


Role of Potential Partners in Promoting Energy Efficiency Through CDM in India



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Outline

- ❑ Status of CDM in India vis-à-vis EE projects
- ❑ Potential EE opportunities
- ❑ Barriers to EE projects in India
- ❑ Potential areas of EU-India collaboration:
Overcoming the barriers
- ❑ Potential technology areas for EU-India
collaboration
- ❑ EU-India collaboration: Promoting CDM
- ❑ Future roadmap

EE projects

- ❑ Over 1500 projects at various stages of the CDM process
- ❑ Over 600 million CERs expected upto 2012
- ❑ Over 480 projects registered by UNFCCC
- ❑ Energy efficiency category has the second highest number of projects in the pipeline: **30% of the total**
- ❑ Energy efficiency category has the maximum sectoral representation: Around **40 economy sectors**
- ❑ Iron and steel, cement, power and oil and gas are some of the leading sectors under EE both in terms of number of projects and the expected CERs upto 2012

Status of CDM in India vis-à-vis

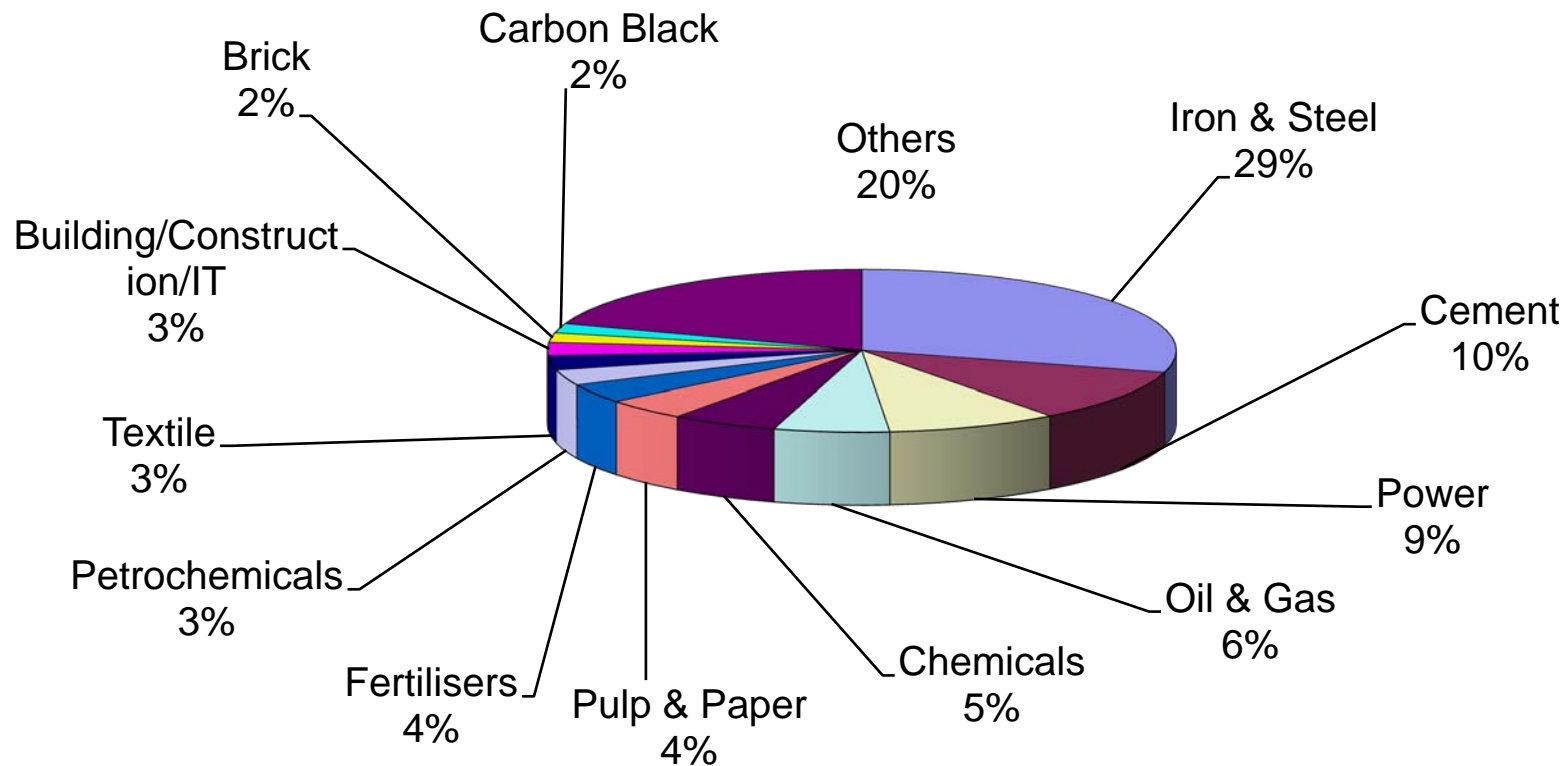
EE projects

Sectoral representation under EE category: Over 40 sectors

Agriculture & Livestock	Non-Ferrous Metals	Oil & Gas
Automobiles	Engineering & Machinery	Petrochemicals (including polymers)
Brick	Fertilisers & agrochemicals	Pharmaceuticals
Buildings	FMCG	Thermal power generation
Carbon Black	Glass	Pulp & Paper
Cellulose Fibres	Graphite	Refractory
Cement	Hotels	Sugar
Ceramics	Iron & Steel	Telecom
Chemicals	IT	Textile (including synthetics)
Diversified	Lighting	Transport
Dye Manufacturing	Manufacturing	Tyres
Electronics	Mining	

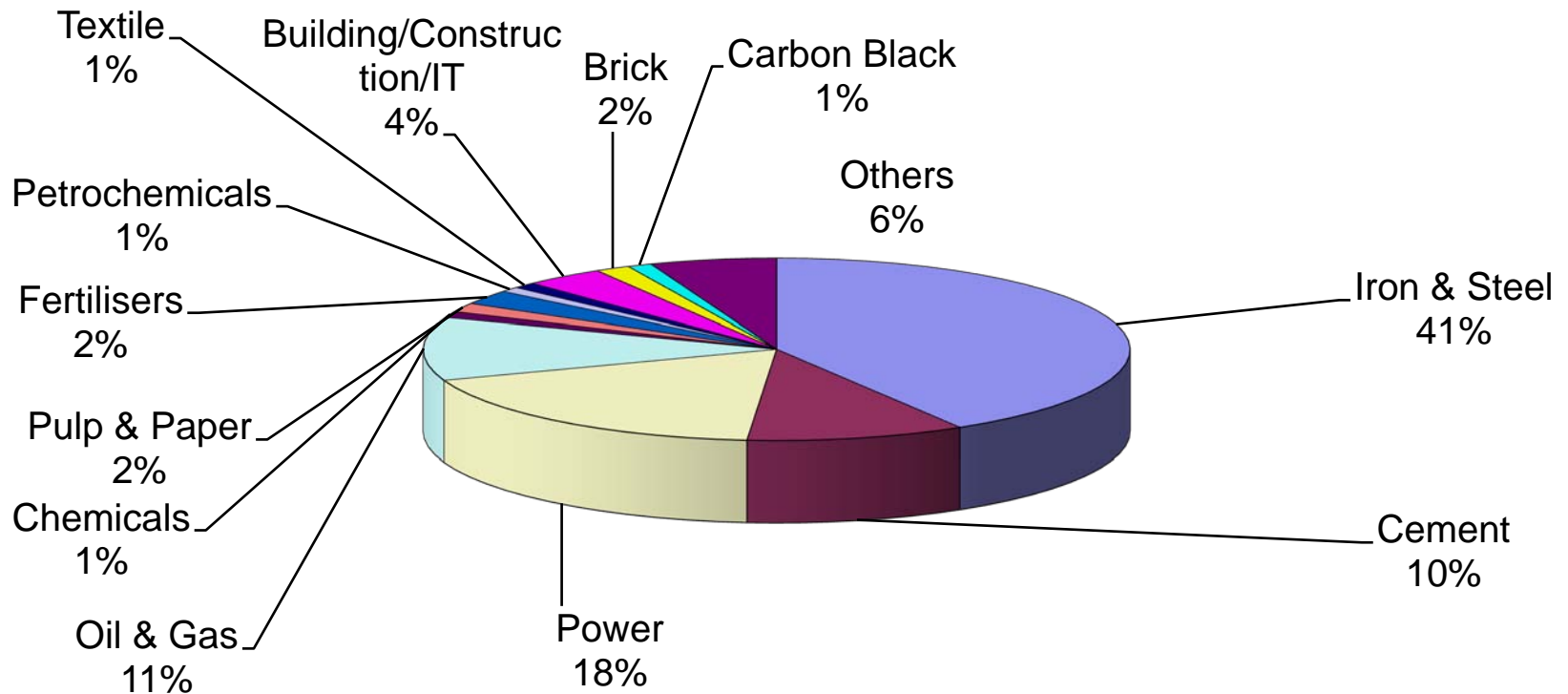
EE projects

Sector-wise break-up of CDM projects under energy efficiency category

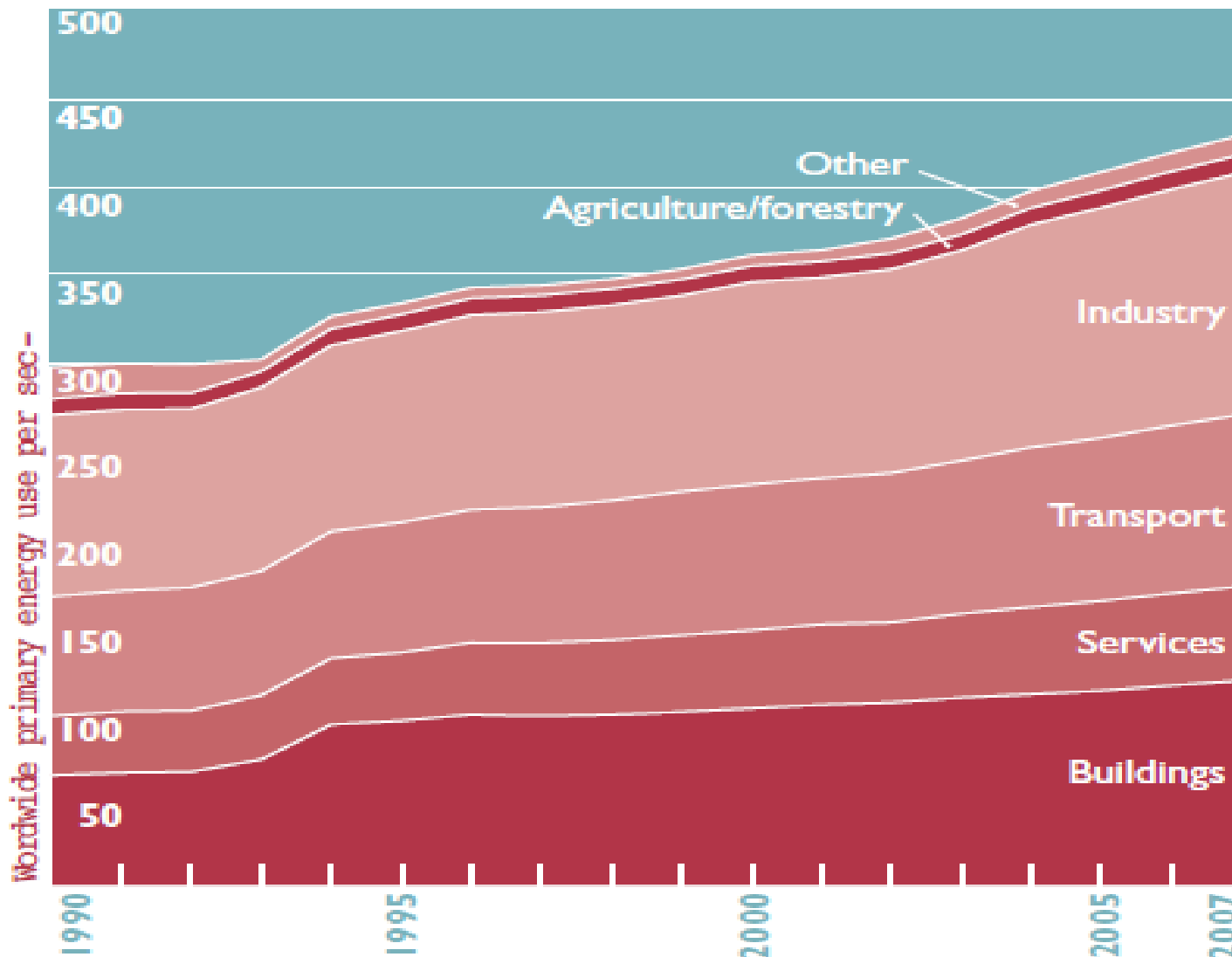


EE projects

**Sector-wise break-up of expected CERs upto 2012
from energy efficiency CDM projects**



Potential EE opportunities

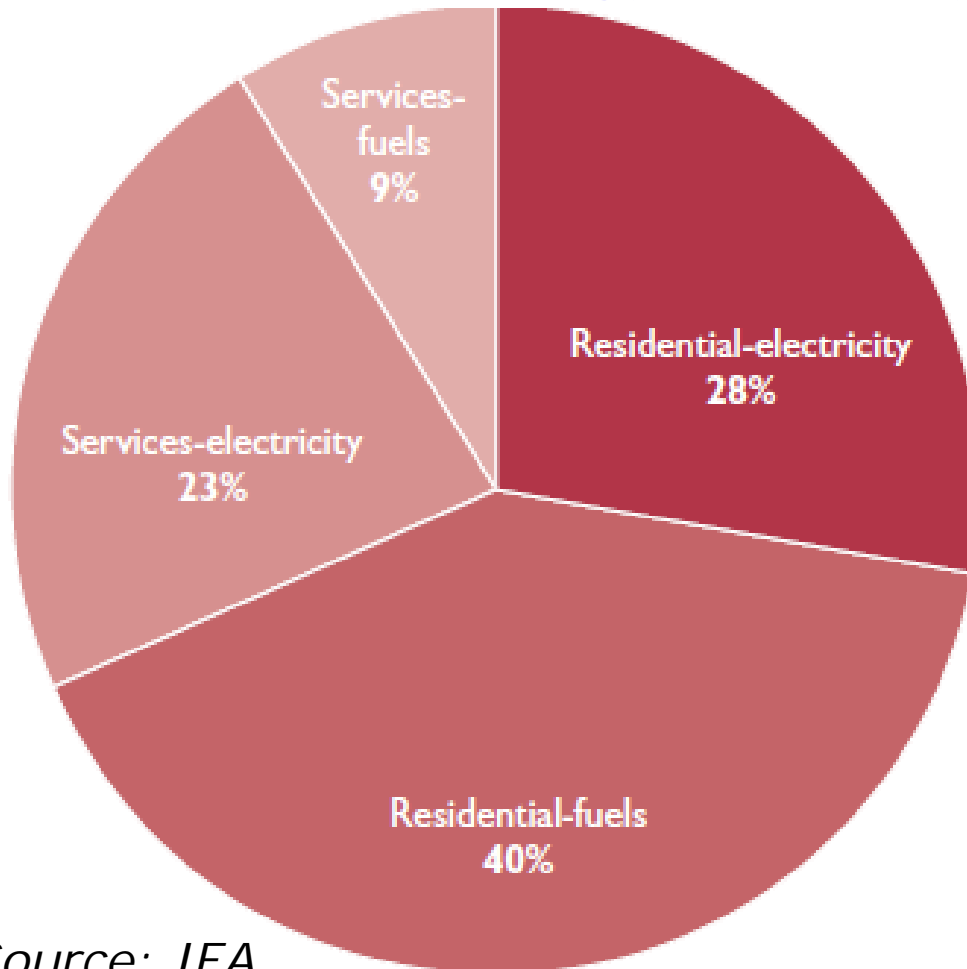


Broadly potential EE projects can be categorized into:

- Industrial energy efficiency
- Energy efficiency in buildings
- Energy efficiency in power generations
- Energy efficiency in transport sector

Potential EE opportunities

Energy efficiency in buildings



- Lighting
- Heating
- Cooling
- Ventilation

Source: IEA

Potential EE opportunities

Energy efficiency in industrial sectors

- ❑ Improved motor systems
- ❑ Combined heat and power
- ❑ Improved steam systems
- ❑ Process integration
- ❑ Increased recycling
- ❑ Enhanced energy/waste heat recovery

Potential EE opportunities

Energy efficiency in transport sector

- ❑ Improved fuel efficiency
- ❑ Fuel switch to low-carbon options
- ❑ Improved vehicle design/technology
- ❑ Mode switch to mass transport
- ❑ Reduction in number of kilometers travelled through regional planning

Potential EE opportunities

Energy efficiency in power generation sector

- ❑ Latest technologies like super critical/ultra super critical
- ❑ Use of clean coal technologies
- ❑ Gas-based power plants
- ❑ Reduction of T&D loss
- ❑ Retrofitting/upgradation

Barriers to EE project

development and implementation

- Technological
 - Lack of technologies
 - Lack of system
- Economical
 - Lack of financing
 - Lack of effective market instruments to pay off
- R&D and innovation
 - Lack of R&D
 - Lack of organizational/institutional support
- Social
 - Behavioral factors
 - Political factors

Potential areas of India

EU-India collaboration

- ❑ Investment/financing of EE projects: [India is a huge market](#)
- ❑ Transfer of technologies to promote EE projects through flexibility in IPRs
- ❑ Collaborative R&D for technology development for consistent with local conditions
- ❑ Capacity building through consultancy and training and transfer of know-how
- ❑ Enhanced organizational/institutional associations (e.g. universities, etc.)
- ❑ Purchase of carbon credits through CDM or other market instruments

Potential technology areas for India EU-India collaboration

- ❑ Solar energy development (CSP and PV)
- ❑ Clean coal technologies (IGCC)
- ❑ Power generation (super critical/ultra super critical; combined heat and power CHP; energy from wastes)
- ❑ Nuclear power
- ❑ Energy generation from biomass/organic wastes/biofuels
- ❑ Green building technologies
- ❑ Low carbon technologies in transport sector (e.g. hybrid vehicles)
- ❑ Energy efficient technologies for food preservation, cold storage/chain, wine making and packaging, etc.
- ❑ Energy efficiency in industries (improved combustion efficiency, waste heat recovery)
- ❑ Oil exploration technologies

Promoting CDM

India the second largest CDM market in the world: EE projects to drive CDM in India

- ❑ Identification and development of CDM projects
- ❑ Investment in CDM projects: Sharing of project risks- mutually beneficial
- ❑ Purchase of carbon credits: India a booming economy, huge supplier of carbon credits
- ❑ Facilitating of clean technology transfer and know-how: Technology key to mitigation
- ❑ Clustering of SMEs (Indian manufacturing sector dominated by SMEs): EE the need of the hour
- ❑ Joint efforts in development of CDM methodologies
- ❑ Project specific R&D

Role that needs Strengthening

- ❑ Identification of areas of collaboration
- ❑ Building third party coordinated body for agreed recommendations
- ❑ Creation of institutional mechanisms that reduce risk more directly. These may have more involvement of investment practitioners than economists and hence may bring more investment resources with less risk attached. Build fund using private as well as public sector partnerships.
- ❑ Break recommendations into manageable flagship projects
- ❑ Establish clear targets for enhanced cooperation on identified projects & incorporate urgent intensification of the collaborative efforts such as R & D.
- ❑ Address inflexible IPR related issues to promote T Transfer

Role that needs Strengthening, contd

- ❑ Modelling of review process –annual summit meetings
- ❑ Mainstream EU sponsored activities in Climate Change/CDM into development projects and programmes
- ❑ Promote Energy efficiency programmes in SME clusters
- ❑ Encourage Private Sources to play major role (UNFCCC predicts 86% to come from private players)

Let us Expect that....

- ❑ Strengthening, coordinating and enhancing partnership with potential partnership will not only energise the process but..
- ❑ Will help in tapping new skills & entrepreneurial potential of Indian talents
- ❑ Lead to long-term mutually beneficial relationship with India
- ❑ Revolution in Energy Efficiency will help in fighting out tripping point battle together & effectively.

THANK YOU

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