

Clean Development Mechanism

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Why Climate is Changing

Rapid Industrial Growth



Increased energy consumption



Increased CO₂ and other GHG emissions



Global Warming due to increased Concentration of GHG

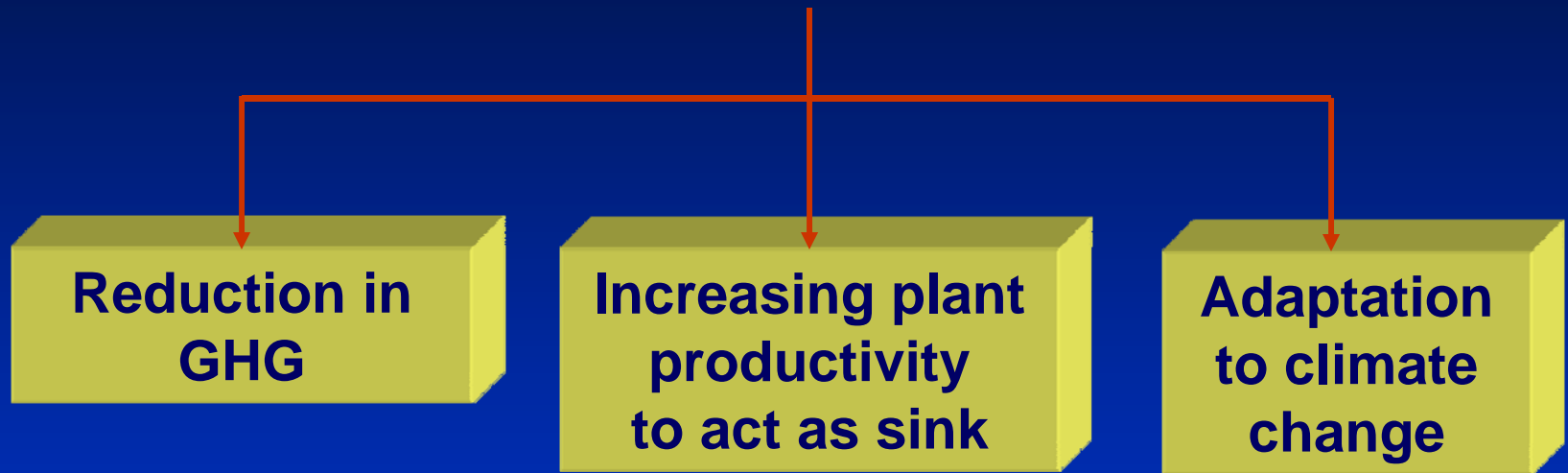


Sea level rise

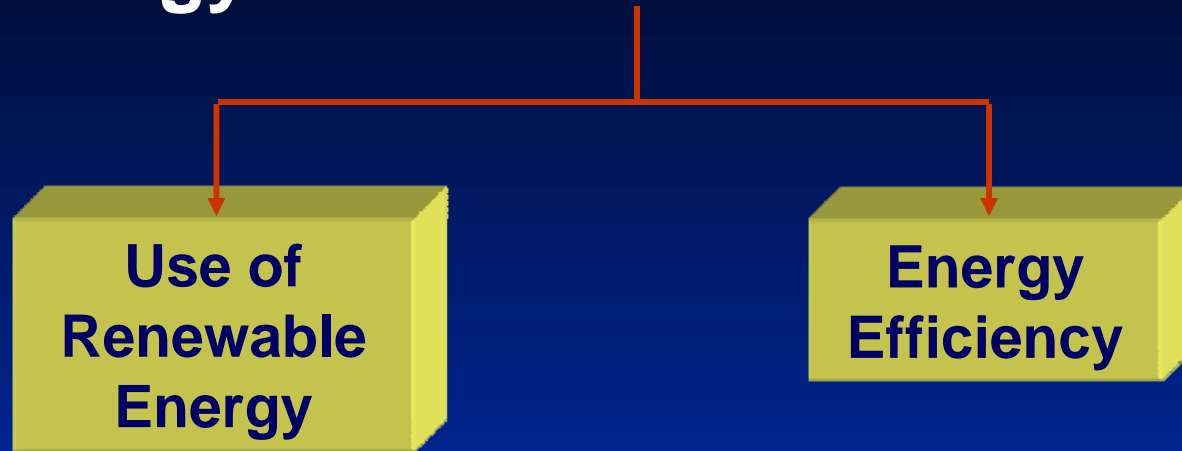
Changes in wind pattern and changes in precipitation

Changes in productivity

Possible Remedial Measures



Strategy for Reduction in GHG Emissions



Basic Issues

- **Capital intensive technologies**
- **Lack of market**
- **Lack of financing mechanism**
- **Lack of quality control systems**

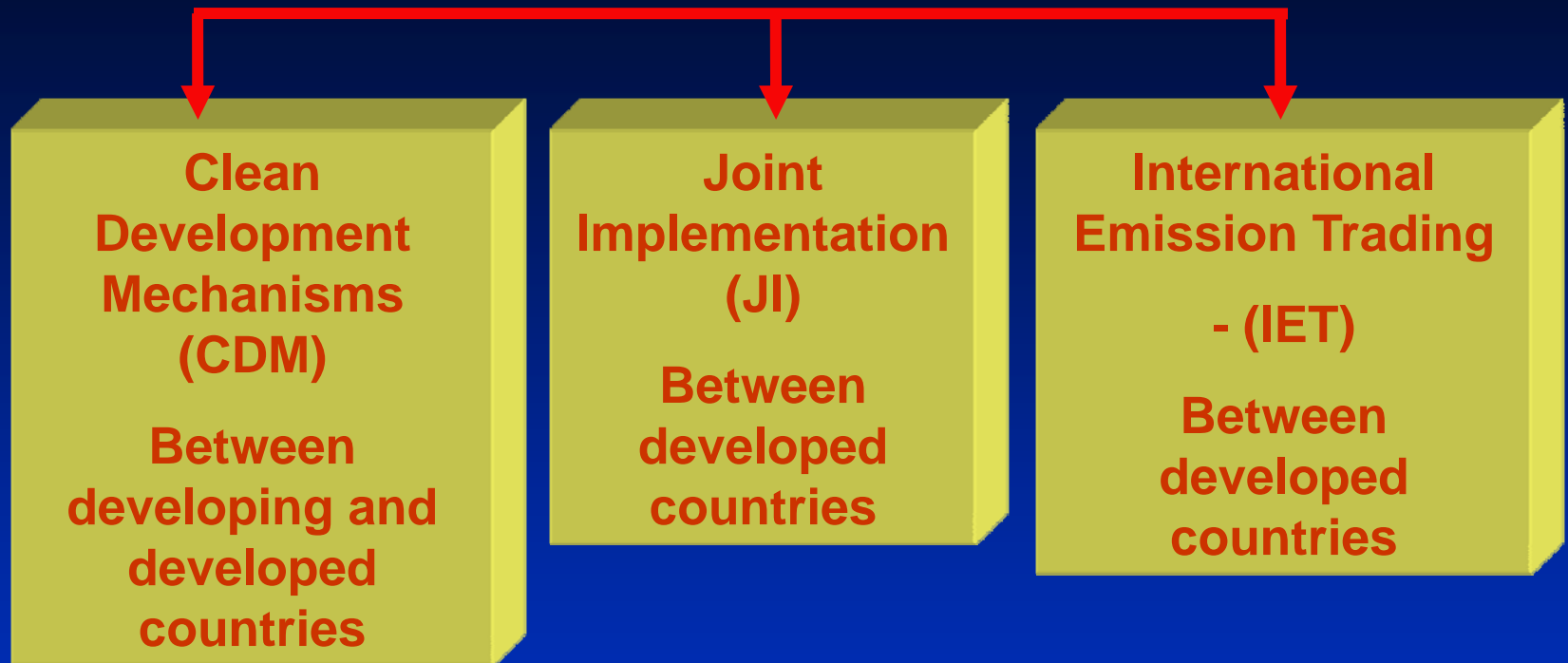
United Nation Framework Convention on Climate Change

- 165 nations signed the 1992 United Nations Framework Convention on Climate Change (UNFCCC) at Rio de Janeiro
- The Convention divides countries into three main groups Annex I (developed) & non-Annex I (developing)
- Annex I (OECD/ EITs) agreed to reduce their GHGs by 5.2 % below 1990 levels in 1ST commitment period 2008 – 2012

UNFCCC cont...

- Convention hinges on three principles
 - Common but differentiated responsibility
 - Precautionary approach
 - Sustainable Economic Growth and Development
- Kyoto Protocol defines how to bring down emissions during COP 3 in 1997

Flexibility Mechanisms



CDM Concept

Industrialized Country
(Annex 1)

Developing Country
(non-Annex 1)

Carbon Credits

(=GHG Emission rights)

Entity A

✓GHG Emissions

Entity B

✓Project Activity

✓Emission Reduction

Finance

Technology

(Capacity Building)

CDM Reality

Industrialized Country
(Annex 1)

Developing Country
(non-Annex 1)

Carbon Credits

Entity A
✓GHG Emissions

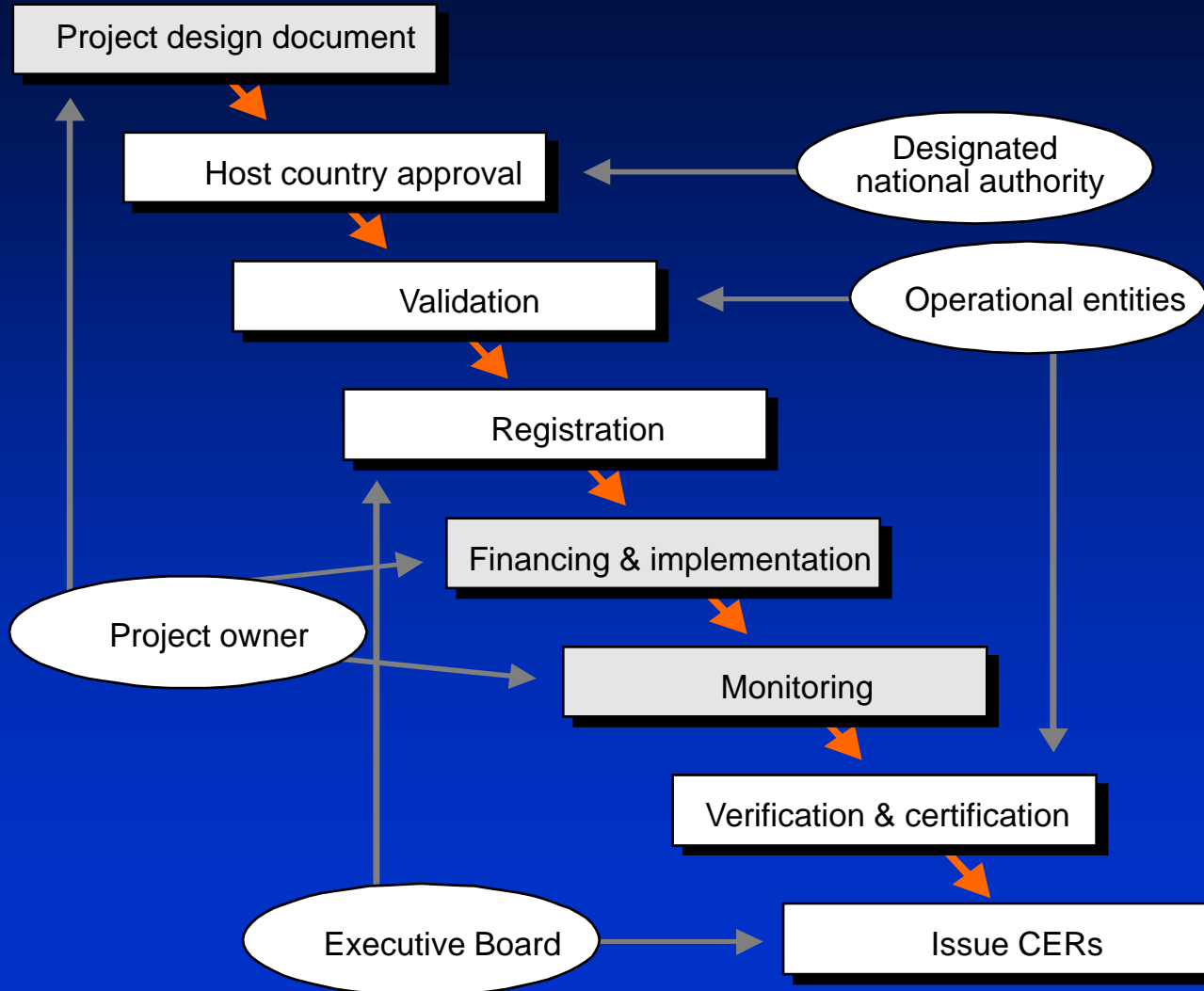
Entity B
✓Project Activity
✓Emission Reduction

Payment

Institutional Framework for CDM

- Developing country- Project Developer
- Annex-1 country- Buyer, Investor
- Approval of project – Designated National Authority
- An institution which verifies the essential prerequisites for CDM projects- Operational Entity (OE)
- An Institution which certifies the emission reduction- Operational Entity (OE)
- An institution which issue CERs- Executive Board (EB)

CDM Project Cycle



History of International Climate Change Negotiations



Basic Idea Behind CDM

- Developed countries which have ceilings for GHG emissions (emission caps), assist developing countries which don't have emission caps, to implement project activities to reduce GHG emissions (or remove by sinks)
- GHG reductions must:
 - Create real, measurable and long term benefits related to mitigation of climate change
 - Be additional to any that would occur in the absence of the certified project activity
- Baseline Scenario: A (hypothetical) representation of what would have happened in the absence of the (CDM) project
 - Covers all gases, sectors, sources
 - Is derived using an approved baseline methodology

Prerequisites for a project to be considered under CDM

- Contributes to the sustainable development of the host country
- Results in emission reductions that would not have happened otherwise
- Generates real, measurable and long-term climate change mitigation benefits
- Approved by parties involved

Critical Issues for CDM

- Availability of Methodology
- Starting date of Project activity
- Prior Serious Consideration of CDM
- Additionality – why and how?

Availability of CDM Methodology

- Ideally there would be an existing methodology approved by Executive Board applicable directly to the proposed project
- CDM EB has provision for suggesting a new methodology or modification in an existing methodology
- As far as possible try to use existing methodology to avoid complexity and time overrun

Critical Timelines

➤ Starting Date

“ The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins.”

➤ Registration of the CDM Project

➤ Issuance of CER for the CDM Project by EB

Prior Serious Consideration of CDM

- Projects proponent must demonstrate serious CDM benefit consideration in decision to implement the project

E.g. documentation showing prior consideration

- Consideration of CDM revenue as potential income in FIRR and/or EIRR in project loan application
- Entering an Emission Reduction Purchase Agreement
- Application of a new methodology to EB

Additionality

- Project has to be “additional” above and beyond business as usual
- Good rule of thumb for “Common Practice Test”:

Has technology/type of project been implemented over past five years in that country?

- If yes, to what extent? What is the rate of penetration of this technology?
- What are your competitors doing?

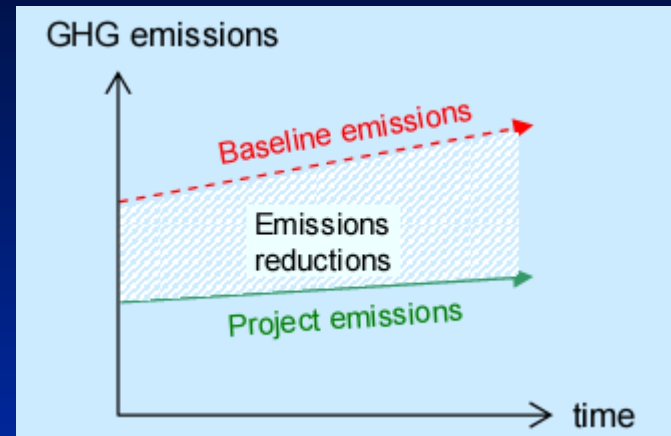
Additionality

- Additionality, Demonstrated through:
 - **Barrier Analysis: barriers to implementation?**
 - ✓ Investment Barriers (barriers to finance etc)
 - ✓ Technological (labour, infrastructure etc)
 - ✓ Prevailing practice (first of kind)
- Must be documented with demonstrable evidence (legislation, data, statistics etc)

- Investment analysis: project is economically or financially less attractive than other alternatives
 - **Or no other economic benefits other than CER revenues.**

CDM Baseline

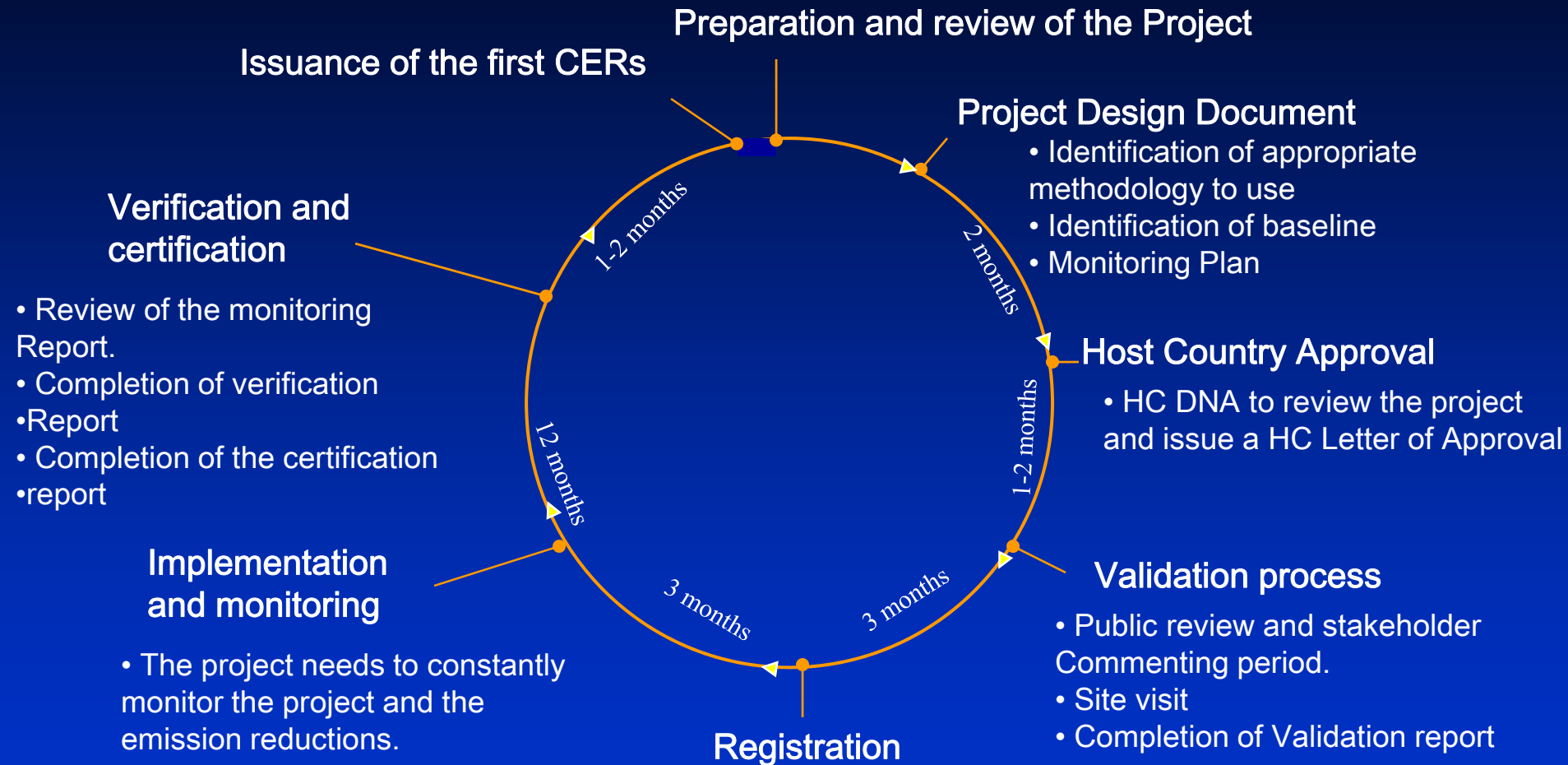
- Baseline: the difference between the actual project emissions and the emission baseline constitute the volume of CERs
- Determining the Baseline:
 - Must use complete methodology
 - Purpose of Baseline methodology/additionality tool:
 - ✓ To determine the baseline scenario, based on rationale and complete justification
 - ✓ To determine the basis for and demonstrate additionality



Developing Baselines for CDM Projects

- Using approved methodologies (if not available, a new methodology has to be developed)
- In a transparent, conservative and justifiable manner
- On a project-specific basis
- Using simplified procedures for small-scale projects
- Taking account of national and/or sectoral policies

Project Cycle – Time Frame



Estimate of Transaction Costs

Project Cycle Activities	Estimated Costs (US \$)
Up-front (Pre-operational costs)	
Feasibility studies	5,000 – 20,000
PDD Preparation	15,000 – 40,000
Registration	10,000
Validation	10,000 – 15,000
Legal work	20,000 – 25,000
Total up-front costs	60,000 – 110,000
Operational phase costs	
Sale of CERs	Success fee in range of 5-10% of CER value
Risk mitigation	1 – 3% of CER value yearly
Monitoring & Verification	3,000 – 15,000 per year

Benefits of CDM

- Opportunity to achieve improved energy efficiency
- Improved environmental quality
- Access to climate-friendly technology
- Investment in priority sectors
- Reduced dependence on imported fuel
- Encourages private sector involvement in global GHG reductions
- Stimulates technology transfer and capacity building

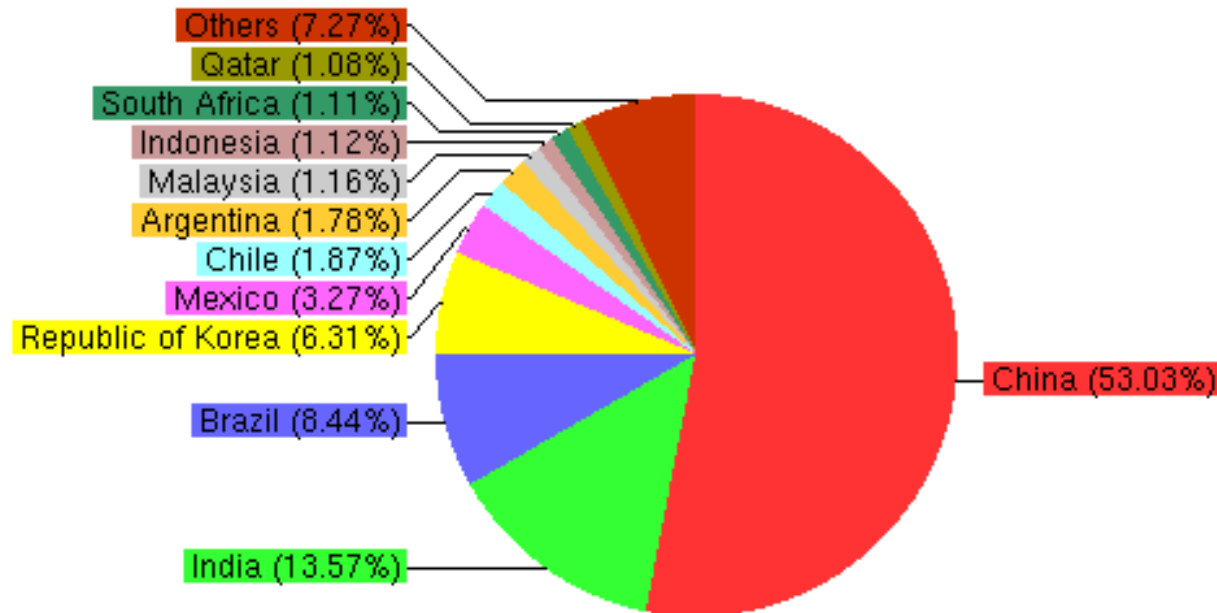
CDM Statistics (Source UNFCCC website 14 Nov 2008)

	Annual Average CERs ¹	Expected CERs until end of 2012 ²
CDM project pipeline: > 4200 of which:	N/A	> 2,900,000,000
1207 are registered	230,535,302	> 1,340,000,000
109 are requesting registration	26,267,087	> 100,000,000

Assumptions: 1. All activities deliver simultaneously their expected annual average ERs
2. No renewal of crediting periods

CDM Statistics

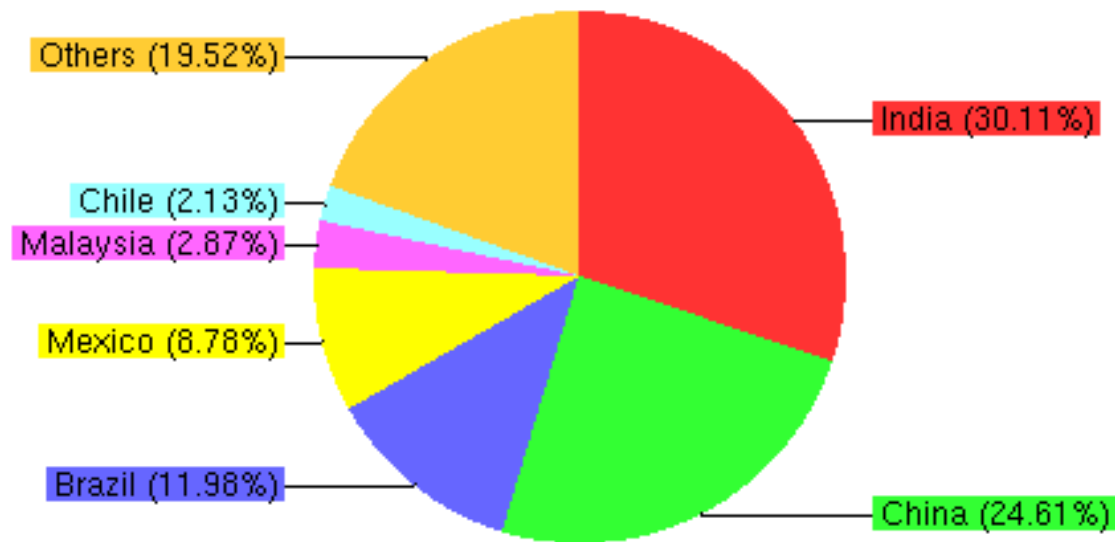
Expected average annual CERs from registered projects by host party. Total: 231,358,999



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CDM Statistics

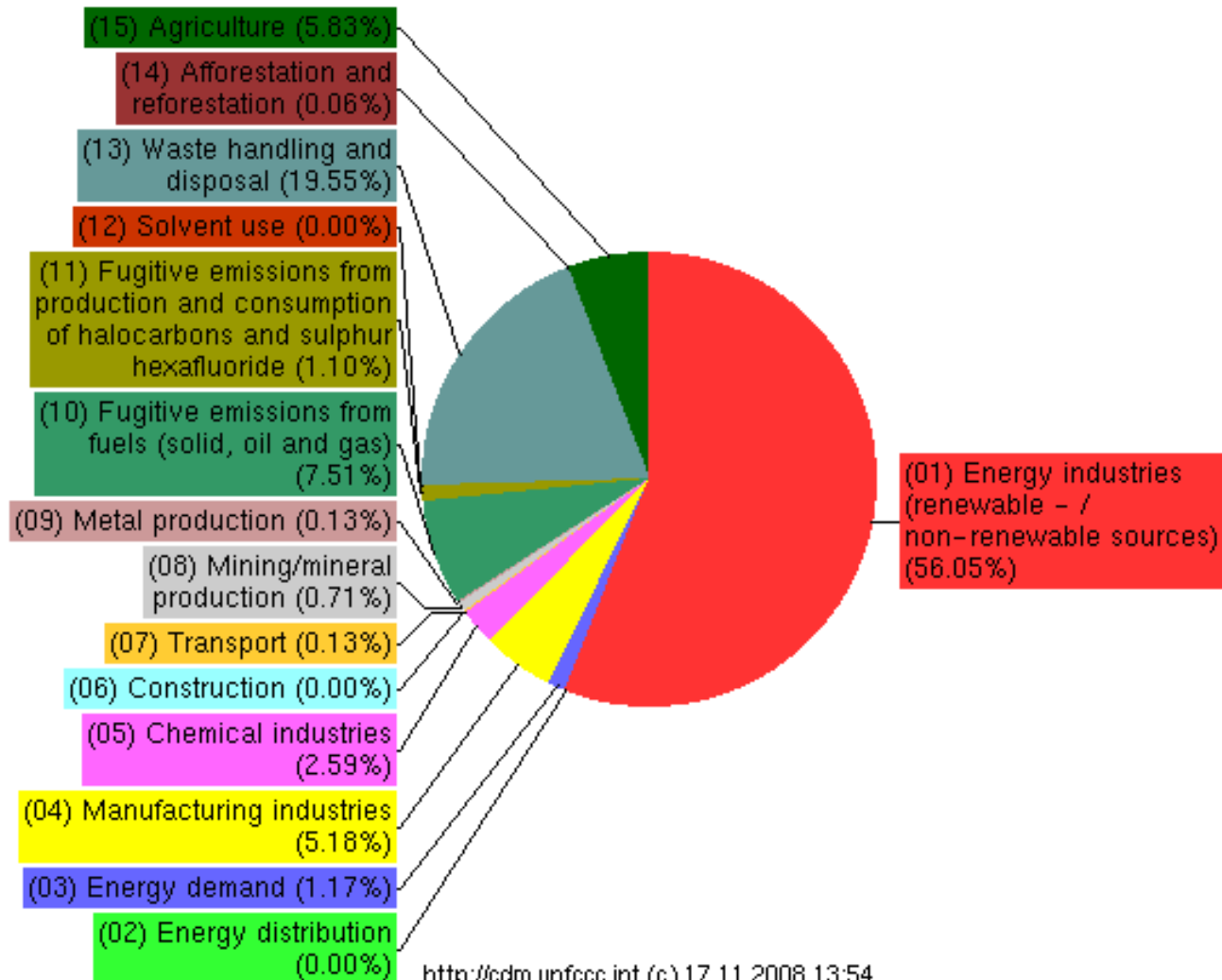
Registered project activities by host party. Total: 1,219



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CDM Statistics

Distribution of registered project activities by scope



THANK YOU