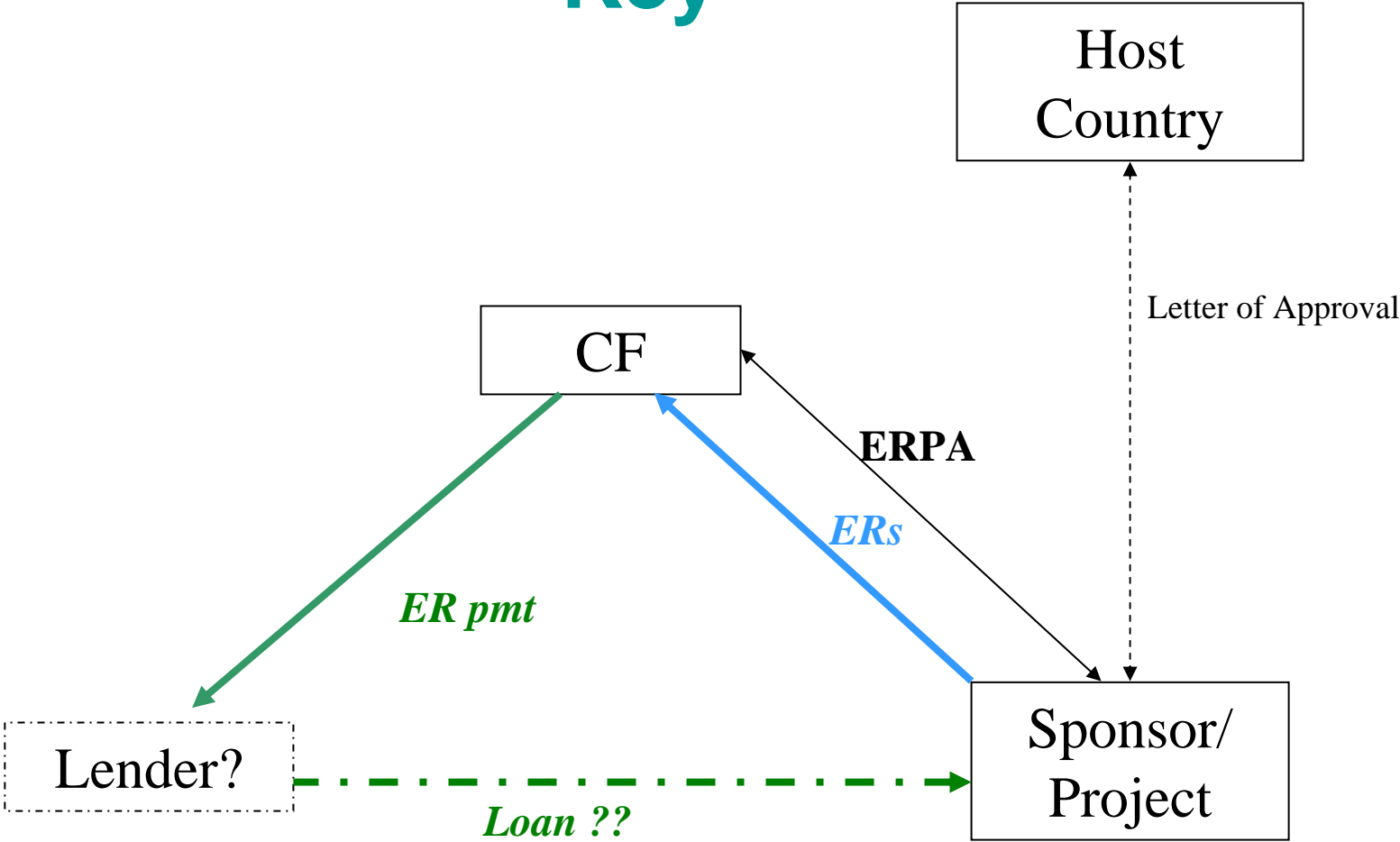
Note: In “prompt start” projects, registered before end 2005, Step 6 may precede Steps 3 and 5

# Aggregation/ Bundling of Several Smaller Projects

May be Necessary to Meet Bank's Minimum Project Size of 1 Mt CO<sub>2</sub>e



# Financial Structuring is Often Key



# Challenges for the Future



- Carbon Finance will only make a significant contribution to a low-carbon economy in India through:
  - Participation of public sector and large emitters in the carbon market
  - Moving away from current project-by-project approach, and scaling up to a program of investments
  - Scaling up intermediation through the involvement of the financial sector across various sectors of the economy

# Challenges for the Future



- Carbon Finance will only make a significant contribution to a low-carbon economy in India through:
  - Increased confidence and credibility in the carbon market
  - Designing and providing incentives for development of low carbon technology
  - Systematically integrating carbon finance into public and private investment decisions

# Launching New Carbon Facilities



- **Carbon Partnership Facility**
  - pilots programmatic and sectoral approaches, increasing volume, scope and impact
  - designed to be regime neutral and facilitate sale of emission reductions post 2012
  - Initially \$500 million, with target of \$1 billion/ annum

# Launching New Carbon Facilities



- **Forest Carbon Partnership Facility**
  - Two windows: Readiness (capacity building, baseline and monitoring) and Carbon Purchases to reduce incentives for deforestation
  - Develop confidence in approach as an input to post-2012 negotiations
  - Target size: \$300 million



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*Discussions !!!*