



CDM programs and the promotion of renewable energies in developing countries

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SBSTA 24 side event: Can sectoral approaches to the
CDM promote renewable energy technology?



Starting Point

- 2.4 billion people use traditional biomass fuels: wood, agriculture residues, dung for cooking/heating (indoor air pollution is estimated to cause the death of 2 million people a year)
- 1.6 billion people do not have access to electricity
- Fast growing energy demand in developing and transition economies, IEA: up to \$300bn p.a. energy investments
- Growing interest in biofuels due to high oil price
- Source: Clean Energy and development: towards an investment framework, World Bank, April 2006



CDM and renewables

- CDM pipeline in May 2006: about 750 projects, about 1bn CERs till 2012
- Renewables: 58% out of projects, 19% out of CERs (about \$200 Mio/year for renewables out of CDM)
- Renewable Power dominates (shares in CER's out of renewable energies):
 - 40% biomass and biogas
 - 30% hydropower
 - 25% windpower
 - 5% geothermal, solar, tidal
- Source: UNEP Riso CDM pipeline overview, May 3, 2006



Some observations 1

- Renewable power projects can build on approved methodologies and on bundling rules.
- However still gaps: extension of hydro-grids (rural electrification), gross-border projects.
- EB additionality tool challenging for renewable power projects: marginal, often use of non-CDM related subsidies.
- Spill over effects: e.g. buying cost down for wind power installations → Do we credit the full emission reduction effect under the CDM ?
- Off-grid small renewable power: methodologies close to a global diesel standard → Perspective of a standardized baseline for renewable power ?



Observations 2

- Renewables in household sector and transport more complex than renewable power projects: CDM can in most cases only be used within a program.
- Example 1: Grant program for households in rural areas for buying small biodigesters to produce biogas for cooking. Subsidy money/ODA (in future venture capital ?) finance first generation of activities, following generations are financed out of CDM revenues.
- Example 2: Implementation program for a building standard that mandates use of solar energy for water heating in new buildings. CDM revenues finance operational costs of implementing agent.

UNFCCC pipeline overview: programs on renewable energies



Submission of new methodologies:

- NM82: Khon Kaen Fuel Ethanol, Thailand, (MP 20:A, EB 24:C)
- NM108: Bio-diesel Andhra Pradesh, India (B)

Registered (via SSC bundling)

- Kuyasa Energy upgrade, South Africa
- Moldova Energy Conservation, building rehab, RE
- Nepal Biogas, renewable energy
- Photovoltaic Kits in Rural Households, Morocco
- Bagepalli CDM Biogas Program, India
- CDM Solar Cooker Project Aceh 1, Indonesia

(projects based on an incentive/enforcement program executed over time)



Why CDM programs?

- Bundling rules not appropriate (on a purely technical level) for programs that promote thousands of micro activities.
- Example: A financial intermediary/NGO/public entity offers over 5 years grant money to households for buying solar cookers
 - ex ante not known how many households will participate
 - the only CDM project participant is the intermediary
 - CDM revenues are used to refinance the incentive scheme
- Registered programs are sequences of small-scale CDM PDDs: high transaction costs, loss of CERs, no justification in terms of methodology (e.g. suboptimal sampling due to predefined subsets/PDDs)

Activities under a program of activities



- COP/MOP1 decision in favor of CDM programs
- EB 24 opened a call for public input on “definition of policy and programme of activities”
- Essential for programs are:
 - Ex post identification of activities participating in a program (bundles: ex ante)
 - Program implementing agent can be the only CDM project participant (bundles: each participant)
 - Approved methodologies can be used for programs (bundles: similar)

First Experiences with CDM programs



CDM Methodology

- Incentive schemes with contractual relationships with owners of individual activities allows integration of monitoring schemes
- Enforcement programs: Use of sales data and sampling
- Additionality: EB tool on program level, ER-additionality on level of individual activities (project \neq baseline)

Finance

- Self-financing vehicle out of CDM possible but often need for seed funding
- Commercial funding still challenging (carbon market not enough developed): need for subsidy money/ODA



Outlook

- CDM works for renewable power projects
- CDM programs, i.e. improvement of the CDM within the existing regulatory framework could open the CDM for renewables energies in the household, transport sector in a relevant order of magnitude and allows for linking national incentive schemes (for renewable power) with the CDM
- CDM has further potential for renewables in the post 2012 regime:
 - capturing spill over effects of renewables
 - using standardized baselines for renewables



Thank you!

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