

Clean Development Mechanism
Afforestation and
Reforestation project activities

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The UN Framework Convention on Climate Change | **the basics**

- 191 Parties – near universal membership

UNFCCC main features:

- sets an **overall framework** for intergovernmental efforts to tackle the challenge posed by climate change
- recognizes that the climate system is a **shared resource** whose stability is affected by emissions of carbon dioxide and other greenhouse gases



The Kyoto Protocol | **the basics**

- Entry into force on 16 February 2005
- 175 Parties (May 2007)

KP main features:

- Legally binding targets for emissions of **six major greenhouse gases** in industrialized countries during first commitment period
- New international market-based mechanisms, creating a new commodity based on **carbon dioxide & eqs.**
- Facilitate **sustainable development** & additional support to developing countries on **adaptation**



Three Kyoto Mechanisms | **the basics**

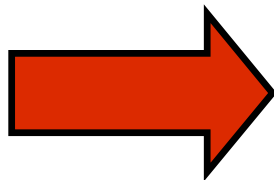
- **Emission Trading (ET):**
exchange of emission allowances among industrialized Kyoto Protocol countries
- **Clean Development Mechanism (CDM):** credits for emissions avoided through sustainable development projects in developing countries
- **Joint Implementation (JI):**
credits for emissions avoided through projects in Annex I countries

What is the CDM | design

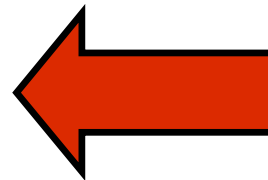
Industrialized countries (Annex I)

→To assist in meeting their
emission limitation commitments

Investors



**CDM project
activity**



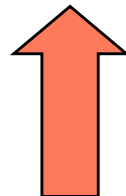
Project participants



(private business,
governments, NGOs)

Developing countries (Non-Annex I)

→To assist in achieving
sustainable development



(private business,
governments, NGOs)

Legal background | A & R

UNFCCC

The Kyoto Protocol

Article 12: The clean development Mechanism

Decision 16/CMP.1

Land Use, Land use Change and Forestry

Decision 5/CMP.1

Modalities and Procedures for afforestation and reforestation project activities under the CDM in the first commitment period of the Kyoto Protocol

Decision 6/CMP.1

Simplified modalities and procedures for small-scale afforestation and reforestation Project activities under the CDM in the first commitment period of the Kyoto Protocol

Types of A/R activities | Background

In the first commitment period of Kyoto only
“Afforestation” and “Reforestation” as defined in
decision 16/CMP.1 are permitted under the CDM

Types of A/R activities | A & R

- “Afforestation” is the direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planting, seeding and/or the human-induced promotion of natural seed sources
- “Reforestation” is the direct human-induced conversion of non-forested land to forested land through planting, seeding and/or the human-induced promotion of natural seed sources, on land that was forested but that has been converted to non-forested land. For the first commitment period, reforestation activities will be limited to reforestation occurring on those lands that did not contain forest on 31 December 1989

- **Small Scale A & R project activities**

- Threshold limit of net anthropogenic GHG removals by sinks of 16 kilotonnes CO₂ per year (revised from 8 kt CO₂ by decision /CMP.3, Bali)
- Implemented by low income communities

Large Scale A & R project activities

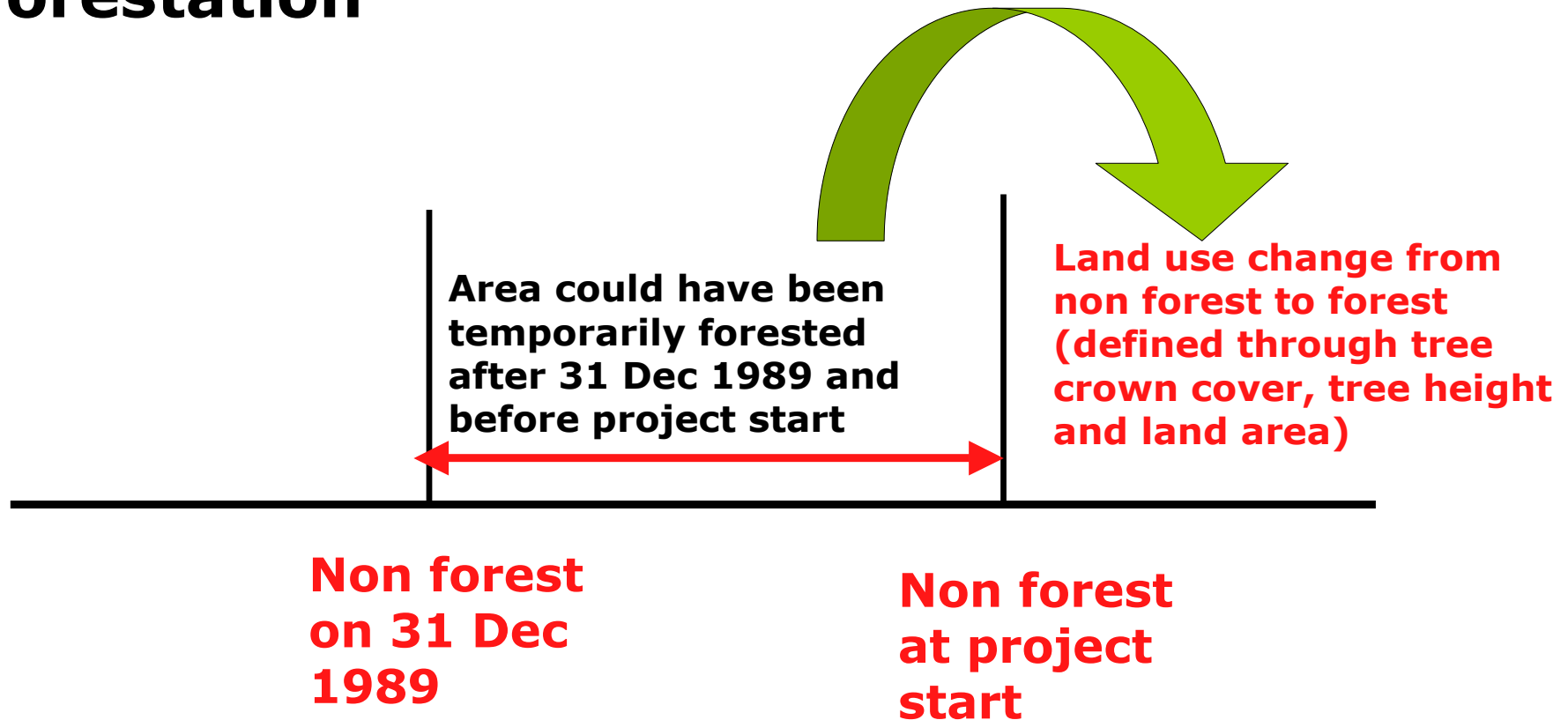
- No threshold limit of net anthropogenic GHG removals by sinks

Participation requirements

- **Non Annex 1 host country shall select a value for forest for purpose of CDM:**
 - Minimum tree crown cover
(10 to 30%) India – 30%
 - Minimum tree height
(2 to 5 m) India – 5 m
 - Minimum land area
(0.05 to 1 ha) India – 0.05 ha

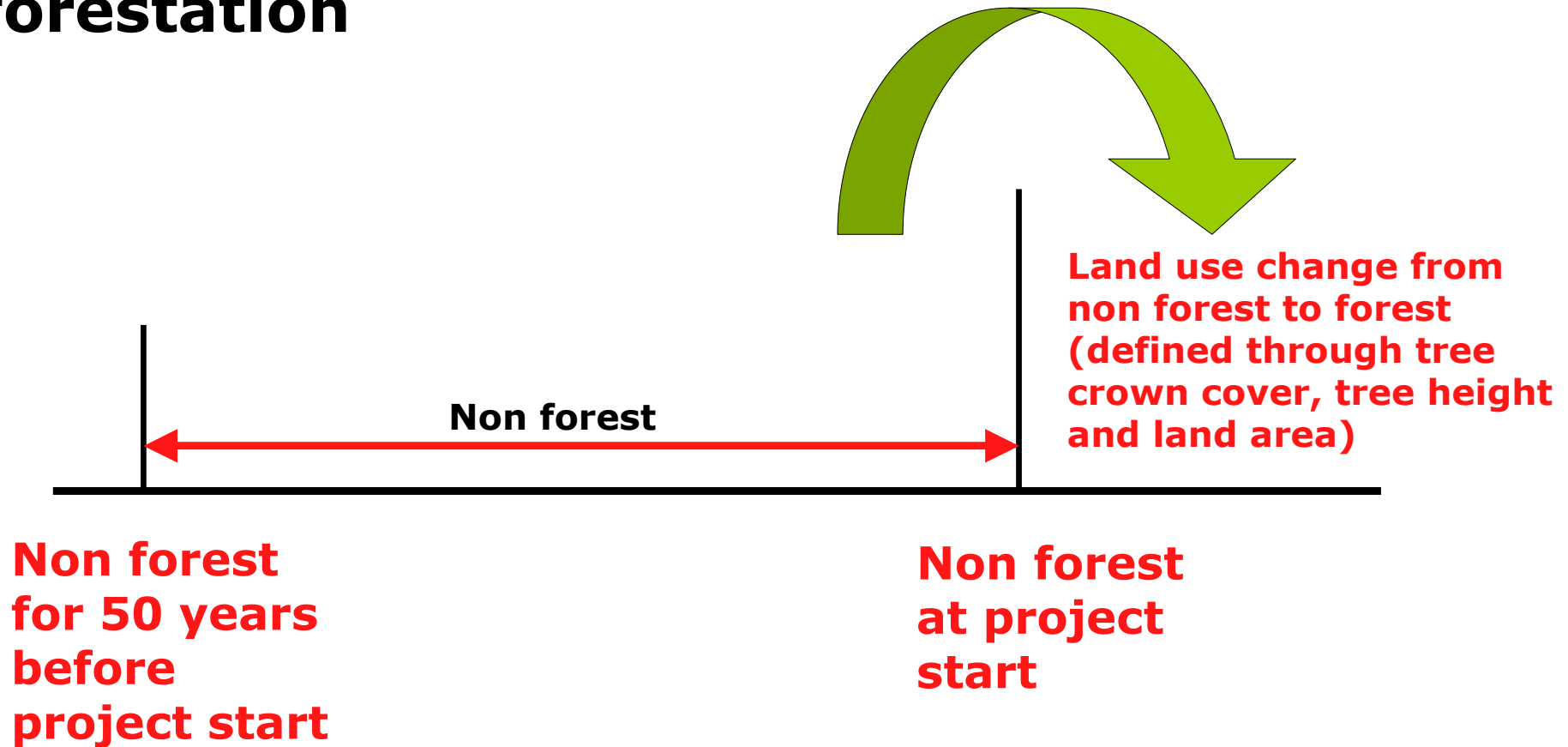
Procedures to demonstrate eligibility of land (EB35, Annex 18)

Reforestation

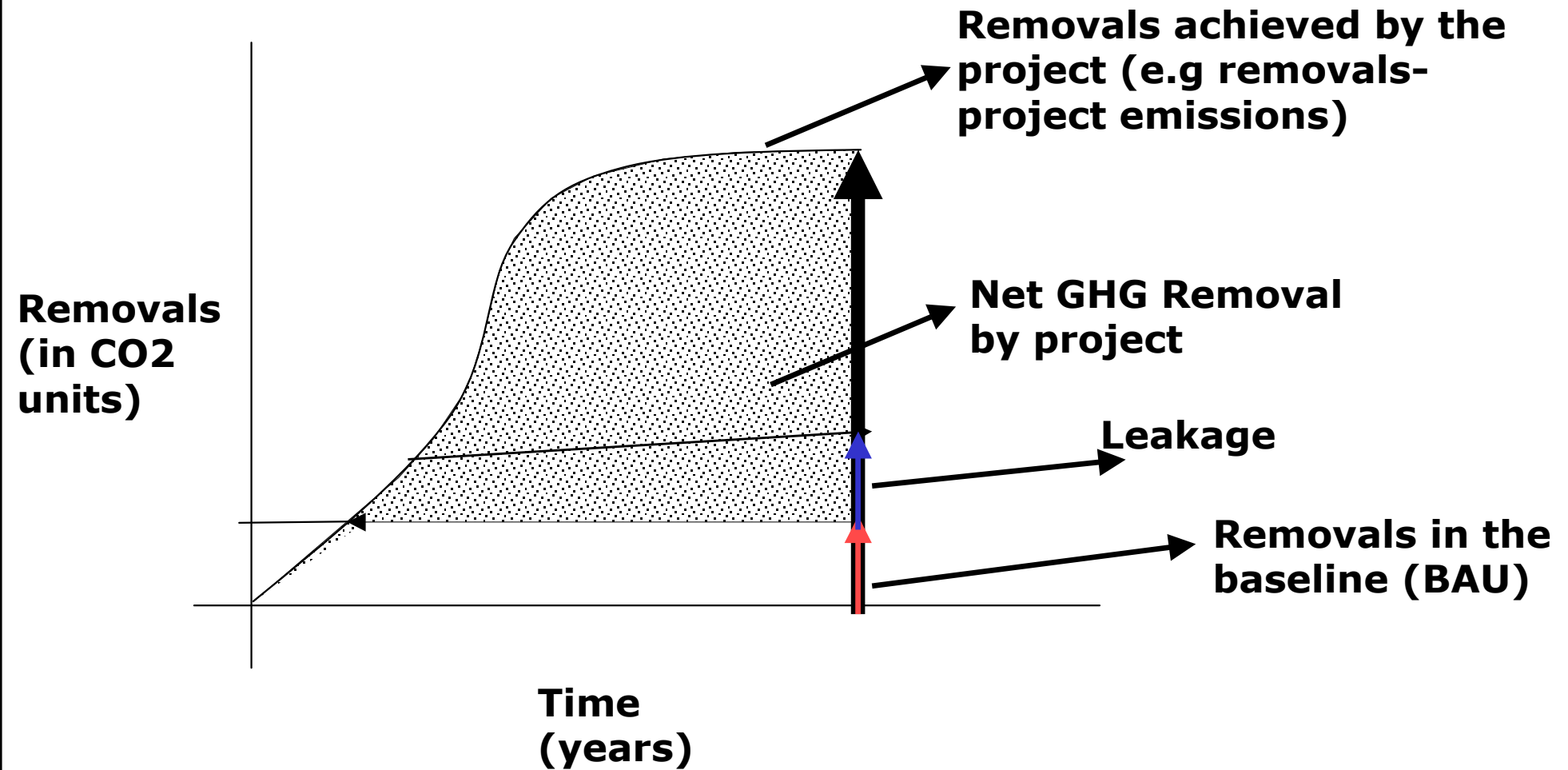


Procedures to demonstrate eligibility of land (EB35, Annex 18)

Afforestation



Estimated removals with & without Project | Net GHG removals



Rules | Accounting

- Credits issued on the basis of achieved “*Net anthropogenic greenhouse gas removals by sinks*” (NR).
- To calculate them:
 - Actual net greenhouse gas removals by sinks (AR): removals minus emissions of GHG due to project;
 - Baseline net greenhouse gas removals by sinks (BL): changes in carbon stocks in the baseline
 - Leakage (L): emissions outside the project boundary that are the result of the project.
- 5 pools: Above-ground biomass, Below-ground biomass, Soil organic carbon, litter and Dead organic carbon

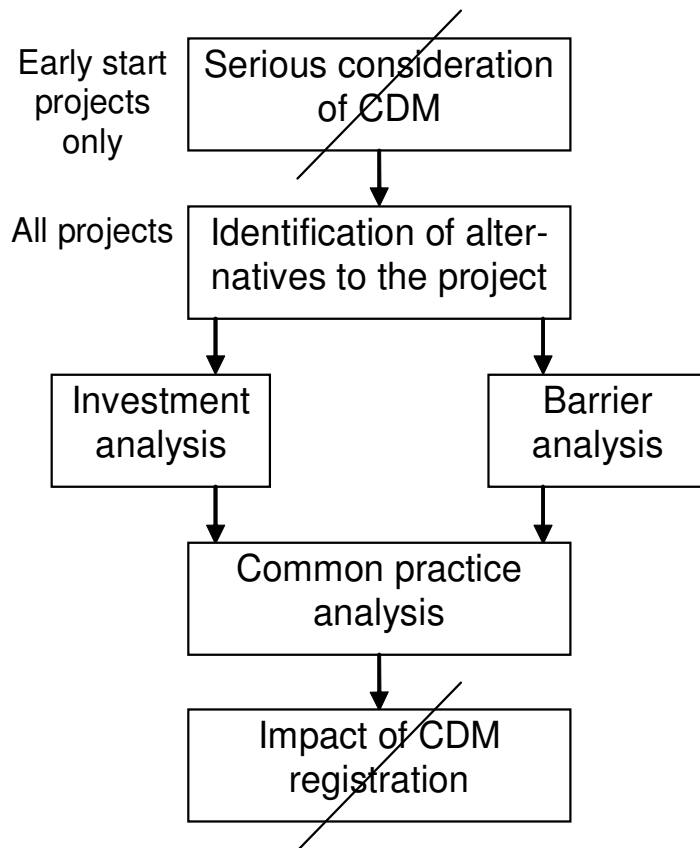
Additionality Test | Small-scale A/R project activities

- Based on barrier analysis as included in the approved small-scale methodology:
 - Investment barriers
 - Institutional barriers
 - Technological barriers
 - Local tradition
 - Prevailing practice
 - Social conditions

CDM | the concept of additionality

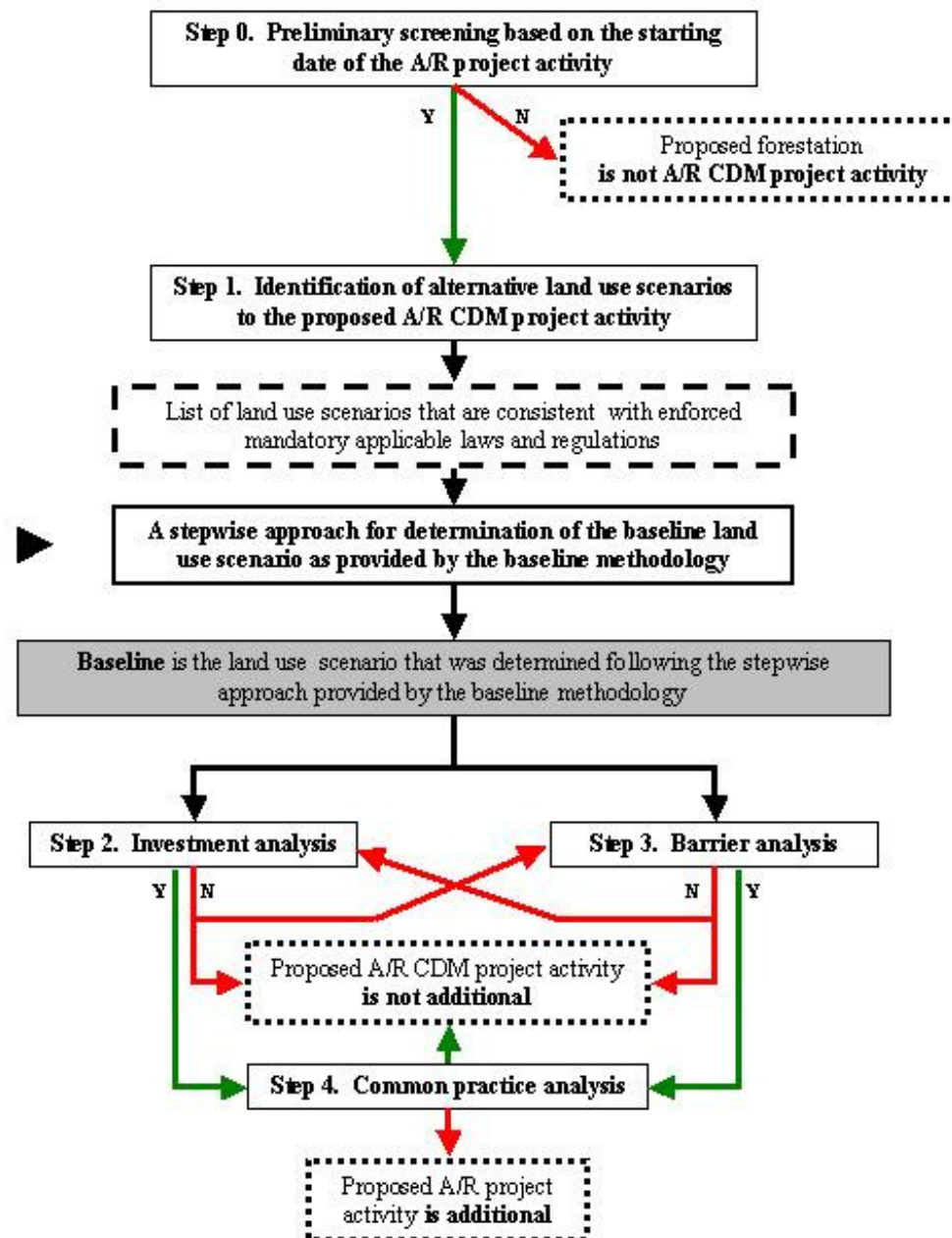
Project participants have to demonstrate that under normal circumstances the project activity would not be implemented due to the existence of one or more barriers

ADDITIONALITY TOOLS ARE ALREADY AVAILABLE TO ASSIST!



- Investment barrier - availability of a financially more viable alternative that would have led to higher emissions
- Technological barrier - existence of a less technologically advanced alternative that involves lower risks due to the performance uncertainty or low market share of the new technology adopted for the project activity and so would have led to higher emissions
- Common practice barrier - prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions

A/R additionality tool – For large scale activities only (EB35, Annex 17)



Non-Permanence | Temporary (tCERs) or long term (ICERs) credits

- **Temporary nature of removals (fires, pests)**
- **CERs are temporary and need replacement**
 - tCERs = expire after 5 years (“re-issuance”). tCERs valid for the end of commitment period following one in which they were issued.
 - ICERs = expire at the end of the crediting period. Need no “re-issuance”
- **Need to be replaced (by AI buying Party) :**
 - After expiry
 - If project results in emissions (or decreased stocks)
 - If no monitoring report is sent

Status of the A/R CDM | Methodologies, tools & projects

	Jan 2008
Methodologies	10 – Large scale 3 – Small scale
Methodological Tools	9 (including additionality tool)
Registered projects	1
Projects under validation	7 – Large scale (3 from India) 6 – Small scale (none from India)

Methodologies | Scope

- **Large scale methodologies available for:**
 - Degraded and degrading lands
 - Land under agricultural use
 - Land under pastoral/silvipastoral use
 - for A/R activities including intercropping practices
 - For A/R activities for industrial and/or commercial use
 - **Small scale methodologies available for A/R activities to be implemented on following land categories:**
 - Croplands & grasslands
 - Settlements (e.g. urban parks)
 - Wetlands (e.g mangrove restoration)
 - PPs can propose new small-scale methodologies
- Details available on
<<http://cdm.unfccc.int/methodologies>>

Leakage | Guidance (EB22, Annex15)

Pre-project GHG emissions by sources

which are displaced outside the project boundary in order to enable an afforestation or reforestation project activity under the CDM shall not be included under leakage if the displacement does not increase these emissions with respect to the pre-project conditions.

otherwise, leakage for the displacement of pre-project activities is equal to **the incremental GHG emissions compared** with the pre-project conditions.

Project Boundary | Guidance

- **Project boundary may contain more than one discrete area of land. At the time of validation, PPs shall:**
 - define geographical identification of each discrete area of land.
 - define legal title to the land, rights of access to the sequestered carbon, current land tenure, and land use for each discrete area of land.
 - justify, that during the crediting period, each discrete area of land is expected to be subject to an afforestation or reforestation project activity under the control of the project participants.

Bundling | Small-scale A/R project activities

- Bundling is possible for small-scale project activities (size of bundle can be up to 16 kt CO₂ per year) provided activities are not a debundled component of a large scale project activity.
- Project activity is considered a debundled component if there is an already registered project activity or an application to register another small-scale project activity
 - With the same project participants;
 - Registered within the previous two years;
 - Whose project boundary is within 1 km of the project boundary of the proposed small-scale afforestation or reforestation activity under the CDM at the closest point.

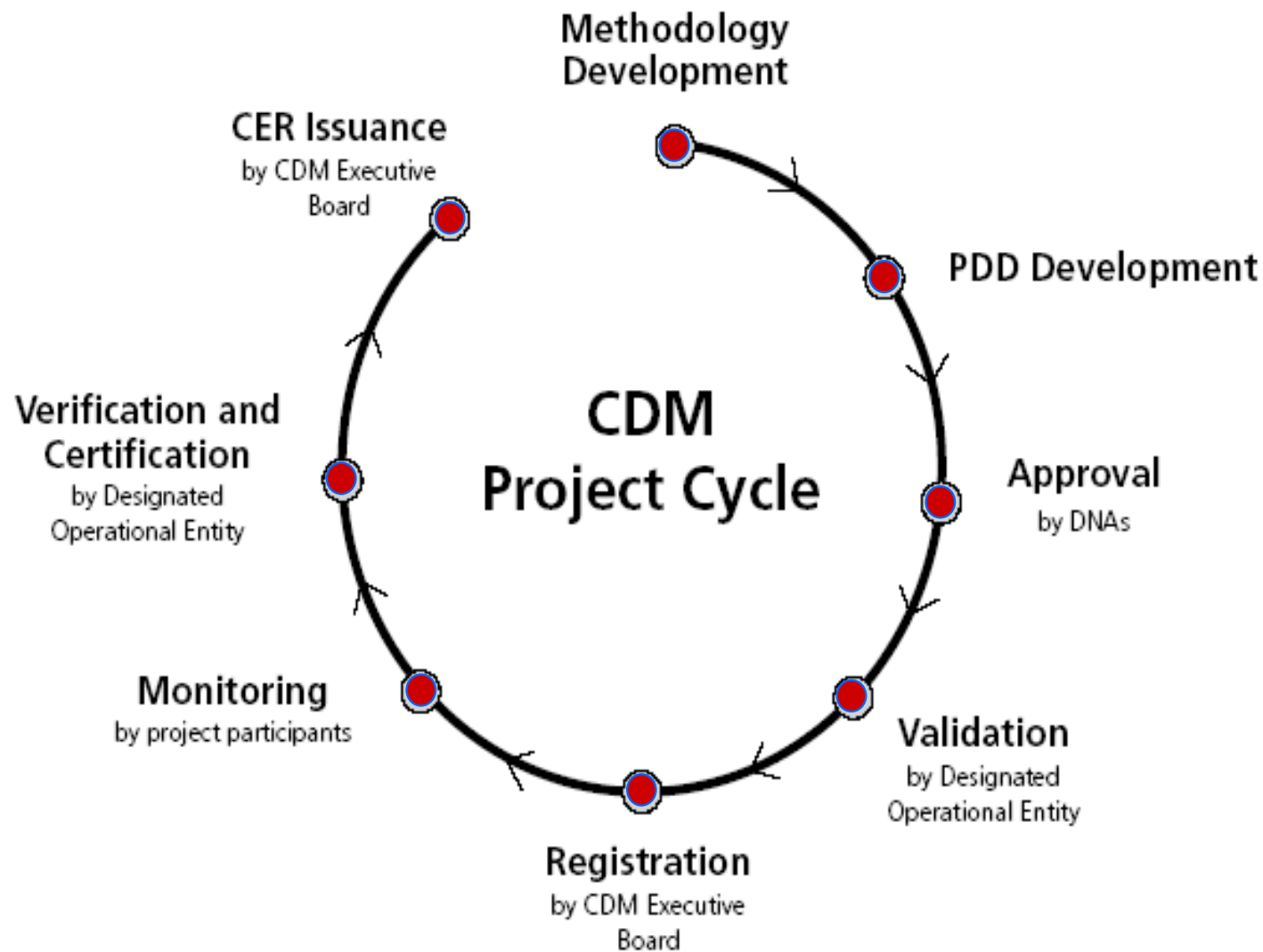
Registration Fee | Guidance on (EB 36, Annex 21)

- **The registration fee shall be calculated based on the expected average annual net GHG removals by sinks for the project activity over its crediting period:**
 - USD 0.10 per expected average annual net GHG removals by sinks for the first 15,000 t CO₂ e;
 - USD 0.20 per expected average annual net GHG removals by sinks for any amount in excess of 15,000 t CO₂ e.
- **No registration fee has to be paid for CDM A/R project activities with expected average annual net GHG removals by sinks over the crediting period below 15,000 t CO₂ e.**

Programme of Activities (PoA) | Scaling up

- Useful where large area is to be targeted for similar kind of A/R project activity
- A/R methodologies approved for single project activity are applicable to PoA.
- Project activities are added as CDM project activities (CPA) to the registered PoA
- PoA managed by managing entity/co-ordinating entity
- Each PoA based on one baseline methodology and set of criteria that ensure replicability of CPAs within the PoA.
- Duration of PoA is 60 yrs, i.e CPAs can be added any time within this period
- Validation and verification of CPAs on sampling basis, therefore likely to be cost effective
- Further information:
<<http://cdm.unfccc.int/ProgrammeOfActivities/index.html>>

CDM Project Cycle | flow



National CDM Authority

- Secretary (E&F) - Chairman
- Foreign Secretary
- Finance Secretary
- Secretary, DST
- Secretary, DIPP
- Secretary, MNES
- Secretary, MOP
- Secretary, Planning Commission
- Joint Secretary (CC), MoEF
- Director (CC), MoEF - Member Secretary

Single Window Clearance

- PCN as per MoEF format
- PDD as per UNFCCC format
- Project promoter to give a presentation in the DNA meeting
- Host Country Approval

Host Country Approval

- Emissions Additionality
- Sustainable Development
- Parties should have ratified Kyoto Protocol
- Voluntary participation

Sustainable Development Criteria

- Prerogative of the Host Party
- Economic well being
- Social well being
- Environmental well being

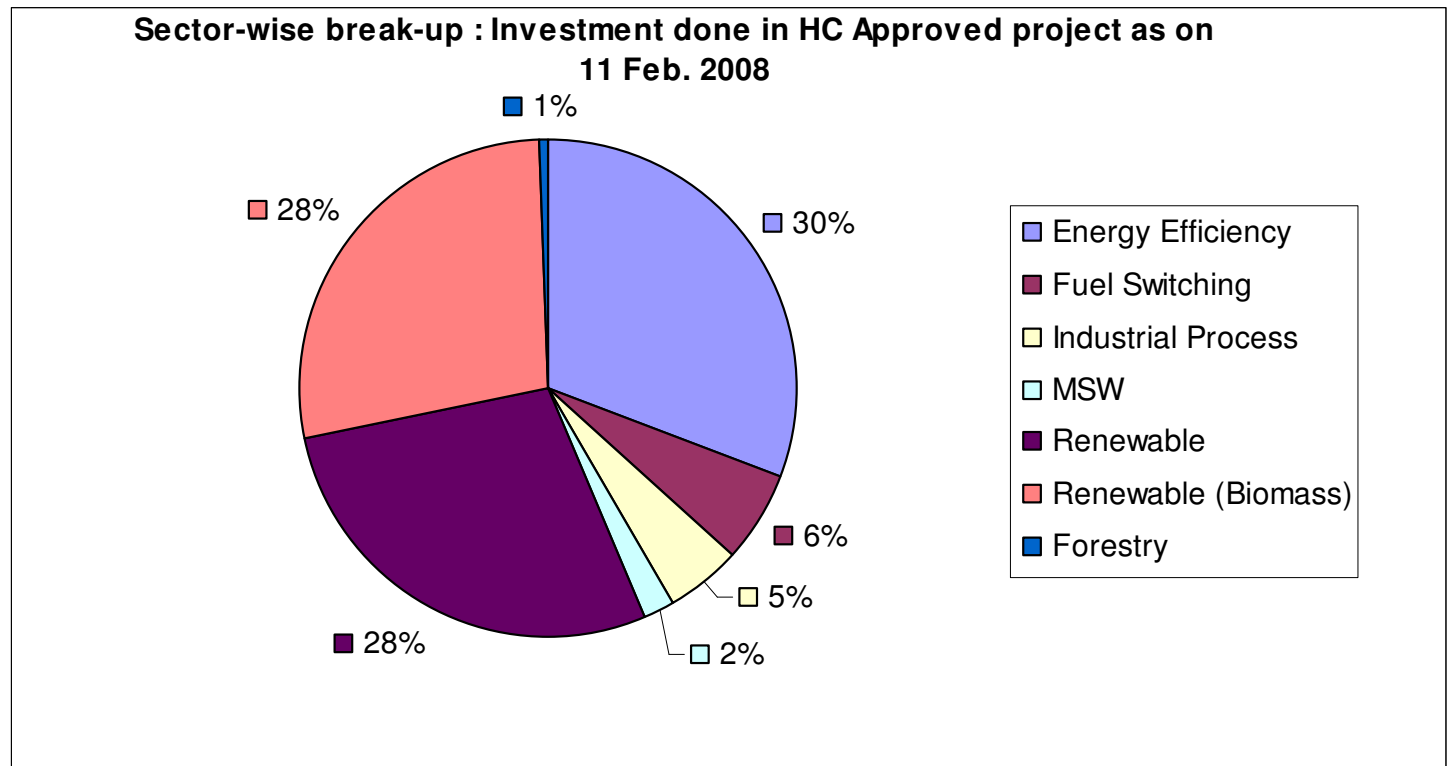
Portfolio of Host Country Approved CDM Projects

Type of projects

- Renewable energy (Wind, Biomass, Solar, Hydro)
- Switching to Alternate Fuels
- Energy Efficiency
- Waste Management
- Oil & Gas
- Agriculture
- Carbon Sequestration in Forests

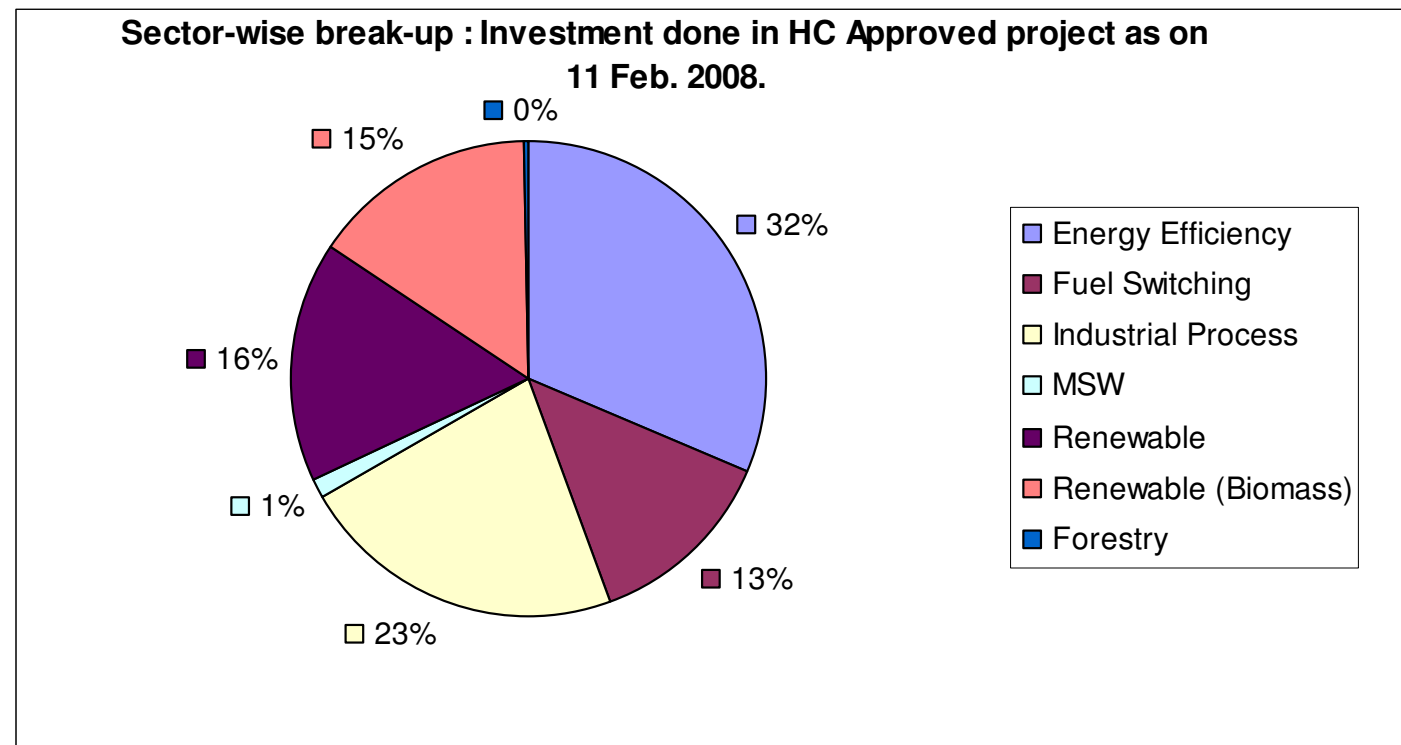
Portfolio of Host Country Projects approved.

Sectors	No. of Projects
Energy Efficiency	269
Fuel Switching	51
Industrial Process	44
MSW	16
Renewable	245
Renewable (Biomass)	241
Forestry	5
Total	871



**Sector-wise break-up : CERs expected till 2012 from Host Country
Approved projects as of
11 Feb 2008.**

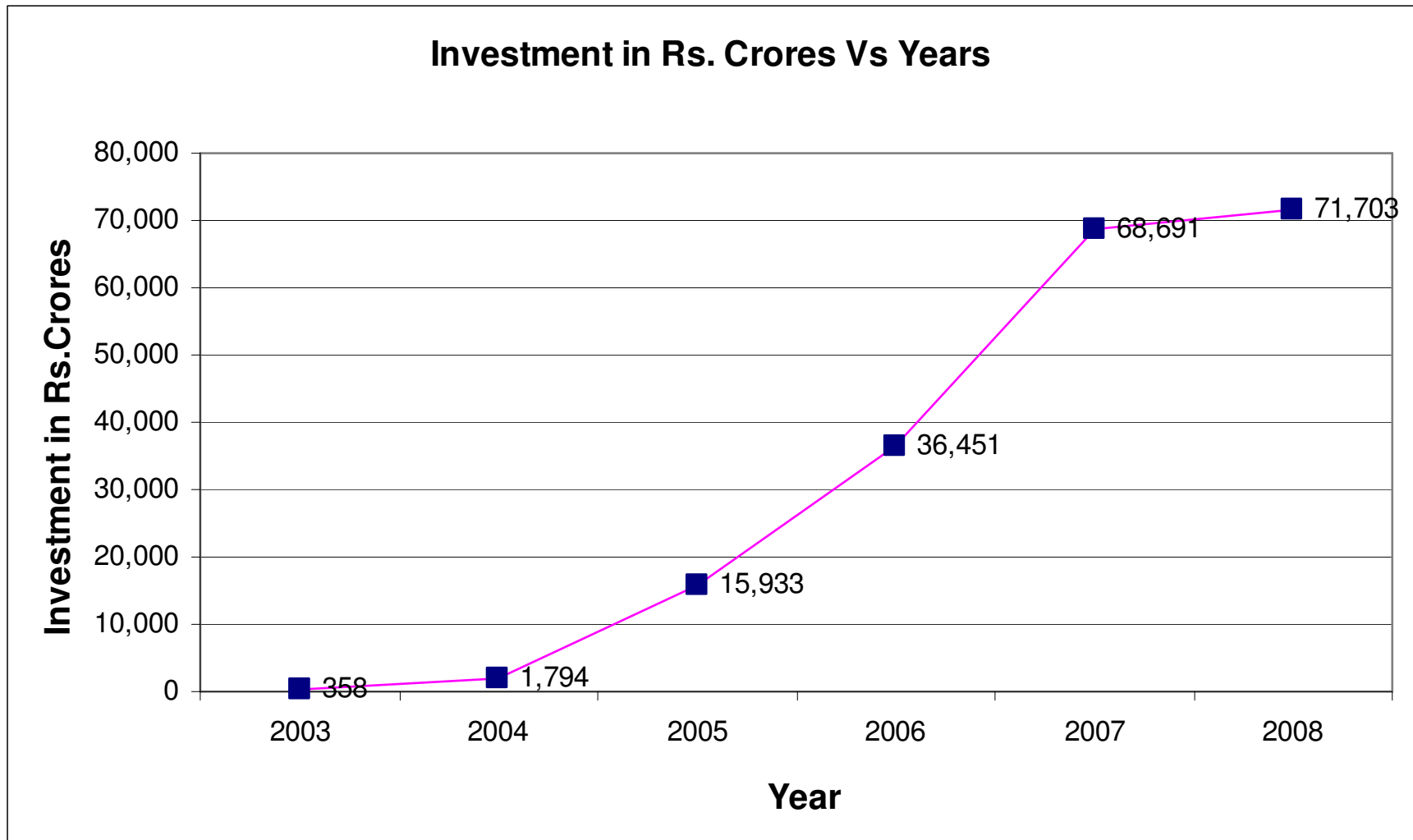
Sectors	CERs
Energy Efficiency	142,451,233
Fuel Switching	58,925,430
Industrial Process	100,615,866
MSW	5,984,821
Renewable	74,075,801
Renewable (Biomass)	69,235,805
Forestry	984,090
Total	452,273,046



Forestry Projects accorded HCA

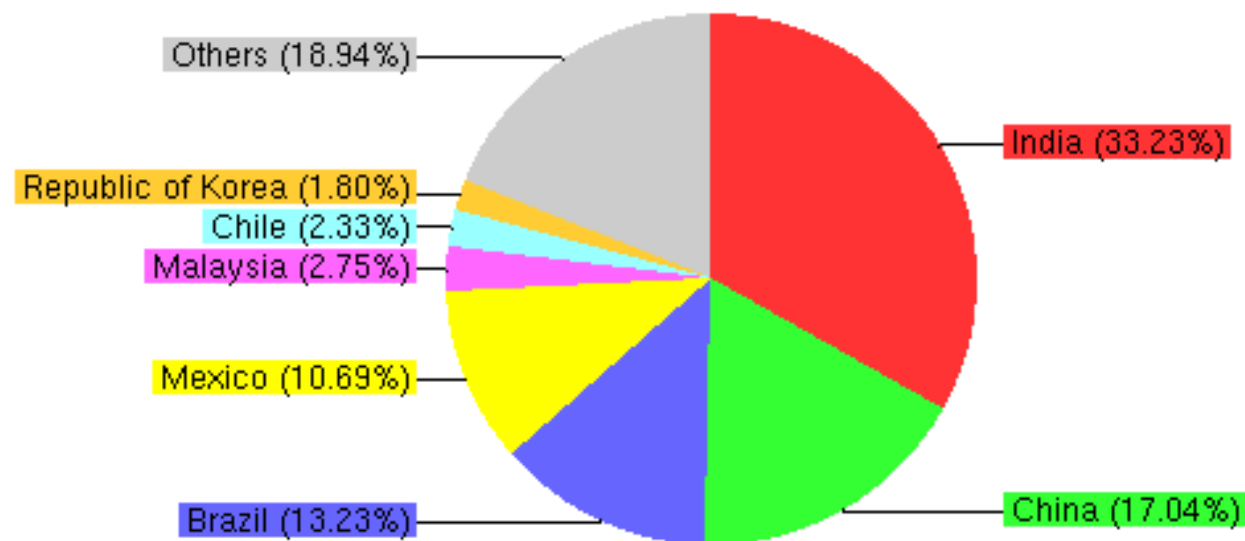
- “Reforestation of severely degraded landmass” in Khammam District of Andhra Pradesh, India under ITC Social Forestry Project by **M/s ITC**.
- “Improving Rural Livelihoods through Carbon Sequestrations by Adopting Environment Friendly Technology based Agro-Forestry Practices” at Hyderabad, Andhra Pradesh by **M/s Veda Macs Limited**.
- “Reforestation Project at Shree Nasik Panchavati Panjrapole (SNPP), Nasik, India” in Maharashtra by **M/s Shree Nasik Panchavati Panjrapole**.
- “Reforestation of degraded land in Chhattisgarh, India” in district Durg, Raigarh and Rajnandgaon of Chhattisgarh State by **M/s Prakash Industries Limited**.
- “The International Small Group and Tree Planting Program (TIST), Tamil Nadu, India” of the three districts of Tamil Nadu State namely Kanchipuram, Tiruvannamalai & Vellore by **M/s TIST Tree Planting India Private Limited**.

Investment in CDM Projects



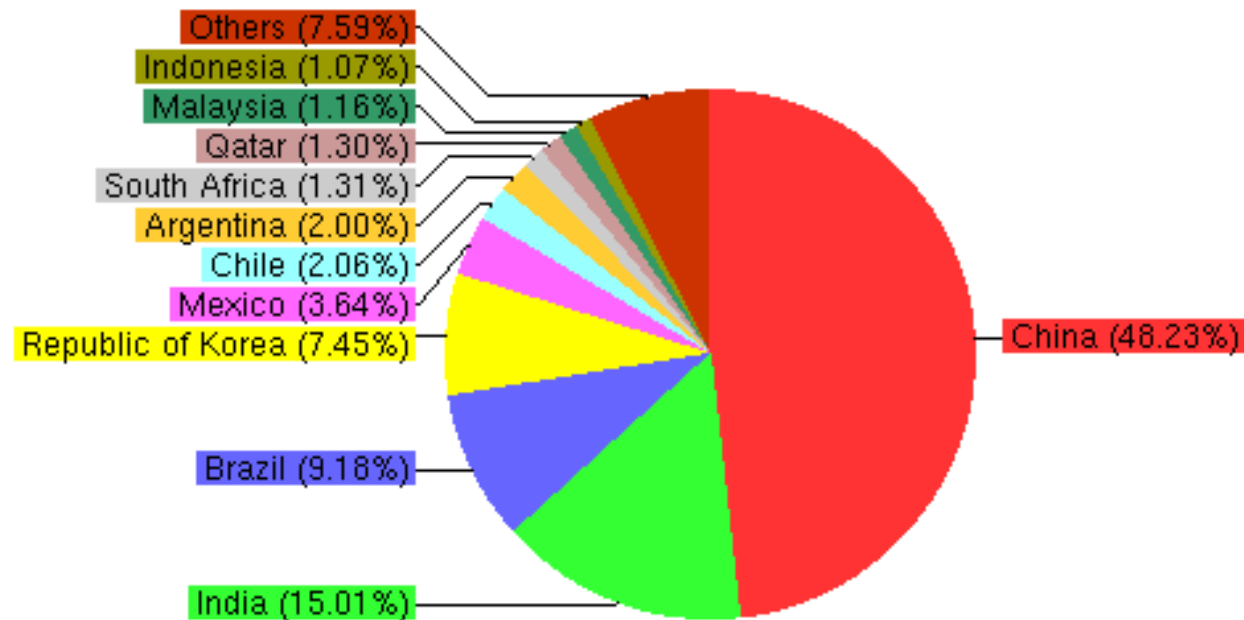
International Statistics

Registered project activities by host party. Total: 945



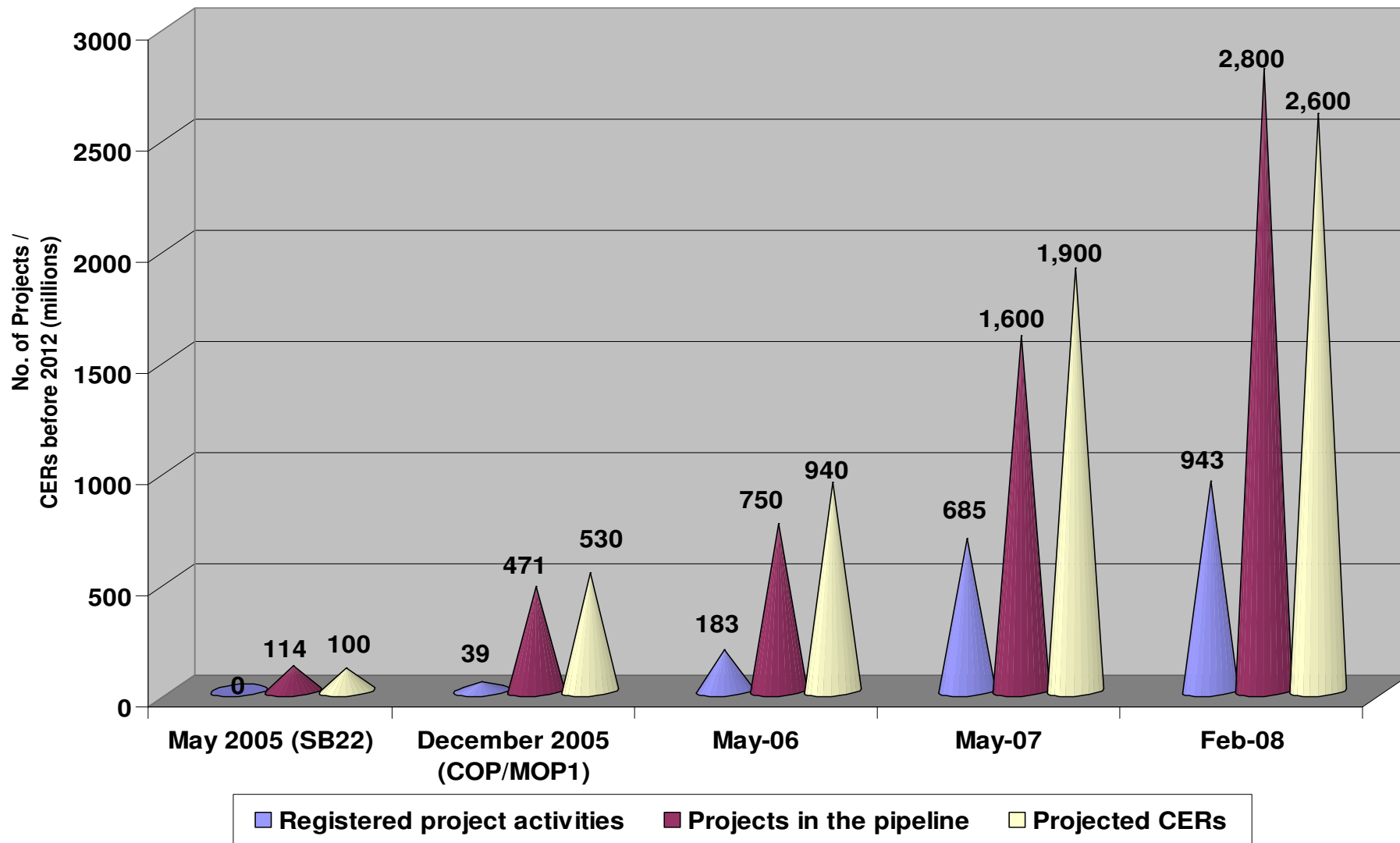
Expected Average Annual CERS from Registered Projects till 2012

Expected average annual CERs from registered projects by host party. Total: 192,627,022



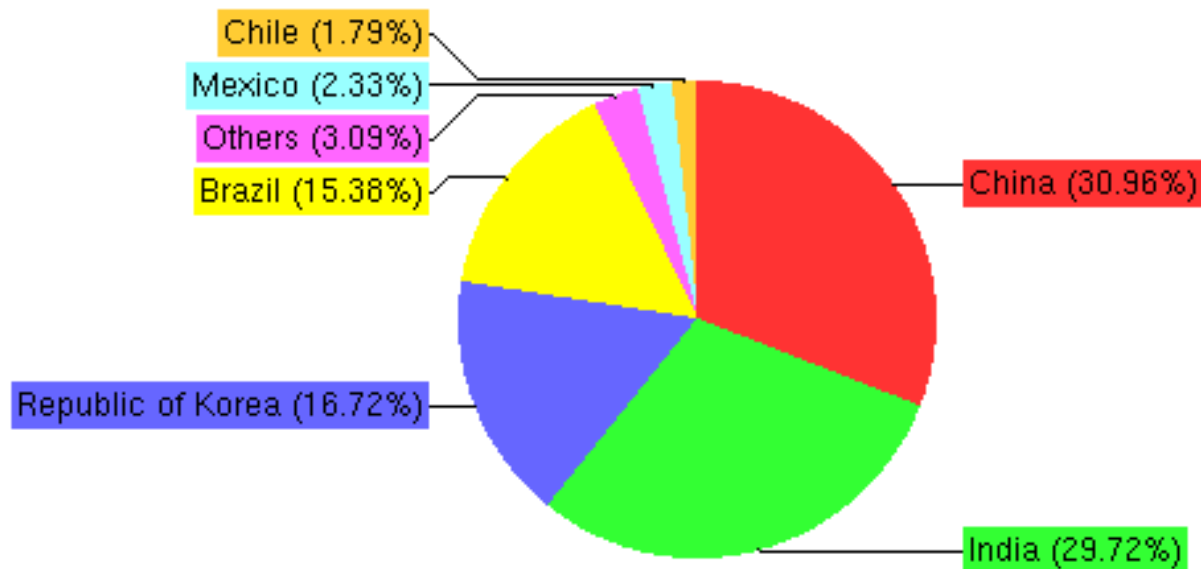
CDM numbers | the CER supply

An explosion of project activities representing a broad range of project types and sizes



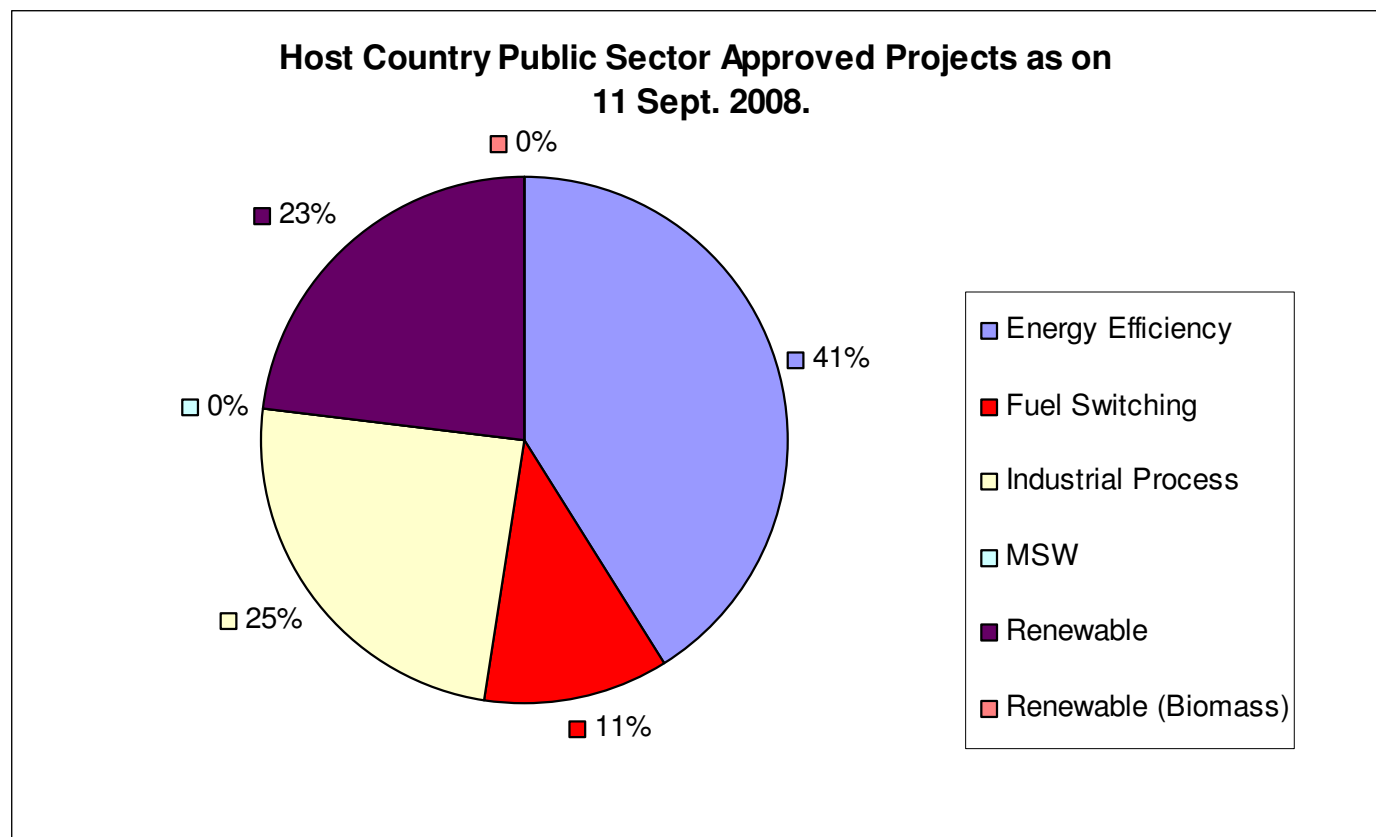
CERS Issued by Host Party.

CERs issued by host party. Total 117,467,635



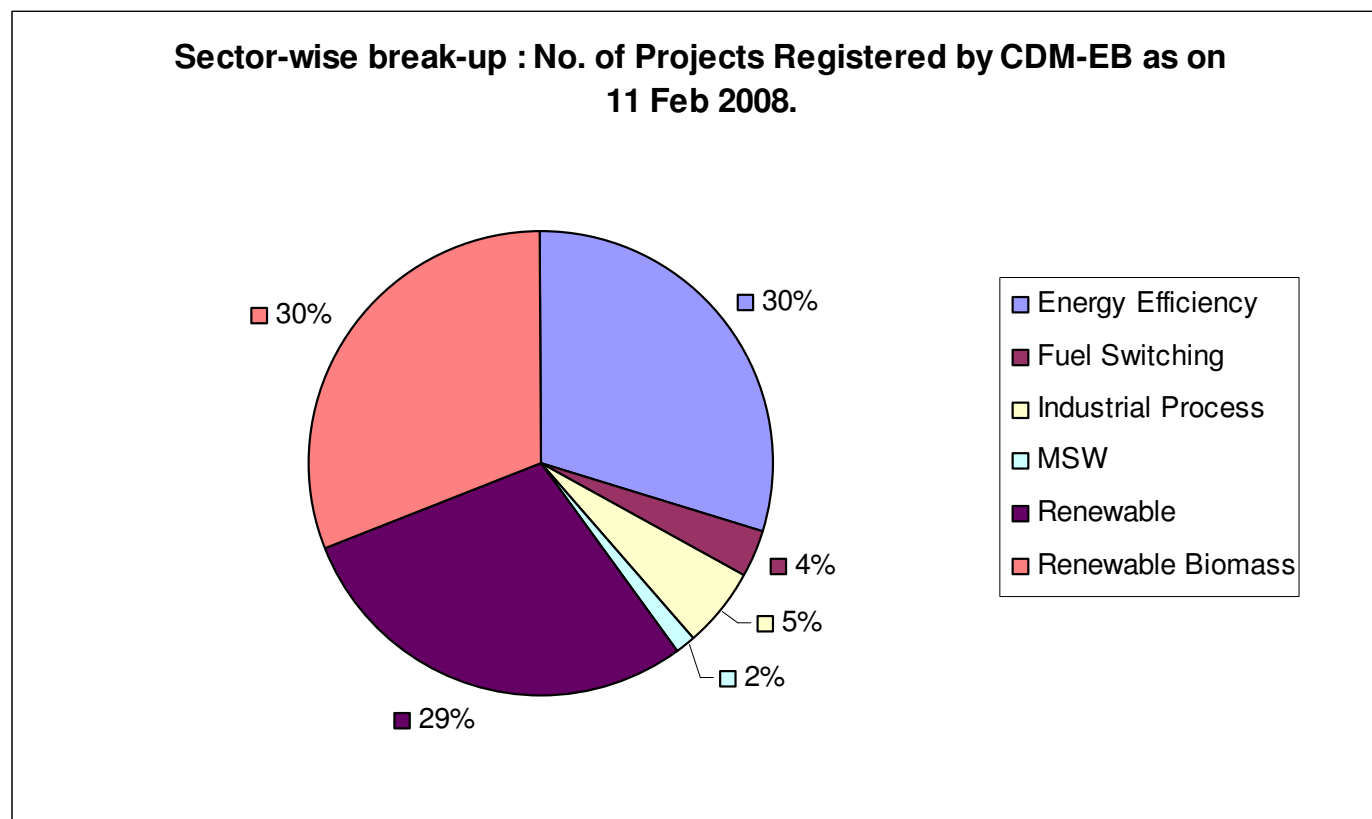
Host Country Approval to PSU Projects.

Sectors	No. of Projects
Energy Efficiency	25
Fuel Switching	7
Industrial Process	15
MSW	0
Renewable	14
Renewable (Biomass)	0
Total	61



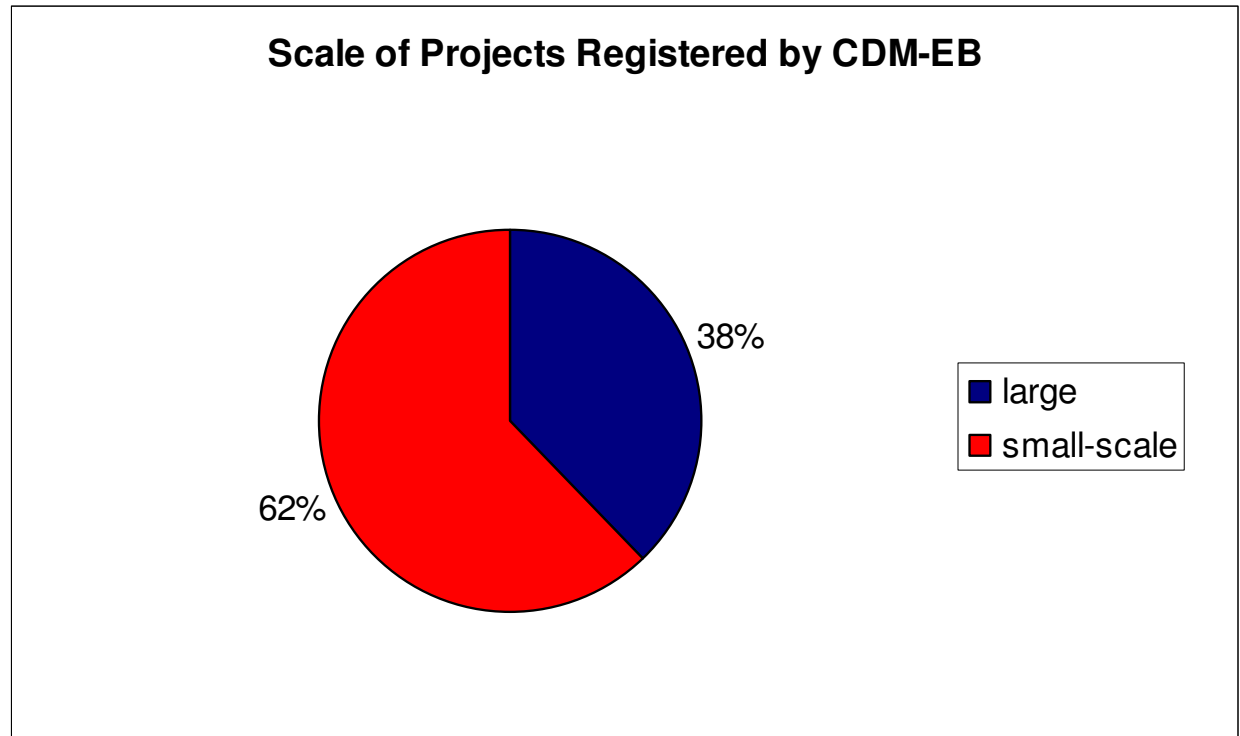
Indian Projects Registered by CDM-EB .

Sectors	No. of Projects
Energy Efficiency	93
Fuel Switching	11
Industrial Process	17
MSW	5
Renewable	90
Renewable (Biomass)	98
Total	314



Indian Registered Projects Size

Scale	No
Large	119
Small Scale	195
TOTAL	314





Thank You

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