

Jan. 28, 2005

The Clean Development Mechanism (CDM)

**Converting emission reductions to Certified Emission Reductions (CERs)
under the rules governing the Kyoto Protocol**

Presentation's Outline

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Energy Systems International

We develop CDM projects in China, focusing on:

- ❑ landfills gas recovery and utilization
- ❑ coal mines methane recovery and utilization

On Nov. 4, 2004, the Chinese authorities approved the first project under the Clean Development Mechanism in China: the Anding landfill gas recovery and utilization project developed by ESI.

The Kyoto Protocol*

- ❑ The UN Framework Convention on Climate Change (UNFCCC) has established an international legal framework to address global climate change.
- ❑ Parties to this convention agreed to stabilise greenhouse gas concentrations to 1990 levels.
- ❑ Many developed/industrialized countries (Annex I) accepted a cap of their total greenhouse gas (GHG) emissions.
- ❑ Developing countries (non-Annex I) will be allowed to grow (at least for the first commitment period), as more economic growth is needed.
- ❑ Developed/industrialized countries have to regulate large GHG emitters to reduce emissions.
- ❑ The Kyoto flexible mechanisms enable industrialised countries to fulfil their commitment in a cost effective manner.

Flexible Mechanisms

- ❑ **The Clean Development Mechanism (CDM)**
- ❑ **Joint implementation (JI)**

The Clean Development Mechanism

- ❑ General rules governing the CDM finalized in 2003 and contained in the Modalities and Procedures for a clean development mechanism (“CDM M&P”) in the Marrakech Accords.
- ❑ The CDM enables Annex I parties or companies to generate or purchase emissions reduction credits from projects undertaken within non-Annex I countries.
- ❑ Developing countries have access to resources and technology to assist in development of their economies in a sustainable manner.
- ❑ Projects seeking approval under the CDM must lead to real, measurable reductions in GHG emissions of GHGs in a developing country.
- ❑ Emissions must be reduced below those which would have occurred in the absence of the project – e.g. methane capture in a landfill, or wind-farm instead of a coal fired power-plant.
- ❑ It must be demonstrated that the project would not have been implemented without the CDM.
- ❑ The project must contribute toward the sustainable development in the host country.
- ❑ It must be implemented without any negative environmental impacts.

CDM Key Requirements

- ❑ The additionality requirements
- ❑ Sustainable development criteria
- ❑ Validation and project registration process
- ❑ Monitoring requirements
- ❑ Verification and certification requirements
- ❑ Rules governing the issuance of Certified Emissions Reductions

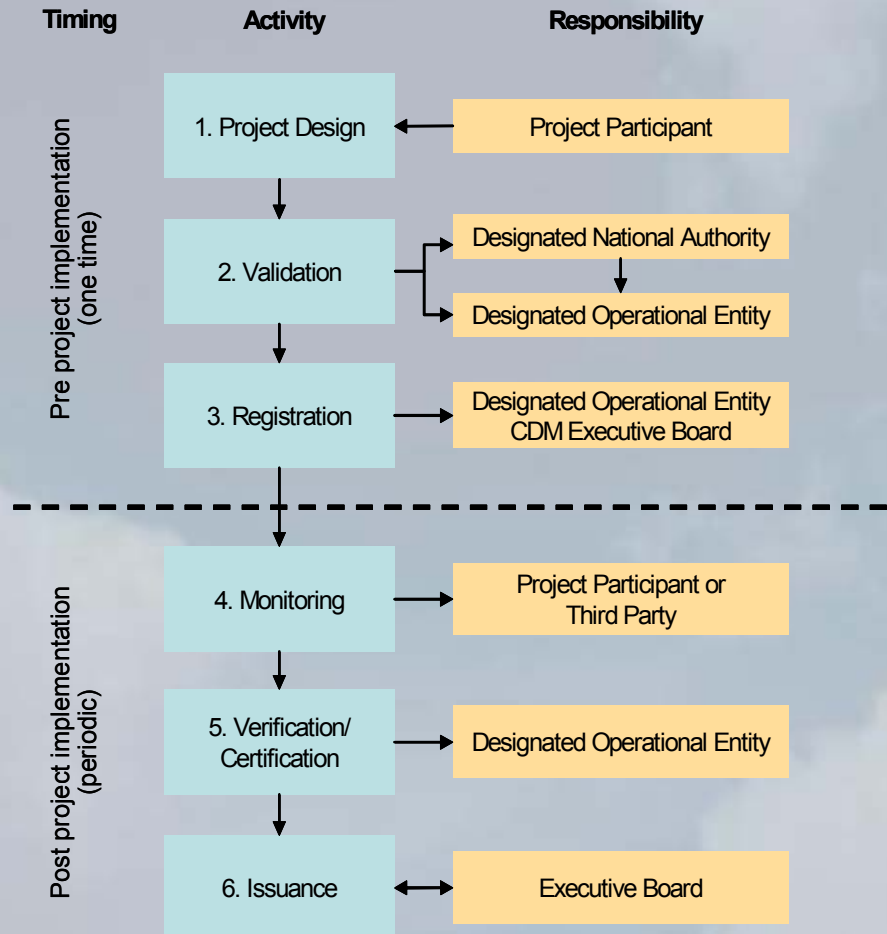
The CDM Executive Board and Panels

- ❑ The CDM is supervised by the CDM Executive Board (“EB”)
- ❑ Emission reduction credits earned through CDM projects are known as Certified Emissions Reductions (“CERs”).
- ❑ CDM projects are required to be externally verified and certified by a Designated Operational Entities (“DOE”).
- ❑ A DOE is an entity designated by the COP/MOP, based on the recommendation by the EB, as qualified to validate proposed CDM project activities as well as verify and certify reductions emissions.
- ❑ A DOE is not permitted to perform validation or verification and certification on the same CDM project activity.
- ❑ The first accreditation of Operational Entities took place in May 2004

CDM Project Participants

- ❑ **CDM Executive Board:** The supervisory body of the CDM
- ❑ **Project Proponent:** The entity that develops and implements a CDM project
- ❑ **Host Country:** The developing country in which the CDM project activity takes place
- ❑ **Guest Country:** The developed country in which the CDM project developer is based
- ❑ **Designated National Authority:** The official CDM focal point of the host country. Responsible for issuing an official host government approval for a project, which ensures that a project is in line with the country's sustainable development goals
- ❑ **Designated Operational Entity:** An independent entity designated to validate CDM activities and emissions reductions. The Designated Operational Entity is accredited by and accountable to the Executive Board
- ❑ **CER Purchaser:** A company that invests in the CDM project or purchases CERs generated by the project.

The CDM Project Cycle and Responsibilities



The CDM Project Cycle

- **Feasibility Study**
- **Project Design Document (“PDD”):**
 - General description of project activity
 - Baseline methodology
 - Starting date, duration of the project activity, and crediting period
 - Monitoring methodology and plan
 - Estimation and calculations of GHG emissions by sources
 - Environmental impacts
 - Stakeholders’ comments
- **If new methodologies are submitted two additional annexes:**
 - CDM Proposed New Methodology Baseline (CDM-NMB)
 - CDM Proposed New Methodology Monitoring (CDM-NMM)

CDM Project Cycle (cont.)

□ **Validation**

The process of project approval by:

- The Designated National Authority - **DNA**
 - Established by the host country government
 - Reviews and approves all CDM project developments within that country
 - Issues a formal letter of approval of the project, which confirms how the project assists the host country in achieving its sustainability goals.

as well as independent evaluation of the project by:

- A Designated Operational Entity – **DOE** - against the requirements of the CDM. The DOE assesses the PDD to ensure that:
 - Participation requirements are met
 - It includes a summary of comments by local stakeholders and how due account was taken of such comments.
 - The project is additional to that which would have occurred

CDM Project Cycle (cont.)

Validation (Cont.)

- ❑ The environmental impacts of the project activity is provided
- ❑ The baseline and monitoring methodologies comply with requirements pertaining to methodologies previously approved by the executive board or modalities and procedures for establishing a new methodology
- ❑ Provisions for monitoring, verification and reporting are in accordance with relevant decisions of the COP/EB
- ❑ Confirmation by the host Party that the project activity assists in achieving sustainable development
- ❑ The PDD has been made publicly available.

If the DOE determines the proposed project activity to be valid it will then submit to the EB a request for registration in the form of a validation report.

CDM Project Cycle (cont.)

□ **Registration**

Formal acceptance by the EB of a validated project as a CDM project (prerequisite for the verification, certification and issuance of CERs).

□ **Monitoring**

Collection and archiving of all relevant data during the crediting period necessary for estimating or measuring:

- GHG emissions occurring within the project boundary
- Baseline of GHG emissions within the project boundary
- All potential sources of increased GHG emissions outside the project boundary attributable to the project activity
- The environmental impacts of the project activity.
- Quality assurance and control procedures for the monitoring process
- Procedures for the periodic calculation of the reductions of GHG emissions by the proposed CDM project activity.

CDM Project Cycle (cont.)

□ **Verification**

The periodic independent review by the DOE of the monitored reductions in GHG emissions that have occurred as a result of a registered CDM project activity during the verification period.

□ **Certification/Request for Issuance**

- The written assurance by the DOE that, during a specified time period, a project activity achieved the reductions in anthropogenic emissions by sources of greenhouse gases as verified.
- The DOE provides a publicly available verification report to the project participants, the Parties, and the EB. The certification report constitutes a request for issuance to the EB of CERs equal to the verified amount of reductions of anthropogenic emissions of greenhouse gases.

CDM Project Cycle (cont.)

□ Issuance of CERs

- The issuance of CERs is considered final 15 days after the date of receipt of the request for issuance unless one party involved or three board members request a review of the proposed issuance.
- At issuance the EB instructs the CDM registry to issue:
 - the specified quantity of CERs in the CDM registry
 - deduct 2% of the total CERs as CDM “Levy”
 - forward the remaining CERs to the registry accounts of Parties and project participants involved, in accordance with their request.

CDM Project Risks*

- **Conventional project risks:** Risks common to all projects in developing and industrialized countries.
 - **Exceeding costs:** e.g. the employed technology needs costly repairs or the construction of the project is delayed
 - **Market risks:** e.g. the project is no longer economically feasible
 - **Counterparty credit risk:** e.g. risk that the technology provider becomes insolvent
 - **Underperformance:** e.g. non-achievement of design standard efficiency
 - **Currency risk:** e.g. high initiation levels
 - **Force majeure:** an event beyond the control of the involved parties, e.g. earthquake, terrorism attack.

* Source: UNEP CEO briefing

CDM Project Risks (Cont.)

- **Host country political risks:** From a financial sector perspective, projects in developing countries are usually regarded with a higher level of risk than projects in the industrialized world because of the often less developed legal and political infrastructure.
 - **Confiscation, expropriation and nationalization** of the CDM projects
 - **Civil war risk:** e.g. risk of riot, strike and civil commotion within the CDM host country
 - **Contract repudiation:** risk that a contract is rendered invalid e.g. by a parliament introducing new legislation
 - **Credit risk:** in particular risk of host country insolvency
 - **Administrative barriers:** e.g. host country requires various administrative procedures that delay the project.

CDM Project Risks (Cont.)

- **CDM process risks:** Risks that are specific to the generation and sale of CERs.
 - **CDM Executive Board non-approval:** e.g. no registration of the project by the Executive Board or an already approved methodology is withdrawn by the Executive Board.
 - **CDM risk:** there is no CDM beyond 2012
 - **Monitoring/verification risk:** e.g. inaccurate monitoring by the Designated Operational Entity
 - **Public consultation risk:** non-acceptance of the project by NGO's or local communities
 - **Institutional barriers:** e.g. the host country's Designated National Authority is not fully established and not working cooperatively with the investor
 - **CER legal ownership:** unclear about who is the legal owner of the CERs.

How To Improve the CDM Process*

Maintaining environmental integrity

- ❑ **Simplify, standardize and streamline the CDM process:** A faster and more user-friendly process must be in place. Further process standardization, e.g. more Designated Operational Entities need to be accredited and more methodologies must be approved to attract more CDM players, particularly from the financial sector.
- ❑ **Provide prompt and clear guidance on the CDM regulations beyond 2012:** With no second commitment period in place, the window for CDM project development is closing rapidly. Without a clear long-term framework for the CDM, it will be difficult to attract the involvement of financial institutions.
- ❑ **Foster the development of institutional CDM capacities in host and investor countries:** In many cases the national CDM institutions are either underdeveloped or non-existent. A faster and more efficient CDM process requires clear procedures to be followed by the project participants in both host and investor countries.
- ❑ **Rethink “additionality”:** Maintain core elements like monitoring and verification, but consider a sector-wide approach rather than a project-based approach - e.g. establish carbon efficiency standards for developing countries in their most carbon-intensive sectors. Any project that would perform better than that should be considered a CDM project, contributing to the reduction of carbon emissions in that particular sector.

* Source: UNEP CEO briefing