

Post 2012: CDMs role in the Climate Negotiations

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Structure of presentation

1. Goal of CDM
2. CDM and emission reduction
3. CDM and sustainable development
 - a) Based on studies of 5 AIJ projects and 44 CDM projects
4. India and China: Brief updates
5. Conclusion

- Problem:
 - GHGs emissions in ICs need to be reduced cost-effectively;
 - The rate of growth of GHGs in DCs needs to be reduced without diverting scarce resources to non-priority areas.
- Solution:
 - A market mechanism to allow investors from ICs to purchase certified emission reductions through investments in DCs that also contribute to sustainable development.
- Research question:
 - Are the flexibility mechanisms aimed at reducing GHGs also capable of contributing to sustainable development? Is AIJ/CDM really a win-win instrument?
 - Specifically applied to 5 AIJ and 44 CDM projects.

Contribution to reducing GHGs

- CDM prima facie successful in mobilizing funds
- However,
 - Not efficient enough to cope with the large number of applications;
 - Not equitable enough in terms of geographical coverage;
 - Additionality is questionable;
 - Counter productive nature of CDM projects and policy;
 - Base-lines problematic;
 - Counter-factuals difficult to prove;
 - Real global reductions???

Contribution to sustainable development

- Why should CDM contribute to SD?
 - Prevent diversion of scarce resources
 - Embedded projects more successful
 - Short-term emission reduction projects that are long-term lock-in trajectories.

Features of sustainable development

- Economic, ecological and social
 - Current and future generations
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- Hard or soft sustainability
 - Means or ends
 - Procedural or substantive concept
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- What constitutes sustainability? How do you scale down sustainability to project level? Is there a universal standard of sustainability? Who decides?

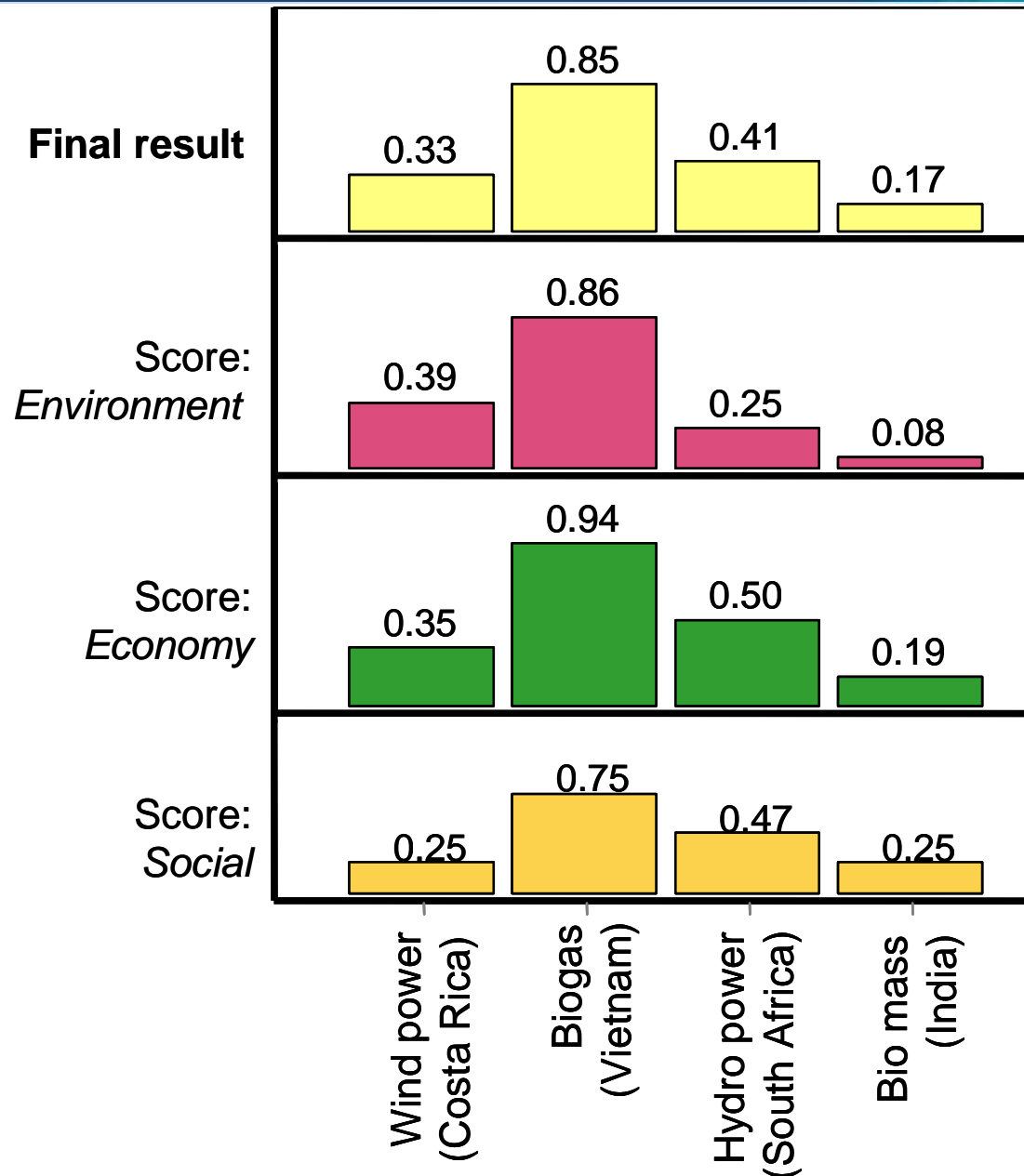
Dutch AIJ case studies

Host country	Costa Rica	Vietnam	South Africa	China	India
Location	Tejona	Across country	Bethlehem	Shandong	Bihar
Foreign investor	Essent, B.V. & NL Govt.	SNV (PPP/JI)	Nu Planet in both countries	ECN & PPP/JI	NICIS
Host investor	ICE	Min. of Ag. & Rural Devp.	E3	Min. of Science & Shougang	DA & DESI Power
Investment	Wind power	Small-scale Biogas	Mini-Hydro	Sunny greenhouses	Biomass Gasifier
Total cost € million	21.9	2.1	6.4	0.8	n.a.
Nl contribution	3.5	2.0	0.8	0.5	0.7
CERs expected kilotonne CO ₂	40	55	33	None	36
Investment/t CO₂	27.5	1.9	9.7	n.a.	n.a.

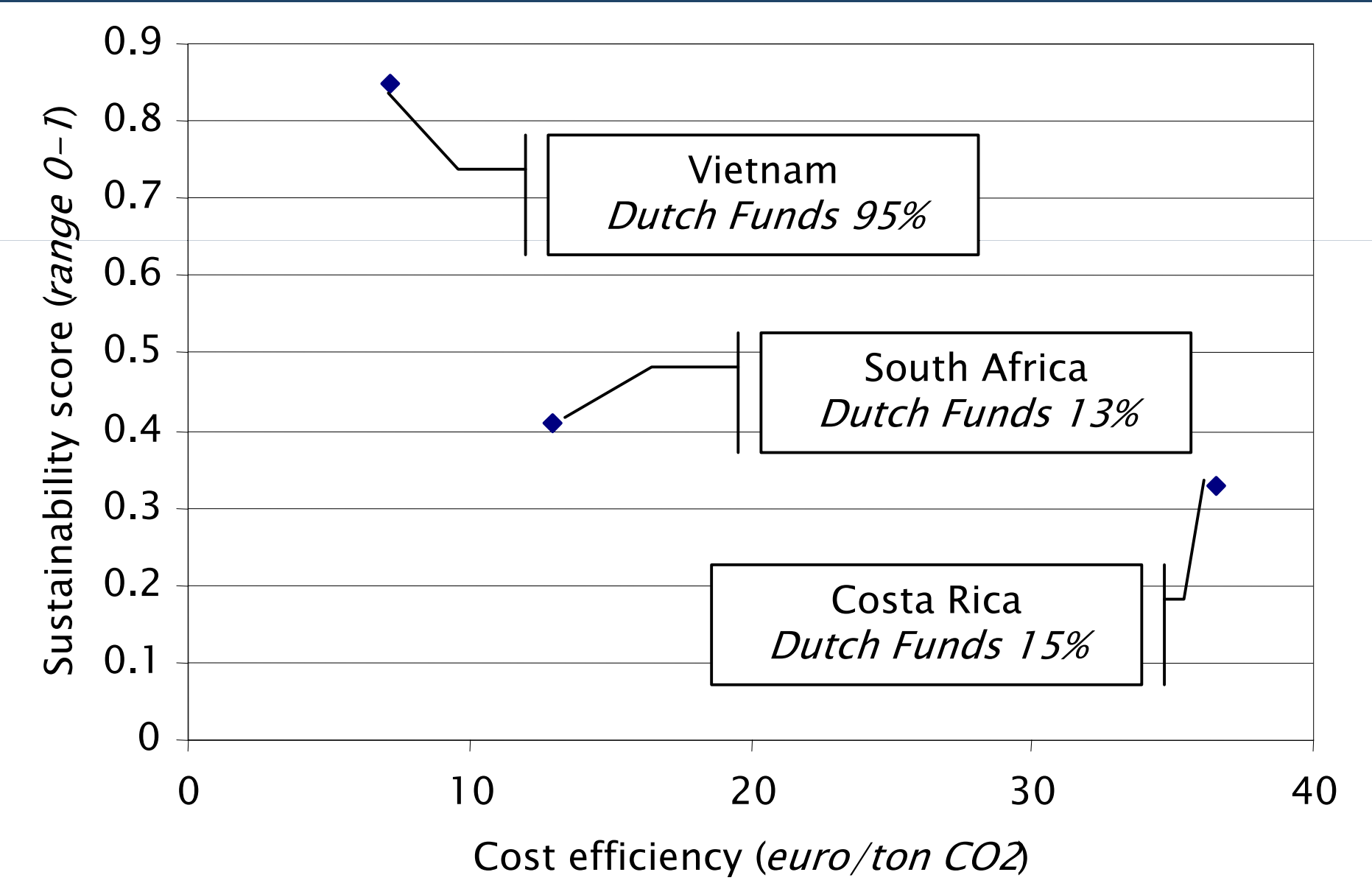
The time-line of the projects

Host country	Costa Rica	Vietnam	South Africa	China	India
Initial idea	1992		1997	1997	1997
Developed where	Costa Rica	Vietnam	South Africa	ECN, Netherlands	Joint*
Contract negotiated	2000	2002	2000	2002	1999
Project implemented	2001	Phase 1 implemented (2003-2005)	2006	Still not implemented properly	2001
Current status	Functioning for four years	In Phase 2	Construction completed	Construction complete; non-functional	Provides electricity and supports development;

Scores on sustainability indicators



Proportion of Dutch Funds



Dutch CDM projects

- 44 representative projects studied out of 150
- Method
 - Assessed SD contribution as stated in project documentation;
 - Assessed responses from host country DNAs on expected SD contributions from the projects;
 - Combined assessment

CDM Projects Assessed

	Projects in sample	Average of CERs/project/year (Ktonnes CO ₂ -eq.) ¹	Capacity (MW)
Biogas	3	52	15 ²
Biomass	5	27	24
Coalmine methane	1	2,877	120
Energy efficiency	6	102	n.a.
Fugitive gas capture	1	220	n.a.
Geothermal	1	81	20
HFCs	2	5,706	n.a.
Hydro	12	107	35 ⁴
Landfill gas	7	265	5 ⁵
Wind	6	63	36
Total	44		

CDM and sustainable development: Country positions

Table ES.1 Host country assessment of CDM projects

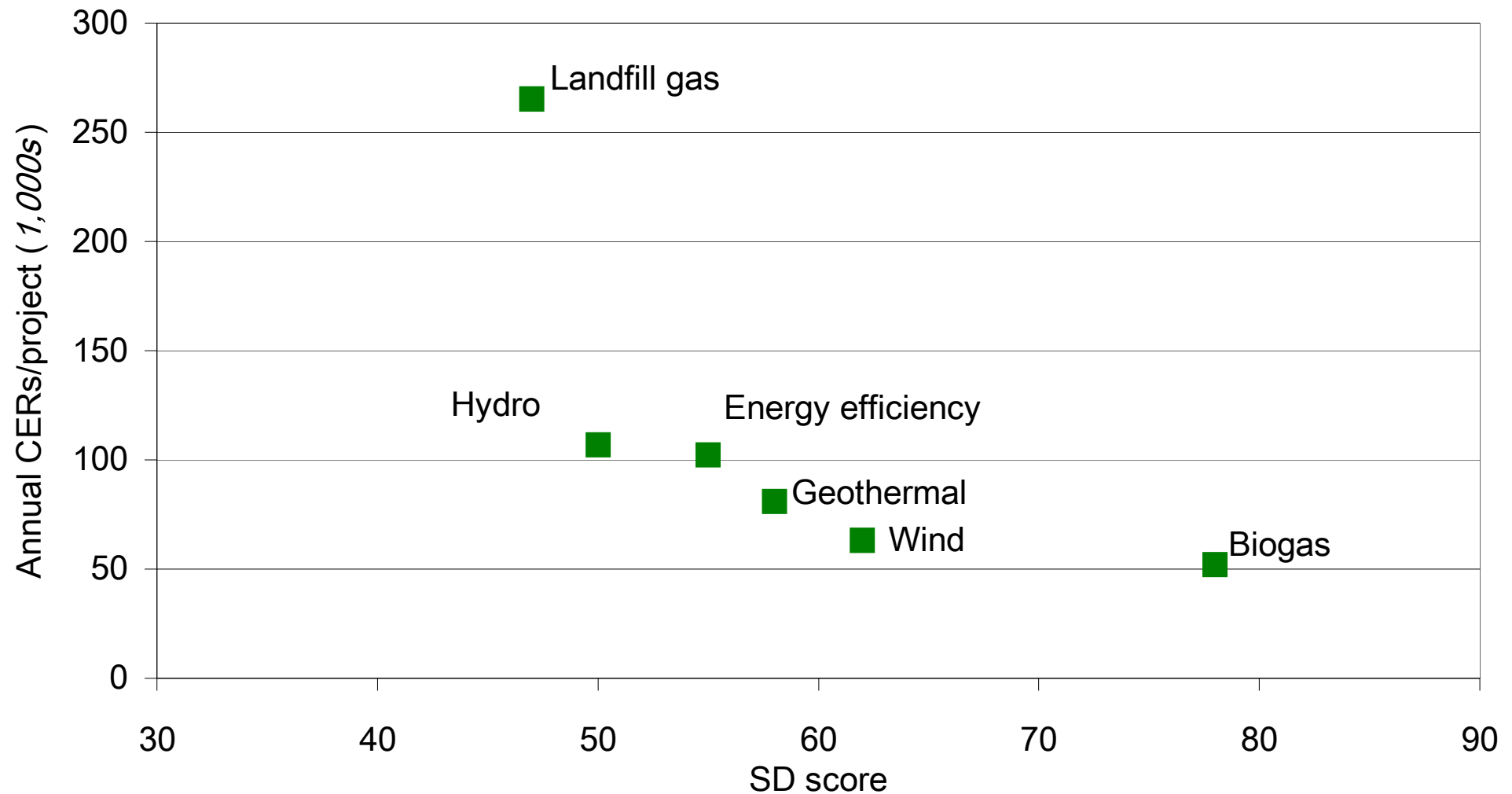
SD criteria <i>(Operational SD approach)</i>	Needs & Priorities <i>(Context specific)</i>	Environmental Impact Assessment / national legislation <i>(Compliance driven)</i>
Brazil China Colombia India Indonesia the Philippines South Africa Sri Lanka	Costa Rica Honduras Jamaica Moldova Nepal Nicaragua Peru	Argentina Chile Ecuador

CDM Projects:

Contribution to sustainable development

- Large contribution: 7 project types – biogas, coalmine methane (China), energy efficiency (Moldova), hydro and wind power (Colombia), landfill (Costa Rica).
- Medium contribution: 10 project types
- Low contribution: 12 project types – HFC 23, geothermal (Philippines), biomass (Brazil), hydropower (Ecuador, Honduras), landfill (Argentina, South Africa), wind power (Costa Rica, Philippines)

Trade-off between sustainability & emission reduction



Ideological level

Organization level

Project level

- + ODA leverages SD; synergy**
- ODA diverted**
- ODA subsidises market mechanism**

+ ODA helps cap. building esp. in poorest countries;
- ODA diverted from DC priorities to help IC purchases

- ODA subsidizes market mech.
- ODA levels below 0.7%;

Arguments for and against AIJ/CDM

Highest level

Middle level

Lowest level

- + cost-effectiveness
- + tech. transfer
- ? base-lines
- low-hanging fruit
- credit sharing
- debiting?
- sustainability?
- adaptation fund?

- + Org. Framework;
- Different bargaining power
- ? Use of ODA
- ? BITs

- Incrementalism
- Exports unsustainable model of production/consumption;
- allows slower emission red. in ICs;
- Commodification of pollution rights

Contribution to sustainable development

- Direct contribution – the contribution that results from the GHG reduction component: high likelihood of achievement;
- Indirect contribution – the contribution that is focused on contextual improvement for local communities based on their needs: uncertain likelihood of achievement; not monitored at present; not reason for breach of contract

Challenge to investors: Buy CERs without SD?

- In principle, sustainable development is something host countries determine, so if they say – yes; there should be no problem.
- However, if we don't want a race to the bottom, conscientious investor countries could:
 - That verification takes SD into account: expensive
 - A premium could be paid for SD benefits: ?
 - A lower sum for CERs that do not achieve SD benefits
 - Investors become careful of stating the SD component

AIJ projects in India

Table 1: AIJ projects undertaken in India (based on: TERI 2000)

Name	Funding Entities	Type	Funding (USD)	Status
Integrated agricultural demand-side mgmt.	Norway World Bank	Energy efficiency	\$4.6M ¹	1998: Proposal accepted by UNFCCC.
Biomass gasification ²	Switzerland	Alternative energy		1998: Proposal submitted; request for more info from gov. No further mention in Swiss AIJ documents.
Generation of direct reduced iron (DRI)	Japan	Efficient technology		
Energy recovery from waste gas and liquid	Japan	Energy efficiency		
DESI-power/biomass Gasification	Netherlands	Alternative energy		
Tamarind orchard agroforestry	United States	Agroforestry		

Based on: TERI 2000

- Average annual reductions of GHGs via CERs is estimated at 30, 566, 630 tonnes
- Largest number of registered projects.
- Attractive host country
- But the government process is long drawn and not always transparent and is seen as slow, difficult and laborious, with high transaction costs, no guarantee of reasonable prices for the CERs, difficulties in proving additionality and developing baselines (Gupta et al. 2007).
- CDM potential in India is gigantic, but if there are limited quantitative targets in the post 2012 period, the price of CERs will fall and the market may collapse.

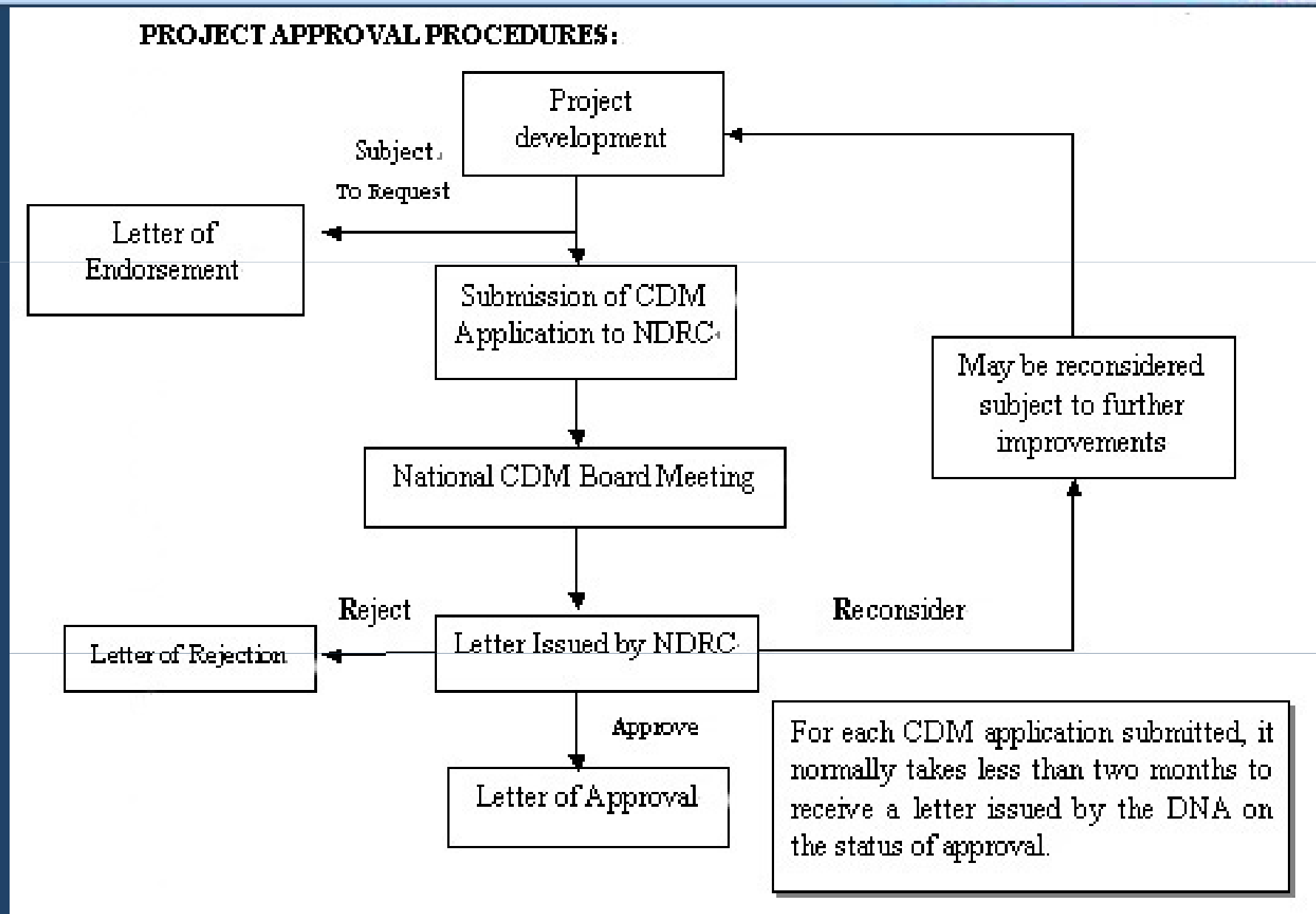
- Financial additionality a problem
- Environmental additionality a problem
- Sustainable development?

China: The CDM policy and framework

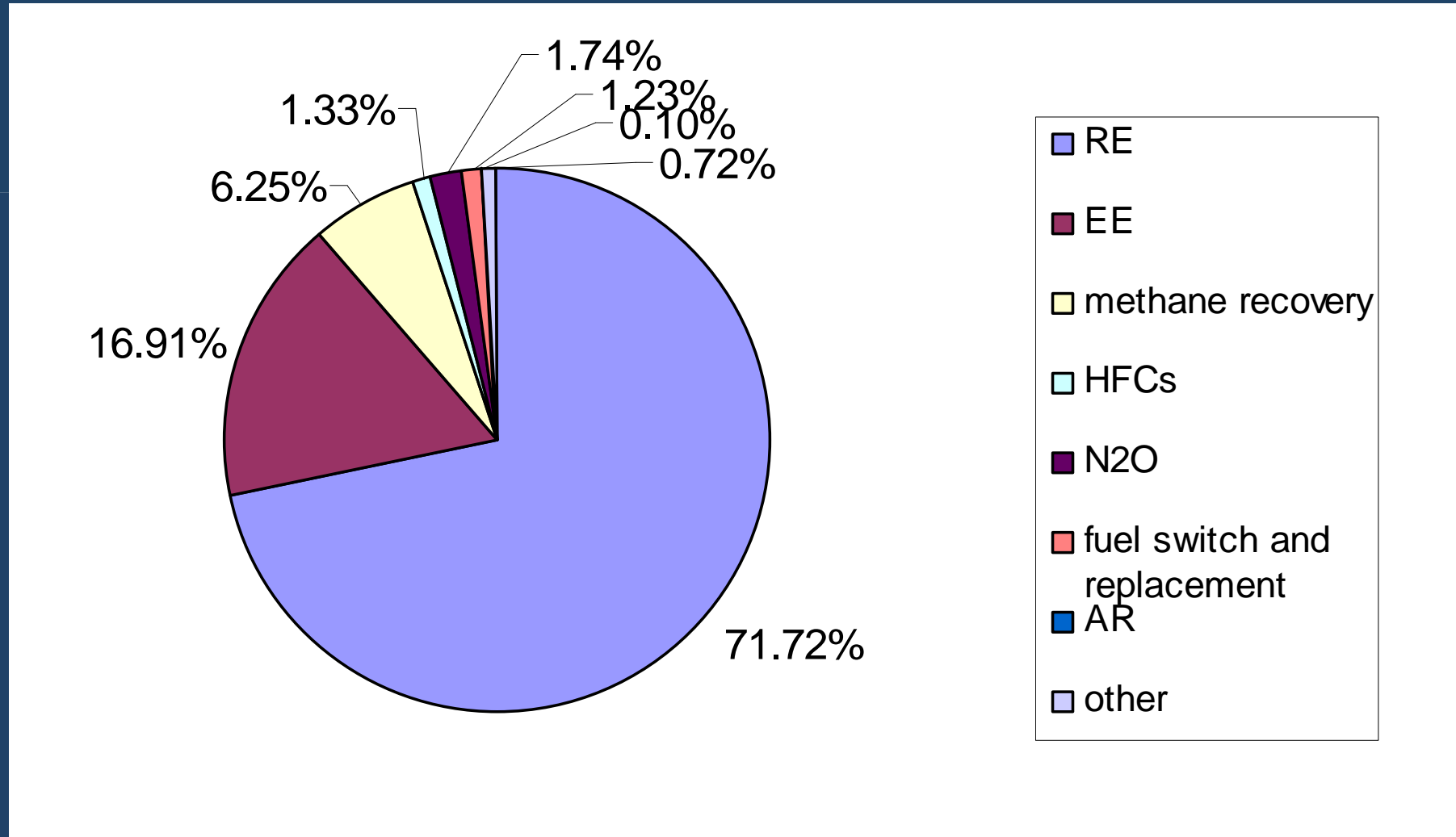
- 1995: opposed AIJ
- 1995-2002: five AIJ projects (one unsuccessful with the Netherlands)
- 2002: China eligible for CDM projects
- 2004: China policy on CDM clear
- 2005: 18 projects approved
- 2006-2007: Rapid explosion of CDM projects in China

- Only Chinese project developers can apply
- Priority areas are energy efficiency, renewable energy, and methane recovery and utilization.
- Differential taxation to support focus on priority areas.
- Encouragement of unilaterally designed projects
- Response within 20-30 days.

The approval process



CDM projects in China



Transaction costs: Time

Name of project	Xiaogushan	Ningxia tianjing	Anding
Type	hydropower	wind-farm	landfill gas recovery
LoA date	30 Aug. 2005	4 Apr.2005	1 Nov. 2004
Registration date	11 Aug. 2006	13 Jul. 2006	21 May 2006
CER Issuance date	24 Aug. 2007	18 Dec. 2006	5 Nov. 2007
Time cost	24 months	20 months	36 months

Implications

- Since 2004, domestic policy has created a favorable climate for CDM projects leading to an explosion of projects;
- High transaction costs in terms of time remain a serious bottleneck for CDM investors as it reduces the profitability of such projects;
- An explosion of unilaterally developed projects will lead to a depression in CER prices and can be a limiting factor;
- The combination of an external impulse (CDM) with the domestic policy push to promote harmonious climate change, may give China the necessary nudge to push it towards greenhouse gas friendly development. A focus on clean coal technologies may be necessary
- However, politics in China have changed rapidly in the last twenty years; and political changes may imply a lack of predictability...

CDM and SD: An Illusion?

- An illusion
 - When SD is dependent on host country approval and there is competition between host countries;
 - When contract success is not based on achievement of the SD component;
 - When SD component is not verified:
 - When IC buy CERs without checking SD component;
 - When SD component is vague and all-encompassing
- A fact:
 - When SD is translated into quantitative goals that can be measured??
 - When contract success and CER approval is based also on achievement of SD component;
 - When ICs purchase CERs that have a clear SD component;
 - When a percentage of the project costs are used for the SD component;

CDM and Additionality

- Is this also an illusion?
- However, CDM is mobilizing resources and generating awareness of relevant issues!!