

Efforts to shift towards Low Carbon Societies (LCS) in India

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India and development challenges

- Key concerns
 - multiple stress factors: environmental (viz., deforestation and land degradation concerns), social (literacy and infrastructure development) and economic stress (low per capita incomes)
 - livelihoods of millions dependent on natural resources
- Many deprived of basic facilities and amenities
 - 500 million do not have access to electricity
 - Many more without access to safe drinking water
- Development Aspirations - Enhancement in infrastructure & human development (increasing access to roads, energy, electricity, educational facilities, health infrastructure etc)
- Climate change, an additional stress factor: influence both natural and human systems (agriculture, forestry, fishery and health)



Country efforts - National Action Plan on Climate Change

8 Missions delineating the priority areas for action with regard to both mitigation & adaptation:

- Solar Mission
- Energy Efficiency
- Sustainable Habitat
- Water
- Agriculture
- Green India
- Himalayan Ecosystems
- Strategic Knowledge

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India: Several forward looking policies & programs with CC co-benefits

- **Reforming Energy Markets (Electricity Act 2005, Tariff Policy 2003, Petroleum & Natural Gas Regulatory Board Act, 2006, etc.):**
 - Focus on removing entry barriers & raising competition in exploration, extraction, conversion, transmission & distribution of primary and secondary energy; instituting price reforms to enable full competition at point of sale and promote optimal fuel choices; focus on augmenting & diversifying energy options, sources and energy infrastructure; implementing feed-in tariffs for renewables & strengthening/ introducing independent regulation
- **Integrated Energy Policy, 2008:**
 - Key GHG related provisions include energy efficiency improvement across all sectors, emphasis on mass transport, renewables; accelerated development of nuclear & hydropower; Technology Missions for Clean Energy; and focused R&D on several climate change related technologies
- **Auto Fuel Policy, National Urban Transport Policy for transport sector**

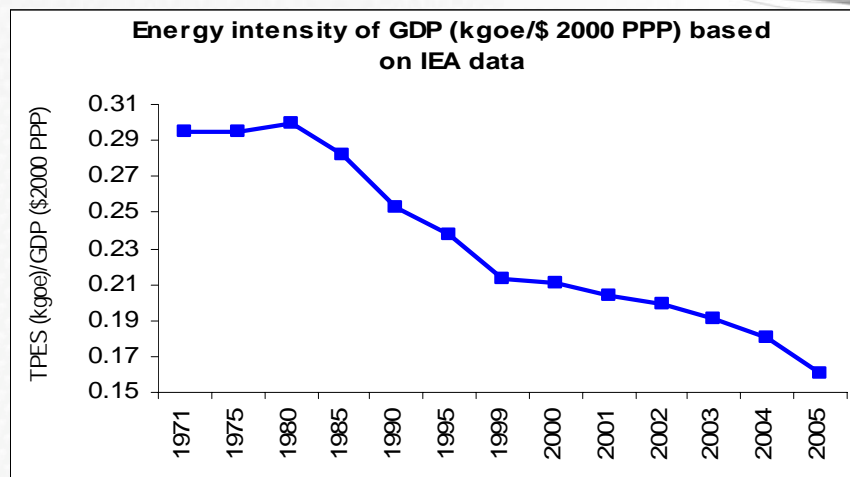
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Some key policies and actions...

- Rural Electrification Policy 2006 (RGGVY): Promotes renewable energy technologies where grid connectivity is not possible or cost-effective
- Energy Conservation Act, 2001: Aims to reduce specific energy consumption across sectors; BEE established to institutionalize energy efficiency measures, monitoring, & measurement at plant and macro-levels
- New and Renewables Energy Policy, 2005: Focus on accelerated deployment of renewables through indigenous design, development and manufacture
- Biodiesel Purchase Policy: Mandates biodiesel procurement by petroleum companies
- Ethanol Blending of Gasoline: Mandates 5% blending of ethanol with gasoline in 9 States and 4 Union Territories from 1 January 2003
- Energy Conservation Building Code, 2006: Mandatory energy efficiency code for all building with > 500 kVA connected load or conditioned floor area > 1000 m²
- Bachat Lamp Yojana: Country-wide programme for replacing incandescents by CFLs in households (using CDM credits to equate purchase price)
- 50,000 MW Hydroelectric Initiative, 2003: 162 hydel projects have been identified for project preparation and implementation
- Others: Promotion of solar thermals, solar PVs, wind, biomass gasifiers, biogas and manure management, promotion of fuel cells, energy recovery from urban wastes, etc.

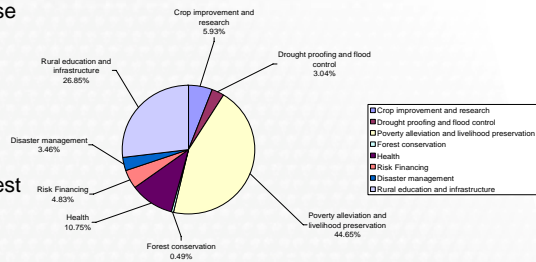
India's Decreasing Energy Intensity



Adaptation Co-benefits: Policies and programmes

- Agriculture (Insurance Scheme; Watershed development for Rainfed areas)
- Health (National Malaria Eradication Programme; National Vector-borne Disease Control Programme)
- Disaster Management (Community based disaster risk management programme; Integrated Coastal Zone Management policies; Early warning networks/ ICTs)
- Afforestation and Reforestation (Joint Forest Management, National Afforestation Programme; Agro-forestry development)
- Poverty reduction (Integrated Rural Development Programme; Rural electrification)
- Water (water policy gives top priority to drinking water; accelerated Urban & Rural Water Supply Programme)

Fig.1 proportion of critical components in total adaptation expenditure - 2006-07



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Action from businesses and communities

- Corporate White Paper on the National Action Plan on Climate Change
- Communities response:
 - examples of clean & efficient fuel use in religious institutions
 - Markets for efficient and clean end-use products (CFL etc.)
 - Green buildings

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International Collaborative actions

Country wise CDM project registered.

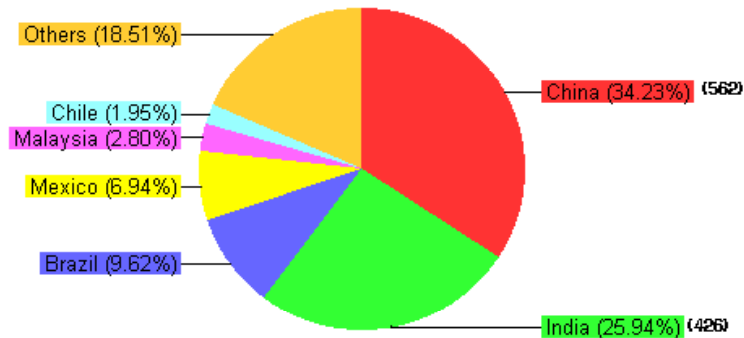


Figure: Number of CDM projects Registered in India as of May 26, 2009.

Source: UNFCCC website.

Country wise CERs issued

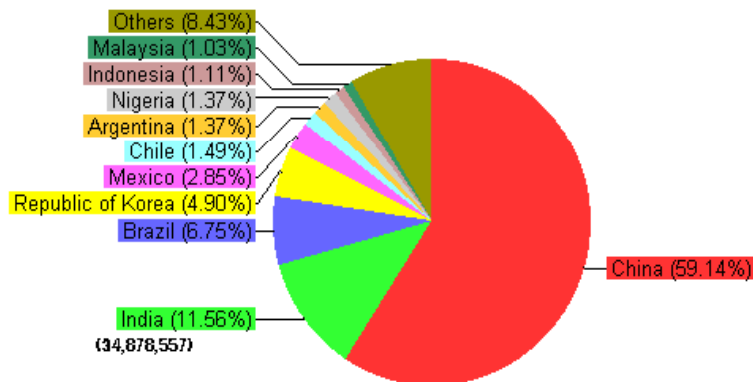


Figure: Expected Average Annual CERs in India as of May 27, 2009. Total: 301,750,077

Source: UNFCCC website

APP

- India is a member of the Asia-Pacific Partnership on Clean Development and Climate (APPCDC)
 - Objective to promote development, deployment & transfer of clean and efficient technologies in accordance with the national priorities of participating countries
 - Focuses on expanding investment & trade in cleaner energy technologies, goods and services in key market sectors
 - Seeks to enhance cooperation to simultaneously address challenges related to air pollution, energy security and GHG intensities

- India has joined in ~20 projects under Renewable Energy & Distributed Generation Task Force (REDGTF) out of a total of about 30 projects initiated by other partner countries
 - Projects focus on enabling markets, deployment and research, design & development
 - Partnership largely in terms of public-private partnerships involving all stakeholders – industry, government & research institutions

Barriers

- Technology transfer and absorption

- Financial issues both in leveraging national and international funds

- Implementation models, integrated approaches

- Research and development

Need for early agreement on Post 2012 regime

- To avoid gap between first and further commitment periods
- To ensure continuity of carbon market
 - Deeper emission cut by developed countries
- To motivate climate change and development co-benefit activities in developing countries
- Investment in clean energy
- International cooperation on facilitating technology and financial flows

Thank you!