

CDM –Subsidy to Fossils or Leapfrog to Technology

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Clean Development Mechanism (CDM)

- To achieve stabilization of Greenhouse Gases (GHG) concentration at a level that would prevent anthropogenic perturbation with climate system the United Nations Framework Convention on Climate Change (UNFCCC) was adopted in 1994.
- Under the Convention, in 1997, the Kyoto Protocol had devised three flexible mechanisms for reducing GHGs
 - IET allows the developed countries to trade their emissions allowances with each other for the purposes of achieving emissions reductions where it is cheaper to do so.
 - Under JI, developed (Annex 1) countries may finance emissions reduction projects in another developed country and earn from this activity emissions reduction units (ERUs) which may count as part of its emissions allowance.
 - Clean Development Mechanism (CDM), is an arrangement allowing industrialised countries with a greenhouse gas reduction commitment (called Annex 1 countries) to invest in projects that reduce GHG emissions in developing countries as an alternative to more expensive emission reductions in their own countries

Cond...

- **Article 12 of the Kyoto Protocol states the purpose of the Clean Development Mechanism and Marakesh accord (COP 7, October 2001) developed the Modalities and Procedures to initiate CDM Activities.**
- **In general, CDM allows emission reduction (or emission removal) projects in developing countries to earn certified emission reductions (CERs), each equivalent to one tonne of CO₂. These CERs can be traded and sold, and used by Annex 1 industrialized countries to meet their quantified emission limitation and reduction targets under the Kyoto Protocol.**
- **The mechanism stimulates sustainable development and emission reductions, while giving Annex 1 countries some flexibility in how they meet their emission reduction or limitation targets and developing country in achieving their sustainable development.**
- **The projects qualify through a rigorous and public registration and issuance process designed to ensure real, measurable and verifiable emission reductions that are additional to what would have occurred without the projects. Basically, it is certified by DOEs.**
- **The mechanism is overseen by the CDM Executive Board, answerable ultimately to the countries (Parties) that have ratified the Kyoto Protocol.**
- **The mechanism is the first global, environmental investment and credit scheme of its kind, providing a standardized instrument for offsetting emissions, namely Certified Emission Reduction (CERs).**

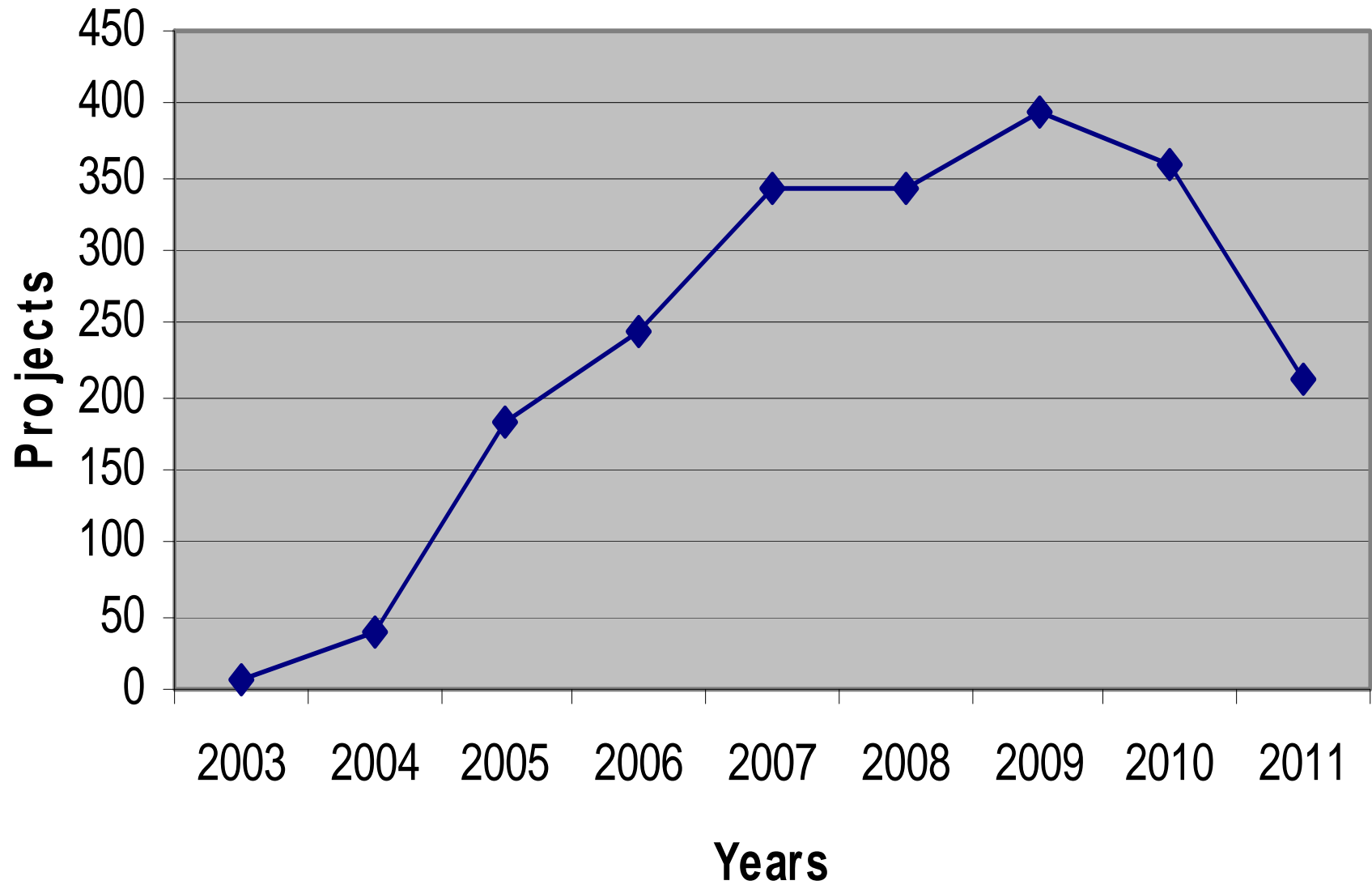
CDM and India

- **India has signed the Kyoto Protocol in 1997 and ratified it in 2002.**
- **Established National Clean Development Mechanism Authority (NCDMA) in 2003 with the approval of the Cabinet.**
- **NCDMA is functioning with Secretary MoEF as Chairman and Members from different Ministries and the Planning Commission.**
- **To support the project proponents, the National CDM Authority started paper less operation since July 2010.**
- **Based on the eligibility under CDM, submitted projects are assessed for approval based on the specified criteria of sustainable development and projects' additionality.**
- **Social well being, economic well being, environmental well being and technological well being are the measures for sustainable development.**
- **The MoU Signed between MoP and GTZ (Oct 2006)- Indo German Energy program (IGEN) and the baseline CO2 Emissions from Power Sector already in place has helped India to be a proactive player in CDM.**

CDM Project Status in India

- As on 31 October 2011, 739 out of total 3,563 projects registered by the CDM Executive Board are from India.
- The National CDM Authority (NCDMA) in India has accorded Host Country Approval to 2115 projects.
- It has facilitate an investment of more than Rs. 339,521crores.
- About 90% projects developed under CDM are from private sector industries.
- If all these projects get registered by the CDM Executive Board, they have the potential to generate 709 million Certified Emission Reductions (CERs) by the year 2012.
- As on date CERs issued to Indian projects is 121 million.

Trend of Approved Projects in India



Sector Wise Distribution of Projects (31.10.2011)

Sectors	Projects		CERs (2012)		Investment (INR) Crore	
	No	%*	CERs	%*	INR (Crores)	%*
Energy industries (renewable-/ non-renewable sources)	1,630	77.07	477,653,032	67.3	309,621	91.19
Energy demand	158	7.47	26,087,026	3.68	5,828	1.72
Manufacturing industries	212	10.02	63,891,180	9	5,958	1.75
Chemical industries	15	0.71	10,746,624	1.51	417	0.12
Transport	10	0.47	1,200,523	0.17	6,721	1.98
Waste handling and disposal	52	2.46	12,147,013	1.71	1,299	0.38
Afforestation and reforestation	13	0.61	10,760,264	1.52	371	0.11
(*) percentage of total						

Sectors with less than 10 projects

Sectors	Projects		CERs (2012)		Investment (INR) Crore	
	No	(%)*	CERs	(%)*	INR (Crores)	(%)*
Energy distribution	7	0.33	535,587	0.08	4,039	1.19
Construction	0	0	0	0	0	0
Mining/mineral production	4	0.19	19,053,935	2.68	824	0.24
Metal Production	3	0.14	5,365,571	0.76	4,240	1.25
Fugitive emissions from fuels (solid, oil and gas)	3	0.14	165,438	0.02	47.19	0.01
Fugitive emissions from & consumption of halocarbons and sulphur hexafluoride	6	0.28	82,095,771	11.57	140	0.04
Solvent use	0	0	0	0	0	0
Agriculture	2	0.09	74,393	0.01	17	0.01
Total	2,115	100	709,776,357	100	339,522	100

State Wise Distribution of Projects (31.10.2011)

States	Projects	CERs (upto 2012)		Investments	
	Nos	CERS	(%)	INR (Crore)	(%)
Andhra Pradesh	147	85,661,569	12.57	40,053	12.67
Assam	11	815,880	0.12	189	0.06
Chattisgarh	93	27,178,614	3.99	7,455	2.36
Delhi	12	3,771,111	0.55	1,302	0.41
Gujarat	231	124,868,155	18.33	51,849	16.40
Haryana	28	4,433,411	0.65	1,505	0.48
Himachal Pradesh	69	17,204,956	2.53	13,266	4.20
Jharkhand	31	24,014,755	3.53	32,529	10.29
Karnataka	211	68,728,259	10.09	14,497	4.59
Kerala	16	652,768	0.10	360	0.11
Madhya Pradesh	52	8,497,637	1.25	19,086	6.04
Maharashtra	269	59,285,664	8.70	52,509	16.61
Multi State	124	25,808,132	3.79	7,568	2.39
Orissa	73	22,689,284	3.33	4,564	1.44
Punjab	63	11,643,594	1.71	26,285	8.31
Rajasthan	133	61,895,521	9.09	6,835	2.16
Tamil Nadu	271	50,506,711	7.41	17,581	5.56
Utarranchal	40	19,481,924	2.86	10,873	3.44
Uttar Pradesh	147	37,408,709	5.49	4,649	1.47
West Bengal	64	26,691,028	3.80	3,214	1.32

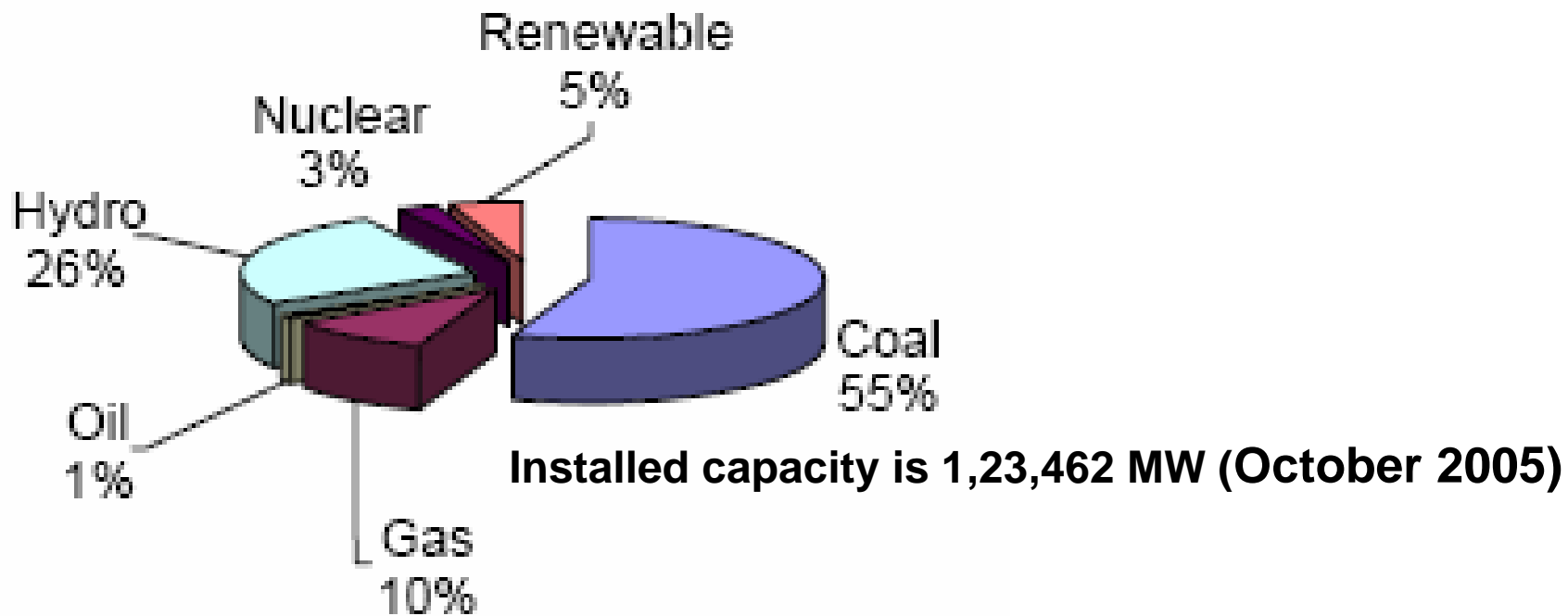
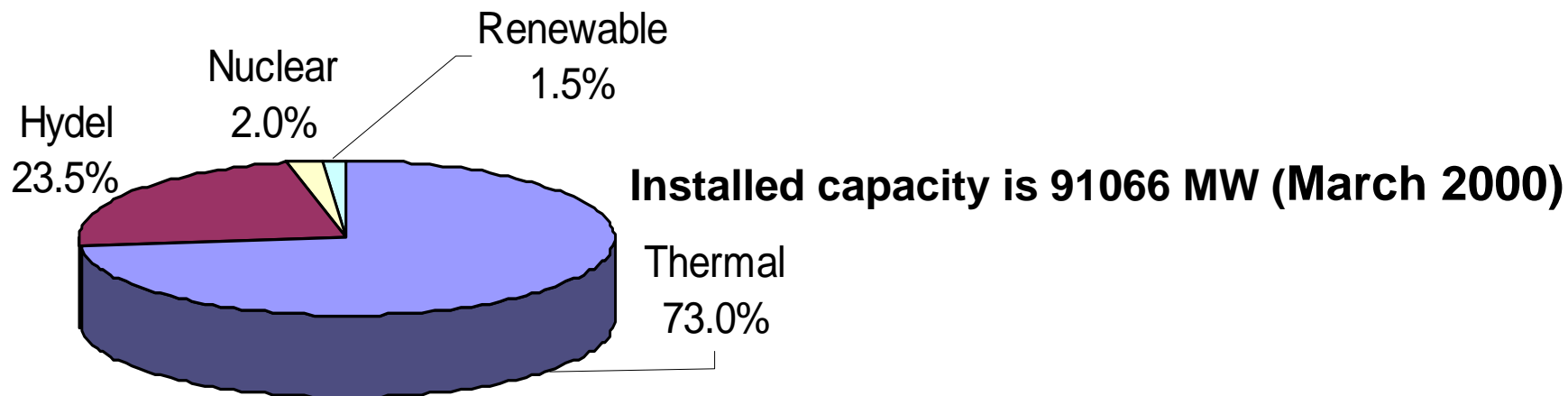
States with less than 10 projects

States	Projects Nos	CERs (upto 2012)		Investments	
		CERS	(%)*	INR (Crore)	(%)*
Arunachal Pradesh	1	156,393	0.02	25	0.01
Bihar	8	750,896	0.11	465	0.15
Goa	3	1,186,500	0.17	183	0.06
Jammu & Kashmir	5	9,809,988	1.44	6,309	2.00
Meghalaya	3	1,564,957	0.23	875	0.28
Pondicherry	1	139,332	0.02	8	0.003
Sikkim	7	9,973,169	1.46	11,238	3.55
Tripura	1	4,427,526	0.65	3,429	1.08
Bhutan*	1	529,914		820	
Total		681,237,682	100	339,522	100
(*) Percentage of Total including Bhutan					

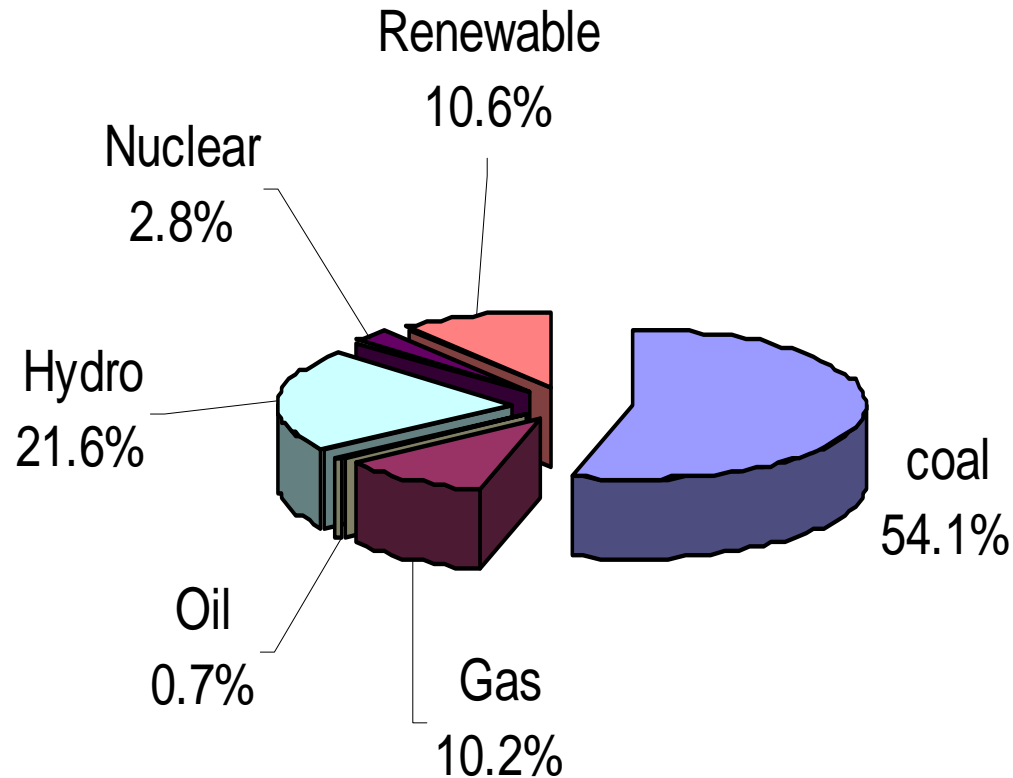
General Observations

- Considering the projects approved so far, it may be said that majority of the CERs generation are from few big projects and maximum of the projects in pipe line are in Small Scale and developed unilaterally.
- The distribution of projects is not uniform across the sectoral scope as the projects in Wind, Biomass and Hydro are dominating the total list.
- Also, the projects are concentrated in select few states (dominated by Gujarat, Karnataka, Tamil Nadu and Maharashtra).
- Thus, in spite of the efforts of the Government and active participation of the private sector industry there is scope to accelerate uniform growth of CDM projects across the country.

Energy Fuel Mix



Changing Trends



Installed Capacity 1,73,626.40 MW (Jan 2011)

**Since 2000,
overall capacity
increase is
about 82000MW**

**Contribution of renewable
energy has
increased from 1.5 %
to 10.6%**

**Little reduction in Thermal
Power has
been observed 73%
to 65%**

Leapfrog to Technology

Considering the basic purpose of CDM -sustainable development , financial investment and technology transfer it may be said that majority of the projects in the country are developed unilaterally without much of financial investment and technology transfer

- Yet, it is supporting the global efforts in mitigating GHGs emission under the Kyoto Protocol of UNFCCC for protecting the Climate System.
- The project developers has mobilized/ mobilizing huge financial resources (3,39,521 crore) in developing CDM projects in the country.
- The investment in CDM projects is helping in promoting technology diffusion and sustainable development in the country.
- In the process, it is supporting to leapfrog technology.

Thank you