Training Workshop

Clean Development Mechanism (CDM) Project Cycle

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Background + History

1992: United Framework Convention on Climate Change UNFCCC

1997: Kyoto-Protokoll: emissions targets for industrialized countries

➔ No targets for developing countries, but incentives for reductions on the basis of the Clean Development Mechanism

2001: Marracesh Accords which set the rules for Flexible Mechanisms

2003: Rules for CDM sink projects

2004: Rules for small scale CDM sink projects

Aim: cost effectiveness → Flexible Mechanism

CDM Project Activity Cycle

	Steps	Responsible Entity
Idea	Project Idea Note (PIN)	Project participants
Development	Project Design Document	Project participants
Implementation	Host Country Approval	Designated National Authority (DNA)
	Validation	Designated Operational Entity (DOE)
	Registration	Executive Board (EB)
Operation	Financing & Implementation	Investors
	Monitoring	Project participants
	Verification & certification	Designated Operational Entity (DOE)
Realization	Issuance of CERs	Executive Board (EB)

Project Idea Note (PIN)

- PIN ➔ The first general information on the project
- PIN ➔ aims to improve the quality of the official PDD
- The submission of PIN is voluntary
- PIN contains information on:
  - Project participants
  - Host country status
  - The type and size of the project
  - Financial details
  - Baseline scenario
  - Estimation of project-specific GHG emissions
  - The suggested crediting period
  - Sustainable development effects
  - Additionality

Project Design Document (PDD)

- PDD is the key input to the EB for registration
- PDD must be submitted to DOE for validation
- CDM - PDD contains:
  - General description of the project activity
  - Baseline methodology
  - Crediting period
  - Monitoring methodology and plan
  - Estimation of GHG emissions
  - Environmental impacts
  - Stakeholders comments
  - Contact information
  - Information on public funding

CDM - PDD

Compilation of basic project information

Criteria for recognition : sustainability and environmental compatibility

Determination of emission abatement through the project

Determination of project emissions

- Determination of GHG emission sources
- Specification of system boundaries
- Determination of risks/influence factors
- Calculation of GHG emissions

Determination of baseline emissions

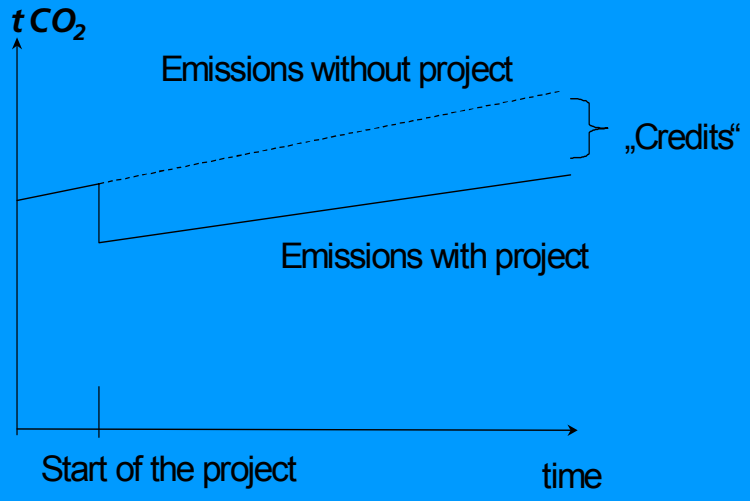
- Selection of baseline method
- Determination of project-specific baseline:
  Proof of additionality
  Determination of risks/influence factors
- Calculation of GHG emissions

Calculation of emission abatement

Documentation: monitoring concept

CDM - PDD

Baseline: Reductions in emissions that are *additional* to any that would occur in the absence of the certified project activity



Crediting time: 3 x 7 years or 1 x 10 years

Baseline Methodology

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Monitoring Plan

use a methodology previously approved by EB

propose a new methodology to EB for consideration & approval

Small Scale CDM Projects

- Simplified modalities and procedures, i.e, simplified format for PDD
- Simplified modalities to reduce transaction costs
- Project participants willing to validate / register a small scale CDM project activity shall:
  - use a simplified baseline and monitoring methodologies specified in appendix B for their project category;
    or
  - propose changes to the simplified baseline and monitoring methodologies specified in appendix B for consideration of the CDM Executive Board;
    or
  - propose additional project categories to those contained in appendix B for consideration of the Board

Small Scale CDM Projects

Project Types	Project Activity Categories
Renewable Energy Projects <15 MW	A.Electricity generation by the user B. Mechanical energy for the user C. Thermal energy for the user D. Renewable electricity generation for a grid
Energy Efficiency Improvement Projects <15 GWh savings	A.Supply Side E.E.I (Transmission & Distribution) B. Supply Side E.E.I (Generation) C. Demand Side E.E. programs for specific technology D. E.E. & Fuel Switching measures for industry E. E.E. & Fuel Switching measures for buildings
Other Project Activities always <15 kt CO2	A. Agriculture B. Switching fossil fuels C. Emission reductions by low GHG emission vehicles D. Methane recovery & avoidance

Host Country Approval

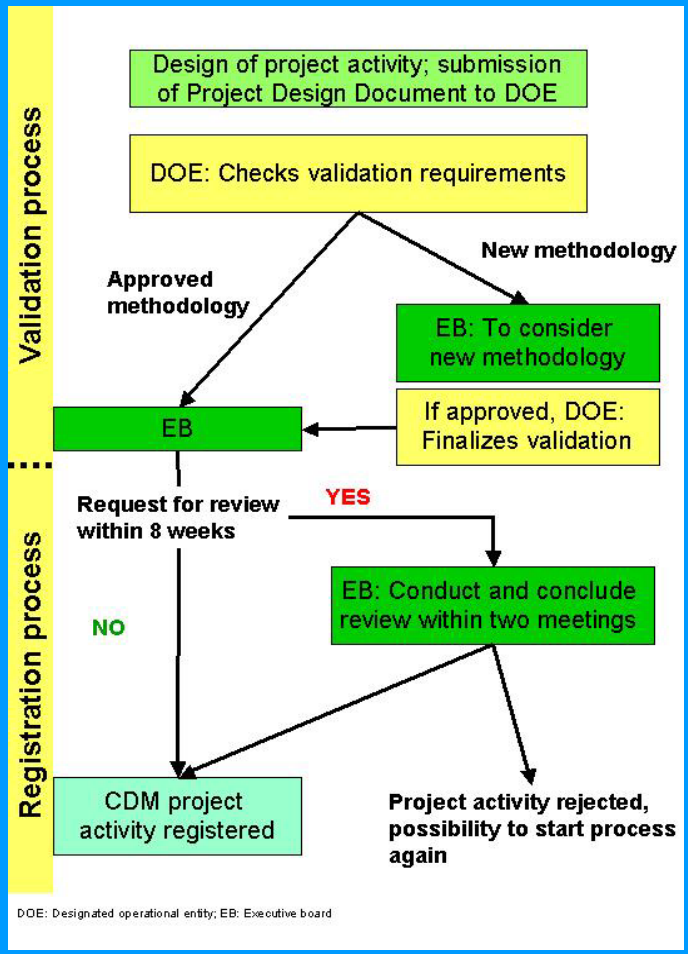
- The project must meet **sustainable development** objectives of the host country
- Formal confirmation by the host country is essential for a project to be registered as a CDM project
- Own responsibility to determine national criteria for project approval

Validation

- The process of independent evaluation of a project activity by DOE with respect to CDM requirements, based on PDD
- Basic criteria for validation:
  - The project complies with the eligibility criteria
  - GHG emissions reductions are in fact additional to business-as-usual
  - Stakeholder comments are included
  - An environmental impact analysis
  - GHG emissions outside of the project boundary and reasonably attributable to the CDM project (leakages) have been considered
  - New methodology for the proposed baseline, where applicable, is in accordance with the procedures and modalities for the proposal of new methodologies
  - A crediting period is chosen

Registration

- Registration ➔ formal acceptance by the Executive Board (EB) of a validated project as a CDM project activity
- Registration is necessary to continue with the verification, certification and issuance of CERs
- The registration of a project will be final, 8 weeks after the date of receipt by the Executive Board.



Monitoring

Project Participants monitor the GHG emissions that occur from their CDM project

Project participants provide to the DOE a monitoring report in accordance with the registered monitoring plan for the purpose of verification & certification

Verification & Certification

- DOE will verify the monitored emission reductions that have occurred as a result of the CDM project activity
- DOE will provide written assurance for the verified CDM project
- An application for certification shows the amounts reduced in a given time period (based on approved baseline emissions minus verified emissions), together with any evidence supporting a change in assumptions or methods, relative to the project as approved at registration
- The verification and certification reports of DOE is submitted to EB
- Certification report constitutes a request to EB for issuance of CERs

Issuance of CERs

- The international authority issues the CERs to the investors
- Issuance is final 15 days after the date of receipt of request request for issuance from DOE
- Once certified, CERs can be owned, bought and sold in the international market

CDM Project Cycle Timeline

Activity	Estimated Time Requirement
PDD	
Large Scale	2 to 4 months
Small Scale	1 to 2 months
Host Country Approval	2 to 4 months
Validation	
Adopt an approved methodology	2 to 4 months
Propose a new methodology	6 to 12 months
Small Scale	2 to 4 months
Registration	
Large Scale	8 weeks after submission*
Small Scale	4 weeks after submission*
Project Construction	12 months
Verification/Certification	2 to 7 months

*** unless revision is requested by the parties**

Transaction Costs

- Sum of costs that accrue from tasks to be performed in the project cycle until the end of the (last) crediting period as well as from search and negotiation activities

Market Transaction Costs

- Search Costs
- Negotiation Costs

CDM Project Cycle Transaction Costs

Pre-Implementation Transaction Costs

- ➔ **PDD Costs**
- ➔ **Approval Costs**
- ➔ **Validation Costs**
- ➔ **Registration Costs**

Implementation Transaction Costs

- ➔ **Monitoring Costs**
- ➔ **Verification & Certification Costs**
- ➔ **Contribution to Adaptation Funds (2%)**

Estimates of Transaction Costs During Project Cycle

CDM Emission Reduction (CER) Project Cycle	Estimate of Cost (USD)
A) Up-front (pre-operational) costs	
1. CER Feasibility Assessment	12,000 - 20,000
2. Monitoring & Verification Plan	5,000 - 20,000
3. Registration	10,000
4. Validation	10,000 -15,000
5. Legal Work	20,000 – 25,000
Total Up-front Costs:	57,000 – 90,000
B) Operational Phase Costs:	
1. Sale of CERs:	Success fee in region of 5-10% of CER value. Higher for a small project than a large project.
2. Risk Mitigation	1-3% of CER value yearly. Mitigation against loss of incremental ER value as a consequence of project risk
3. Monitoring and Verification	USD 3,000 - 15,000 per year.

Indicative Specific Costs

Size	Type	CERs (t CO_2/year)	Transaction costs €/ t CO_2
Very large	*Large hydro*, gas power plants, large combined heat-power (CHP) plants, *geothermal*, landfill/pipeline methane capture, cement plant efficiency, large-scale afforestation	> 200,000	0.1
Large	*Wind power*, *solar thermal*, energy efficiency in large industry	20,000 – 200,000	1
Small	Boiler conversion, demand side management, *small hydro*	2000 – 20,000	10
Mini	Energy efficiency in housing and small and medium enterprises, *mini hydro*	200 – 2000	100
Micro	*Photovoltaics*	< 200	1000

Table 1. Project size, types and indicative specific transaction costs
(Source:Michaelowa et al.2003)

THANK YOU