MRVing transport projects: lessons from CDM

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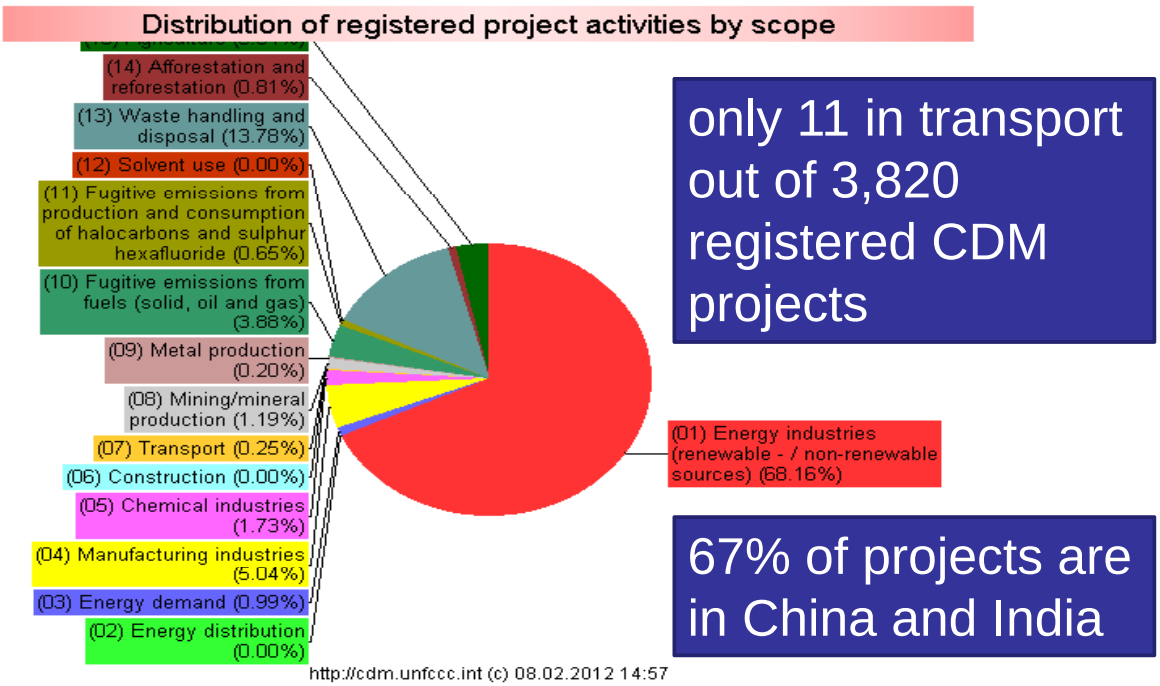
Outline

- CDM at a glance
- Performance of transport CDM projects
- CDM way of MRVing transport projects
- Lessons learned – how simplified CDM methodologies could serve as basis of MRV for credited NAMAs

What is CDM?

- **C**lean **D**evelopment **M**echanism – one of the 'flexibility mechanisms' under the Kyoto Protocol
- stimulates sustainable development and emission reductions in developing countries while giving industrialized countries some flexibility in how they meet their emission reduction limitation targets

Status of CDM projects

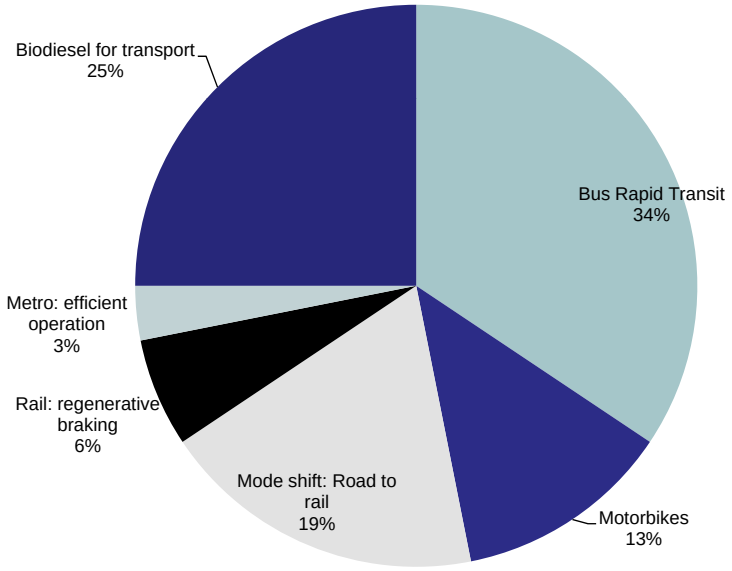


only 11 in transport out of 3,820 registered CDM projects

67% of projects are in China and India

* Note that a project activity can be linked to more than one sectoral scope

Distribution of transport CDM projects in the pipeline



- 53 out of 5,888 projects in the pipeline
- less than 1% of expected total CERs until 2012

Approved CDM methodologies applicable to transport sector

Category	Methodology	Purpose
Bus systems	AM0031, ACM0016	Shifting travel to more sustainable modes
Mass rapid transit systems	ACM0016, AMS-III.U	Shifting travel to more sustainable modes
Energy efficiency	AMS-III.AA, AMS-III.AP, AMS-III.C, AMS-III.AT	Improve the efficiency of modes
Fuel switch (bio-CNG)	AMS-III.AP	Improve the efficiency of modes
Fuel switch through retrofit	AMS-III.S	Improve the efficiency of modes
Transportation of cargo	AM0090	Shifting travel to more sustainable modes
Biofuel for transport	AM0047, ACM0017, AM0089, AMS-III.AK, AMS-III.T	Improve the efficiency of modes

Source: Adopted from “CDM in Charts v.14”, IGES 2011.

How CDM works – project cycle

1 Project Design Project Participant	Making the project design document
2 National approval Designated National Authority	Approval of voluntary participation from designated national authority and host country
3 Validation Designated Operational Entity	Independent evaluation of project activity vis-a-vis CDM requirements on the basis of PDD
4 Registration Executive Board	Formal acceptance of validated project
5 Monitoring Project Participant	PP collect data to calculate emission reduction based on monitoring plan
6 Verification Designated Operational Entity	Ex-post review of monitored emission reduction
7 CER issuance Executive Board	Issue CERs equal to the verified amount

Duration of CDM projects in the pipeline prior to registration

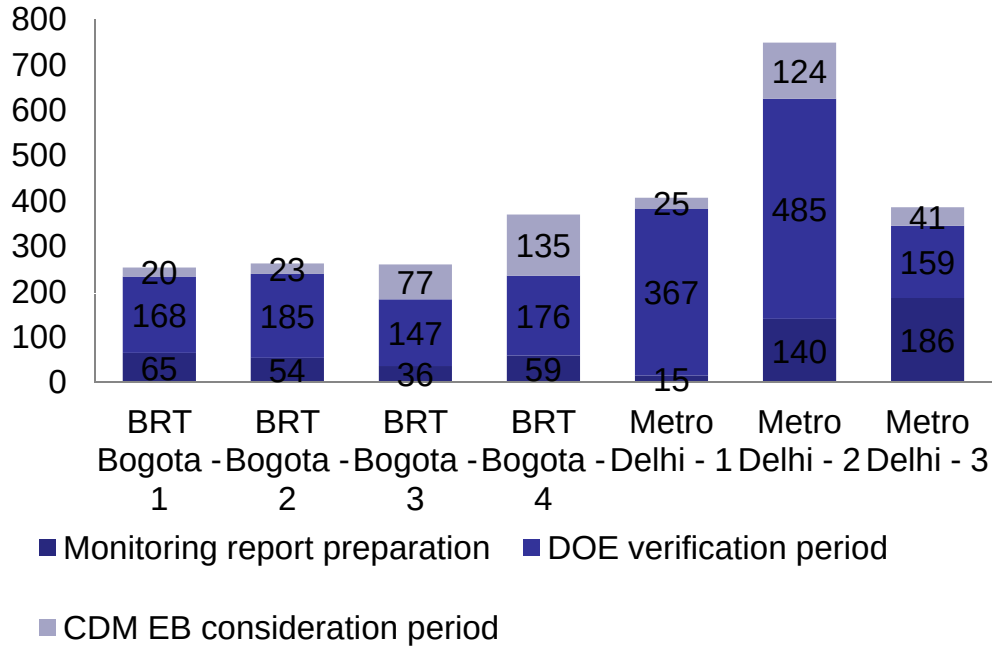
Projects	Methodology used	Number of days prior to registration
Metro Delhi, India	ACM0016	1,998
BRT Zhengzhou, China	AM0031	819
BRT Lines 1-5 EDOMEX, Mexico	ACM0016	946
Modal shift from road to train	AMS-III.C	721
Biodiesel for transport	AMS-III.T	567
BRT Chongqing Lines 1-4, China	AM0031	1,101
Cable cars	AMS-III.U	2,471
Regenerative braking system	AMS-III.C	2,374
BRT Bogota: TransMilenio Phase II to IV	AM0031	1,402

Source: IGES CDM Database.

CDM way of doing MRV

STEP 1	STEP 2	STEP 3
Baseline and project emissions are **measured** and **monitored** by project participant.	Collected and recorded data are **reported** to designated operational entity (DOE).	Data including procedures are **verified** as well as **certified** by the designated operational entity (DOE).

Number of days from the end of monitoring to issuance of CERs



Source: IGES CDM Monitoring and Issuance Database, August 2011. Data on yearly basis per issuance of CERs.

Challenges

- Numerous parameters to be monitored which take a long time taken for the DOE/UNFCCC secretariat to verify and check their accuracy
- Monitoring method specified by the CDM methodology is not practical in some cases
- Lack of clear guidelines for MRV approaches such as in sampling
- Lack of DOEs capable to do verification

Example: data needs for AM0031

Indicator	AM0031
The transport modes used in the absence of BRT project	Passenger survey
Fuel types of different modes	Local statistics
Average speeds	Project data of local statistics
Specific fuel consumption by mode and fuel type	Local statistics, national or international literature, or IPCC values multiplied by an annual technology improvement factor of 0.99 for buses, taxis and passenger cars, 0.997 for motorcycles
Fuel emission factor	IPCC values
Average occupancy rate of the vehicles by mode	Project statistics or official statistics
Average trip distance for each mode	Project statistics or official statistics
Total number of passengers on the new system	Recorded per entry station

Differences between CDM and NAMA

CDM	NAMA
Emission reductions used for Annex-1 country Kyoto compliance	Emission reduction account for NAMA country targets Exception for market based NAMA to be decided
Coordination via private or public sector	**Coordination most likely by government body**
Baseline and monitoring via CDM methodology	Baseline and MRV system not yet defined
Financed through market mechanisms	Market mechanism only an option
Defined by PDD and CDM methodology	Broad, sectoral approaches beyond CDM possible

Source: Adopted from Sekinger, 2011.

Identified issues

- How to improve yet simplify existing CDM methodologies?
- What are the data collected by government agencies? Are those data sufficient enough for MRV requirements?
- How to transfer accumulated capacity based from CDM experiences of private project proponents to government agencies implementing transport NAMAs?

How to simplify transport CDM methodologies?

- use of default values
- benchmarking
  - adjustment of initial values after verification

STEP 1	STEP 2	STEP 3
use of initial default values (*ex-ante* estimation)	actual survey (monitoring)	adjusted values (*ex-post* verification)

- prioritize more capacity building
- strengthen data collection and management

Way forward

- considerable experiences already available to MRV transport projects under CDM
- initial wave of NAMAs will most likely still be project based
- pro-active in efforts to simplify methodologies
- build a strong foundation – data, data, data

Thank you for your attention.

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