#### **CHAPTER 2:**

# **Going through the CDM Process**

This chapter presents the basic elements one needs to understand in order to put the CDM into practice: the key participants, project types and the process. To actually receive credit for emissions reductions, potential CDM developers must follow the steps in this chapter. Preparation of the project design document, a critical part of the process, is examined in more detail in chapter 3. Chapter 2 covers:

#### **CDM PARTICIPANTS**

- Project developers/operators
- CDM investors/CER purchasers
- Host governments and designated national authorities
- Designated operational entities
- The CDM Executive Board
- Other stakeholders

#### **PROJECT TYPES**

- Energy efficiency projects
- Methane recovery
- Industrial process changes
- Cogeneration
- Transport
- Agricultural sector
- Land use

#### THE PROJECT CYCLE

- Project identification
- Project idea note
- Project design document
- Stakeholder participation
- Host country approval
- Validation by a designated operational entity
- Registration
- Implementation and monitoring
- Verification
- Certification and issuance of credits

Figure 2.1: A simplified CDM project flow

Box 2.1: Land use and land-use changes

Box 2.2: Official development assistance

and CDM projects

**Box 2.3:** Eligibility Exercise

## **CHAPTER 2: GOING THROUGH THE CDM PROCESS**

The CDM is a novel mechanism, one that can potentially redirect the flow of investments to a variety of different projects, from major transportation initiatives to energy conservation measures to small-scale solar home systems. To ensure that the CDM accomplishes the important goals it is intended to fulfill, numerous safeguards and checks have been included in the rules of its implementation, and many participants will have a say in the process.

This chapter describes the CDM participants, project types and project cycle. It is the key process oriented document in this manual. Most UNDP interactions in developing capacity for CDM market interaction will have to do with the project components described here, including key issues of project development, technical analysis needs, documentation requirements and the need to successfully interact with regulators at both the domestic and international level. Chapter 2 walks the reader through the building blocks of a CDM project, from the early stages of defining a project to getting to the point of trading certified emission reductions, or CERs, in the international market.

All projects that aim to generate CERs under the CDM rules must meet the essentially the same criteria and complete the same steps. This process is commonly known as the CDM project cycle. However, in order to reduce the relative transaction costs associated with the CDM, streamlined procedures and standardized baselines for small-scale projects have been approved by the CDM Executive Board. Measures to simplify the CDM process for smaller-scale projects are discussed in chapter 4.

#### **CDM PARTICIPANTS**

Every CDM projects involves a standard set of key participants. While the range and types of stakeholders may vary from project to project, the following discussion describes the key participants with specific roles in all projects:

## Project developer/operators

The following types of organizations can develop

and operate CDM projects

- Governmental bodies (usually, departments of government)
- Municipalities
- Foundations
- Financial institutions
- Private sector companies
- NGOs

### **CDM investors/CER purchasers**

An investor is an entity that purchases CERs from a CDM project. The investor is usually from an Annex I country and can be a corporation, a government body or non-governmental organization. The evolving marketplace for CERs is described in chapter 7.

### Host governments and designated national authorities

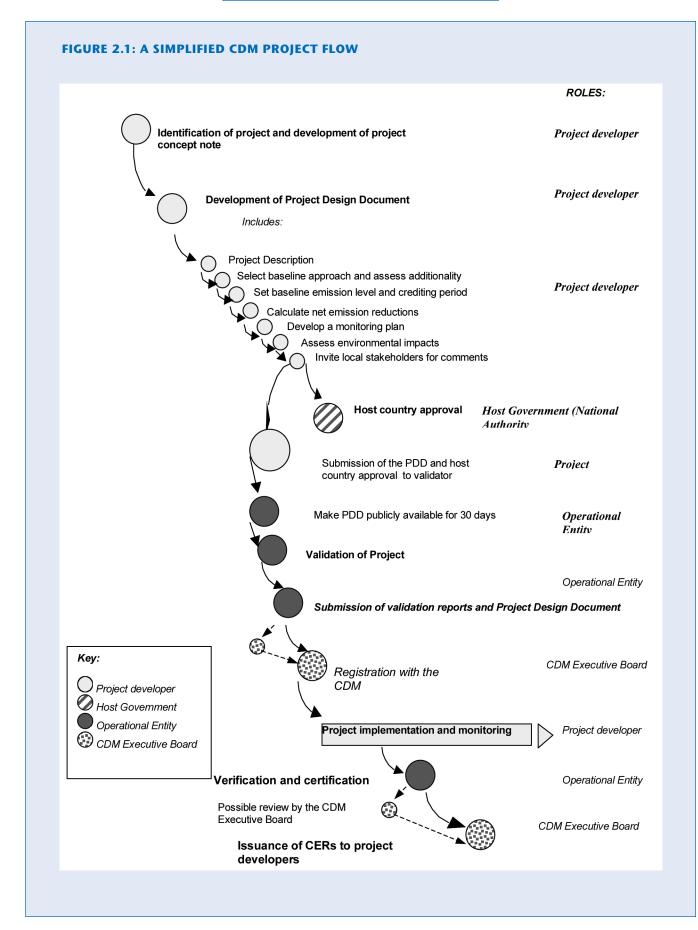
The Marrakech Accords state that in order to participate in the CDM, a country needs to be a Party (signed and ratified) to the Kyoto Protocol. CDM host countries also have to specify a domestic institutional body – a designated national authority or DNA –for approving CDM projects. The host country – via the designated national authority – must approve each CDM project and ensure that it conforms to their sustainable development criteria. Chapter 5 discusses the regulatory and promotional functions of the host country.

# **Designated operational entities**

Designated operational entities, or DOEs, are domestic or international legal entities that have been accredited by the CDM Executive Board. They are responsible for significant stages of the CDM project development process. The responsibilities include:

- Validation of CDM activities at the outset of the project;
- Making publicly available CDM project design documents
- Receiving public comments on the CDM documents
- Incorporating stakeholder comments
- Verification and certification of CERs during the operation of the project;

The same designated operational entity can carry out both the validation (at project outset) and



verification (during project operation) only if a specific request is made to the CDM Executive Board. Although this is allowed under the rules of the Marrakech Accords, it can result in conflicts of interest, and should therefore be considered carefully.

#### The CDM Executive Board

The CDM Executive Board supervises the CDM and reports directly to the Conference of Parties to the UNFCCC /the Meeting of Parties to the Kyoto Protocol (COP/MOP). The Executive Board was elected at COP-7 and has ten members representing both industrialized and developing countries. The Executive Board is responsible for:

- Making recommendations to the COP/MOP on amendments as well as on further modalities and procedures for the CDM;
- Approving new methodologies related to baselines, monitoring plans and project boundaries;
- Reviewing simplified procedures and definition of small-scale projects and report to COP/MOP;
- Accrediting and suspending of operational entities;
- Reviewing accreditation procedures;
- Making publicly available proposed CDM activities and all procedures for developing a CDM project;
- Developing and maintaining a CDM project registry;
- Reviewing project validation and verification reports; and
- Issuing verified CERs.

#### Other stakeholders

The CDM process cycle calls for two rounds of stakeholder comments. Developers must invite local constituencies who will be affected by a project to review and comment on the project design document before it is submitted for host country approval. Later, subsequent to project approval, the project design document must be posted for 30 days to allow interested parties at the local, national or international level to comment on it.

#### **CDM PROJECT TYPES**

A generic description of CDM projects include:

#### **Energy efficiency projects**

- Increasing building efficiency;
- Increasing commercial/industrial energy efficiency; and

■ Implementing fuel switching from more carbonintensive fuels (such as coal and oil) to less carbonintensive fossils (such as natural gas or various alternative energy sources). Fuel switching also includes re-powering, upgrading instrumentation, controls, and/or equipment. Fuel switch projects can also refer to new or to be developed projects.

#### Methane recovery

- Animal waste methane recovery and utilization (methane recovery technologies include installing an anaerobic digester (microbial breakdown in a controlled environment capturing the Methane) and utilizing methane to produce energy);
- Coal mine methane recovery (collection and utilization of fugitive methane from coal mining);
- Capture of biogas (landfill methane recovery and utilization):
- Capture and utilization of fugitive gas from gas pipelines;
- Methane collection and utilization from sewage/industrial waste treatment facilities; and
- Methane collection and utilization from any additional sources not mentioned above.

## **Industrial process changes**

Any industrial process change resulting in the reduction of any category greenhouse gas emissions.

#### Cogeneration

The use of waste heat from electric generation, such as exhaust from gas turbines, for industrial purposes or heating.

## Transport

- Improvements in vehicle fuel efficiency by the introduction of new technologies;
- Changes in vehicles and/or fuel type, for example, switch to electric cars or fuel cell vehicles;
- Switch of transport mode, e.g. changing to less carbon intensive means of transport like trains; and
- Reducing the frequency of the transport activity.

#### **Agricultural sector**

- Energy efficiency improvements or switching to less carbon intensive energy sources for water pumps (irrigation);
- Methane reductions in rice cultivation;
- Reducing animal waste or using produced animal

waste for energy generation (see also under methane recovery); and

Any other changes in an agricultural practices resulting in the reduction of any category of greenhouse gas emissions.

#### Land use

In the first commitment period (2008-2012), this category is limited to afforestation and reforestation activities (see box 2.1).

## **Project identification**

A potential CDM project can be identified by host country

#### BOX 2.1: LAND USE AND LAND-USE CHANGE ACTIVITIES PERMITTED UNDER THE CDM

A decision was made in Marrakech during COP 7 (2001), to include afforestation and reforestation as the only eligible land-use activities in the CDM These may be large or small-scale, single or multiple species, pure forestry or on farm systems, such as:

- Establishment of woodlots on communal lands;
- Reforestation of marginal areas with native species, e.g. riverine areas, steep slopes, around and between existing forest fragments (through planting and natural regeneration);
- New, large-scale, industrial plantations;
- Establishment of biomass plantations for energy production and the substitution of fossil fuels;
- Small-scale plantations by landowners;
- Introduction of trees into existing agricultural systems (agroforestry); and
- Rehabilitation of degraded areas through tree planting or assisted natural regeneration.

As mentioned above, afforestation and reforestation are the only eligible land use activities in the CDM. There is some uncertainty, however, over which definitions will be adopted for these terms. This is currently under review, with a decision expected in 2003. The definitions in the official negotiating text, as of 2002, relate to forest and land use activities within developed countries, and are:

- Afforestation is the direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planting, seeding and/or the human-induced promotion of natural seed sources.
- Reforestation is the direct human-induced conversion of non-forested land to forested land through planting, seeding or human-induced promotion of natural seed sources, on land that was forested but that has been converted to non-forested land. For the first commitment period (2008-2012), reforestation activities will be limited to reforestation occurring on those lands that did not contain forest on 31 December 1989.
- Forest is a minimum area of land of 0.05-1.0 hectares with tree crown cover of more than 10-30 per cent with trees with the potential to reach a minimum height of 2-5 meters at maturity in situ. A forest may consist either of closed forest formations, where trees of various storeys and undergrowth cover a high proportion of the ground or open forest. Young natural stands and all plantations which have yet to reach a crown density of 10-30 per cent or tree height of 2-5 meters are included under forest, as are areas normally forming part of the forest area which are temporarily unstocked as a result of human intervention such as harvesting or natural causes but which are expected to revert to forest.

Even if these definitions are applied to the CDM, it is likely that developing country governments will have to decide what definitions best apply to their natural ecosystems, within the scope of the definitions quoted here. The strict application of these definitions to CDM, however, would exclude any forest rehabilitation, revegetation, enrichment planting and natural regeneration type projects that did not involve the conversion of 'non-forest vegetation' to 'forest vegetation'. This would restrict the scope and possible benefits arising from CDM land use projects. For instance, projects based on the rehabilitation of severely degraded forests through enrichment planting will not be eligible, given that these degraded areas may still be considered as 'forest' under the definitions above. Further rules and modalities regarding the types of land-use projects, other than reforestation and afforestation are yet to be finalized. They will continue to be discussed at CDM forums such as the annual Conference of Parties to the UNFCCC meetings.

project developers/operators. These may be private companies, NGOs, governments, international organizations or international investors. Once a project is identified, the project developer must ascertain whether the project is eligible under the CDM and will have the support of the host country. Considering that the CDM rules are still evolving, a conservative approach should be taken when assessing the eligibility of the project under CDM.

As the first step, a project developer makes an initial assessment as to whether the project is eligible under the CDM. Box 2.3 gives an example of the kinds of questions that a developer should ask when beginning this assessment.

## Project idea note

If the answers to the questions in eligibility exercise were favourable, the project developer and/or their advisors should develop and submit a project idea note, or PIN, to one or more carbon credit buyers in the marketplace to gauge a level of interest in the project. The project idea note will subsequently be screened by the recipient entities against the CDM rules and their investment criteria. The information requested in the project idea note depends on the specific rules of the

buyer. Even so there are great similarities between most of the PIN formats. Most private buyers also prefer to see project idea notes as their first form of contact with potential projects.

Development of a project idea note is not a requirement of the CDM process. The benefit of preparing a project idea note is that the developer will receive feedback indicating whether or not the project is of interest to potential buyers. The project idea note represents an inexpensive way to get market feedback without engaging the entire CDM process. Different buyers may have dissimilar motivations in the marketplace and consequently look for different types of projects. This is discussed in more detail in chapters 6 and 7.

Basically a project idea note (see box 2.4 for a template of the PIN) will consist of approximately five pages providing indicative information on:

- Type and size of the project;
- Its location;
- Anticipated total amount of greenhouse gas reduction compared to the 'business-as-usual' scenario (which will be elaborated in the baseline later at the project design document level);

#### **BOX 2.2: OFFICIAL DEVELOPMENT ASSISTANCE AND CDM PROJECTS**

The project developer is required to provide information on the public funding for the project sourced from any Annex I country. This is to confirm that the public funding of a CDM project has not resulted in diversion of official development assistance or Global Environment Facility funding. Moreover, the project developer should be able to demonstrate that the funding of a CDM project is not counted towards the financial obligations of any donor to the country hosting the CDM project.

When using public financing, the developer/operator should list any sources of Annex-I government funding committed to the project, or sources that the developer is, or is considering, applying for. The CDM project validator (a designated operational entity) will then assess whether these funding sources have been diverted from previous commitments under the official development assistance programmes and/or whether such funding sources are listed as a financial obligation. If the project developer receives, or is likely to receive, public funding from an Annex I country, it is recommended that the project developer obtains:

- A letter from the host country stating that the host country does not object to inclusion of such public funding into the proposed CDM project; and
- A letter from any of the Annex I governments providing the public funding for the CDM project, stating that the money is not reported as Official Development Assistance and is not counted towards their financial obligations. [In this context it is also important to distinguish between the underlying project and the CDM component.]

Although official development assistance grants or concessional loans should not be considered eligible for generating CERs, it appears that ODA could be used to facilitate early components of projects such as feasibility studies, as well as generic transaction support activities such as setting up CDM project offices and developing local/national capacity to implement and manage the CDM process.

- Suggested crediting life time;
- Suggested CER price in US\$/tCO2 equivalent reduced;
- Financial structuring (indicating which parties are expected to provide the project's financing);
- Project's other socioeconomic or

environmental effects/benefits.

While every effort should be made to provide as complete and extensive information as possible, it is recognised that full information on every item listed in the template will not be available at all times for every project. See also box 2.4 at the end of this chapter.

#### **BOX 2.3: ELIGIBILITY EXERCISE**

In order to determine whether the potential project is eligible, answer the following questions:

#### Does my project fall into one of the following categories?

- A project using a renewable energy sources (wind, solar, biomass, small hydro etc.);
- A project switching from a high carbon fuel to a lower carbon intensive fuels;
- An energy efficiency project on the supply side (for example, a project improving electricity transmission and distribution systems or updating district heating networks, etc.);
- An energy efficiency project on the demand side;
- A combined heat and power generation project;
- An agricultural sector project (other than land-use change);
- A project in the transport sector;
- A project reducing methane emissions from landfills and other waste-handling activities; or
- A reforestation/afforestation project.

# Does the potential technology meet the following conditions?

- A proven technology, although not necessarily active in the host country;
- An established and commercially feasible technology, although not necessarily in the host country; and
- A replicable technology and/or one that can effectively be transferred to the host country.

# Has the host country completed or been involved in any of the following?

- Ratified the Kyoto Protocol;
- Designated a national focal point for approving CDM projects;
- Expressed willingness to voluntarily participate in a CDM project activity;
- Set up, or is in the process of setting up, a CDM office;

- Provided national communications to the UNFCCC:
- Participated in the AIJ pilot phase.
- In relation to the question above is the project acceptable to the host country and does it conform to the sustainable development requirements in the host country?
- Are the emission reductions of the project additional to any that would occur in its absence?
- Make a first rough estimate of the emission reductions that can be achieved by the project. For this rough analysis, the carbon emission factors from the IPCC, www.ipcc.ch, can be used.
- If the project has been financed by sources of public funding, it must be confirmed that the sources of public funding are not counted towards the official development assistance and GEF financial obligations of the Annex I countries.
- Does the project result in unacceptable negative impacts on the environment? In general, it should be expected that any project that has the potential for some negative environmental impacts will need to have an environmental impact assessment.

Note: There are several computer software programmes available on the Internet that can assist in the project identification and screening stage. At this time, most of the programmes are not elaborate enough to fulfill all of the requirements. However they serve as useful tools in the early stages of the process. Specifically, software can assist a project developer to verify that their project offsets a sufficient amount of carbon to be of interest to buyers before they spend a sizable amount of time and resources developing the project into a CDM project. Examples of the software include ProForm, developed by the Lawrence Berkeley Livermore Lab (http://poet.lbl.gov/Proform/) and RETScreen (http://www.retscreen.net/ang/d\_o\_view.php) developed by the Canadian Government.

### The project design document

The project design document, or PDD, is the key documentation in the project cycle, and completing it is complex undertaking. As illustrated in the CDM process flow chart in this chapter, the PDD is submitted to a designated operational entity for validation, and once validated, to the CDM Executive Board for registration. As opposed to a PIN, a project design document is a necessity — no project can earn CERs without the development, validation and Executive Board acceptance of it. The PDD can also be a valuable sales tool for potential investors. Chapter 3 provides a full explanation of the project design document process.

### Stakeholder participation

Stakeholder participation and public meetings are effective – indeed vital – to ensure transparency in the CDM process. For CDM projects there is a specific requirement to invite local stakeholders for comments. Accordingly project developers must:

- Invite local stakeholders to comment on the project design document;
- Provide a summary of the comments received; and
- Review comments received and provide a report, demonstrating how relevant concerns were addressed. This report has to be submitted for validation by the operational entity

This local stakeholders consultation process is distinct from the invitation for comments from stakeholders by the designated operational entity, during the project validation phase. Stakeholders at the international level are invited to provide their comments regarding the specific CDM components of the activity. In contrast to local stakeholders the international stakeholders are not actively approached; they are made aware of new CDM projects. The rationale is to empower the international and/or national community, especially NGOs, to monitor projects proposed for the CDM. While the Marrakech Accords refer to accredited NGOs, it is clear that some NGOs will be more competent than others to provide constructive feedback to the CDM activity in the host country.

See chapter 3 for further information about integrating stakeholder comments into the project design documentation.

#### Host country approval

CDM projects have to be approved by the host country. Host country approval is one of the key components to ensure that governments retain all sovereignty over their natural resources, including over their ability to mitigate emissions. Apart from approving the development of the proposed project under CDM, it is also the host country's responsibility to confirm whether a CDM project activity will help it meet its own sustainable development criteria. A host country is accorded an enormous amount of leeway in choosing to accept or reject the CDM component of particular projects.

The Marrakech Accords and Delhi Declaration do not provide specific guidance on the form or content this approval should take, except to note that it should be a 'written' approval from its designated national authority. Accordingly, subject to further clarification from the Executive Board and COP/MOP, an official Letter of Approval from the designated national authority will serve as evidence of host country acceptance. The letter should state that the host country accepts the project as well as recognizes its contribution to sustainable development. A template of such a Letter of Approval is available in chapter 5. However, depending on the situation and national practices in the host country, other formats containing the necessary information may be used.

The project developer is responsible for the project submission to the appropriate authorities in the host country as part of the process of host country acceptance of the CDM project.

In order to facilitate this process the project developer should:

- Check the UNFCCC website to determine who/what entity (agency) has been designated as the national focal point or authority for climate change issues (see http://unfccc.int/resource/nfp.html).
- Check with the focal point to see if the country has established any guidelines or procedures for approving CDM projects;
- Check the status of a host-country with regards to meeting eligibility criteria for the CDM. If a county did not ratify the Kyoto Protocol, projects within its borders will not be eligible under the CDM. The risk of starting a CDM project in a country that is not a Party

to the Kyoto Protocol is borne by the project developer. It is strongly recommended to obtain some form of host-country approval or indication, which would state that the country under consideration has the intention to — or is preparing to — become a Kyoto party before continuing. It can be assumed that the country is seriously interested in obtaining such status if it has set up, or is in the process of setting up, a CDM office; been involved in the AIJ pilot phase; provided national communications to the UNFCCC; and/or appointed a national focal point for climate change.

## Validation by the designated operational entity

Once the project design document has been completed and the host country approval has been received, all documents have to be submitted to a designated operational entity, or DOE, for review and approval – a process called validation.

Validation is the process of evaluation of all relevant documents for a CDM project activity against the requirements for CDM as set out in the Kyoto Protocol, the Marrakech Accords and the Delhi Declaration. Validation occurs at the outset of a project and is distinct from verification, which occurs during the operation of the project. In effect, the validation process confirms that all the information conveyed and assumptions made within the project design document are accurate and/or reasonable. The designated operational entity will ground-truth data on greenhouse gas emissions, as well as data and assumptions made regarding technical, social, political, regulatory and economic impacts of the project activity, as included in the project design document.

Project activities that began in 2000 may be eligible for CDM validation and registration if they are registered before 31 December 2005. This means that CERs can be generated prior to 2008, which is a significant difference from the Joint Implementation procedures, which specified that only emission reductions generated between 2008 and 2012 have value. Moreover, the Marrakech Accords acknowledge a special regime with retroactive benefit for project activities that began prior to November 2001 (the date of adoption of the Marrakech Accords). These 'pre-Marrakech' CDM project activities shall be eligible for validation and registration if submitted for registration before 31 December

2005. If registered, the crediting period for such project activities may start before the date of registration but not earlier than 1 January 2000.

It is generally the responsibility of the project developer to arrange for validation and to contract, and pay for, the services of a designated operational entity. Though there are purchasers who will absorb these costs, it should be expected that those costs will ultimately be subtracted from the eventual CER transaction. The project developer has to submit the following documents to the designated operational entity for validation:

- The project design document; and
- Confirmation from the host government that the project meets host country requirements, fosters sustainable development and has been approved.

The project developer must use one of designated operational entities as listed and accredited by the Executive Board for validation. As they become accredited, a list of designated operational entities will be made available on the CDM website (http://unfccc.int/cdm).

The Marrakech Accords specifically require CDM consultation at the international level. The responsibility for managing this consultative process lies with the designated operational entity. To undertake this, the designated operational entity issues invitation for comments from all interested parties, generally simply by posting a validation on its website. This component is required and is in addition to the participation of local stakeholders (which is the project developer's responsibility) in the earlier stages of project development.

Responsibilities of the designated operational entity in the consultative process are:

- Making the project design document publicly available for comment by parties, stakeholders and UNFCCC accredited observers.
- Allowing 30 days, from the date from which the project design document is made publicly available, for receipt of comments.
- Recording comments, both verbal and written, and making available a report, which explains how the comments received have been accounted for.

Below are some important issues to consider when contracting a designated operational entity:

■ The contractual arrangement with the designated

operational entity should specify which activities will be validated.

- The arrangement should establish what recourse is available if the validation report is inadequate, or if the Executive Board/Supervisory Committee or the host country do not accept it.
- It is recommended that a designated operational entity be contacted at least one month before the date at which the validation report is expected or needed. This does not include the 30 days required for public comments by the designated operational entity.
- It is recommended that the project developer and/or its advisors interact with the designated operational entity throughout the validation process to streamline it. One way to do this, for example, would be by delivering draft versions of the project design document or components of it as they are completed. That way, points of concern and ways to address them could be discussed with the designated operational entity in advance.
- Some validators may be more experienced in specific project categories than other auditors. For instance, one validator may specialize in renewable energy or in specific host countries, whereas others may have expertise in carbon sequestration. The list published at the UNFCCC website does not point out if a designated operational entity has specific qualifications. The Executive Board does not prescribe which of the designated operational entities should be used, and this is the project developer's decision. However, experts in the field should be able to assist developers in this regard.
- Please note that a single designated operational entity can carry out both the validation and verification (see below) only if the request is made to the CDM Executive Board. Although this is allowed under the rules of the Marrakech Accords, using the same DOE for both tasks can result in conflicts of interest, and should therefore be considered carefully.
- The designated operational entity is also responsible for requesting registration of the project, and it is recommended that the project developer ask for a copy of the request.

Based on the review and comments provided, the

DOE will make a decision as to whether the project can be validated. The designated operational entity should make the validation report publicly available upon transmission to the Executive Board.

The designated operational entity solicits public comments on the validation report. The validation report is then submitted to the Executive Board. The Executive Board makes designated operational entity validations available for public comment for 30 days on the UNFCCC website. and collects comments from the general public on the report.

#### Registration

Registration of the project with the CDM Executive Board is the act of formal acceptance of the validated project. The request for registration of a CDM project is the responsibility of the designed operational entity. The DOE submits the validation report and host country approval to the Executive Board for registration. The registration of the project with the Executive Board will be final after a maximum of eight weeks after validation and the submission of the project to the Executive Board, unless a review is requested. It is recommended to ask the designated operational entity for a copy or confirmation of its request for registration.

The review by the Executive Board must be related to issues associated with the validation requirements for CDM projects. Until the review is finalized by the Executive Board, the decision for validation is not final and thus the project cannot be registered. Apart from the mandatory registration of the CDM project with the Executive Board, the host country may also require registration of the project. It is advised to check with the designated national authority in the host country for requirements regarding registration of CDM projects.

#### Implementation and monitoring

Once the project has been registered, it can be implemented. Since CERs can accrue from the point of validation during this first stage of the CDM, certain projects may already be implemented prior to registration during these first several years. From the point of implementation on, the project developer needs to start monitoring the project performance, according to the procedures laid out in the validated monitoring plan of the project design document. The monitoring results have

to be submitted to a designated operational entity for verification and certification (see annex 3).

The project developer is responsible for monitoring the project's performance according to the requirements set out in the validated monitoring plan.

However, the performance of the 'business as usual scenario' – or baseline – may or may not have to be monitored, depending on requirements of the buyer, during the period for which the baseline has been fixed and validated by a designated operational entity. Even if the buyer does require monitoring, the baseline is fixed for at least seven years, when it may have to be adjusted according to new data.

At the very minimum, technical project performance, including the project output and the related greenhouse gas emissions, has to be monitored. In addition, environmental impacts and leakage effects of the project have to be monitored. Where possible, the monitoring should be carried out in accordance with existing monitoring activities, to the extent possible. For example, the monitoring of a power generation project should be linked with activities related to the sales of electricity.

Although the monitoring plan should specify the frequency of monitoring activities, no specific frequency is required. However, CERs can only be issued after verification of the monitored data. The frequency of monitoring does not necessarily have to be equal to the frequency of verification. Based on the monitoring results, the greenhouse gas emission reductions from the CDM project activity can be calculated and submitted for verification as CERs. CERs are based on reductions during the specific time period for which the monitoring results are provided.

#### Verification

The project developer is responsible for contracting a designated operational entity to carry out the verification process. Verification is the periodic review and ex-post determination of the monitored greenhouse gas emission reductions that have occurred as a result of the CDM project. The designated operational entity verifies the data collected by the developer according to the monitoring plan. As previously noted, the DOE contracted for verification should not be the same one that carried out the validation process, except in the case of small-scale projects or when specific approval has been granted by

the CDM Executive Board. The verification process confirms the total number of CERs resulting from CDM projects during a specific period of time.

The frequency of verification is mainly a choice of the project developer, assuming the designated operational entity accepts the decision. Frequent verification (for example, every year instead of every three years) increases transaction costs, but also allows for more frequent transfer of CERs.

The designated operational entity shall make the monitoring report publicly available and submit a verification report to the Executive Board. This report is also to be made publicly available. The Executive Board provides a list of DOEs that can be contracted to carry out verification activities on its website at www.unfccc.int/cdm/doe.

#### Certification and issuance of credits

Certification is the written assurance by a designated operational entity that during the specified time period, a project activity achieved the reductions in greenhouse gas emissions as stated and verified, in compliance with all relevant criteria. This process of certification is required for CDM projects.

The designated operational entity also conducts validation and verification and is liable for eventual mistakes, misrepresentations, and fraud in this process. Certification is effectively a form of liability transfer; once the DOE has signed off, any underperformance of the CDM project with respect to the quantity or quality of the CERs is the responsibility of the DOE. Consequently a designated operational entity must carry adequate liability insurance.

The certification report prepared by the designated operational entity should consist of a request to the Executive Board to issue the amount of emission reductions that have been verified by the DOE as CERs. When the Executive Board approves the issuance of CERs, the CDM registry administrator, working under the authority of the Executive Board, will forward the CERs into the appropriate accounts. This includes, if applicable, the account for the share of proceeds, for administrative expenses and forwarding the remaining CERs to the project developer, and the 2 per cent of the CERs required to go into the adaptation fund.

# **BOX 2.4: PROJECT IDEA NOTE**

## PROJECT IDEA NOTE

A. Project description, type, location and schedule		
Name of Project:		
Technical summary of the project	Date submitted:	

Objective of the project	Describe in less than 5 lines
Project description and proposed activities (including a technical description of the project)	About _ page
Technology to be employed	Describe in less than 5 lines. Please note that support can only be provided to projects that employ commercially available technology. It would be useful to provide a few examples of where the proposed technology has been employed.

	The proposed technology has been employed.
Project developer	
Name of the project developer	
Organizational category	Government / Government agency / Municipality / Private company / Non Governmental Organization (mention what is applicable)
Other function(s) of the project	Sponsor / Operational entity / Intermediary / Technical advisor /
developer in the project	(mention what is applicable)
Summary of the relevant	Describe in less than 5 lines
experience of the project	
developer	
Address	Address, PO Box, City, Country
Contact person	Name of the Project Development Manager
Telephone / fax	
E-mail and web address, if any	
Project sponsors	
(List and provide the following info	rmation for all project sponsors)
Name of the project sponsor	
Organizational category	Government / Government agency / Municipality / Private company / Non Governmental Organization /
	(mention what is applicable)
Address (include web address, if	Address, PO Box, City, Country
any)	Not an and the second s
Main activities	Not more than 5 lines
Summary of the financials	Summarize the financials (total assets, revenues, profit, etc.) in less than 5 lines.
Type of the project	
Greenhouse gases targeted	CO <sub>2</sub> / CH <sub>4</sub> / N <sub>2</sub> O / HFCs / PCFs / SF <sub>6</sub>
	(mention what is applicable)
Type of activities	Abatement / CO <sub>2</sub> Sequestration
Field of activities	 
a. Energy supply	Renewable energy, excluding biomass / biomass / cogeneration / improving energy efficiency by replacing existing equipment / minimization of transport and distribution / fuel switch (e.g., switch coal to biomass)  (mention what is applicable)
b. Energy demand	Replacement of existing "household equipment" / improvement of energy efficiency of existing production equipment (mention what is applicable)
c. Transport	More efficient engines for transport / modal shift / fuel switch (e.g. public transport buses fuelled by natural gas) (mention what is applicable)
d. Waste management	Capture of landfill methane emissions / utilization of waste and wastewater emissions (mention what is applicable)
e. Land Use Change and Forestry	Afforestation/ reforestation/ forest management/ wetlands management/ watershed management/ improved agriculture / land degradation prevention (mention what is applicable)

# BOX 2.4: PROJECT IDEA NOTE continued from previous page

Location of the project	
Region	East Asia & Pacific / South Asia / Central Asia / Middle East / North Africa / Subsaharan Africa / Southern Africa / Central America & the Caribbean / South America/Central & Eastern Europe (mention what is applicable)
Country City Brief description of the location of the plant	No more than 3-5 lines
Expected schedule	
Earliest project start date Estimate of time required before becoming operational after approval of the PIN	Year in which the plant will be operational Time required for financial commitments: xx months Time required for legal matters: xx months Time required for negotiations: xx months Time required for construction: xx months
Expected first year of CER delivery Project lifetime Current status or phase of the project	Year Number of years Identification and pre-selection phase / opportunity study finished / pre-feasibility study finished / feasibility study finished / negotiations phase / contracting phase / etc.  (mention what is applicable and indicate the documentation fe.g.,
Current status of the acceptance of the Host Country	the feasibility study] available and mulcate the documentation [e.g., the feasibility study] available)  Letter of No Objection is available / Letter of Endorsement is under discussion or available / Letter of Approval is under discussion or available / Host Country Agreement is under discussion or signed / Memorandum of Understanding is under discussion or available / etc.  (mention what is applicable)
The position of the Host Country with regard to the Kyoto Protocol	The Host Country  a. signed, signed and ratified, accepted, approved or acceded to the Kyoto Protocol or  b. signed and has demonstrated a clear interest in becoming a party in due time (e.g., countries which have already
	started or are on the verge of starting the national ratification, acceptance or approval process) or c. has already started or is on the verge of starting the national accession process d. other. (mention what is applicable)

## B. Expected environmental and social benefits

Estimate of Greenhouse Gases	Annual:
abated / CO <sub>2</sub> Sequestered (in	Up to and including 2012: xx tCO <sub>2</sub> -equivalent
metric tons of CO <sub>2</sub> -equivalent)	Up to a period of 10 years: xx tCO <sub>2</sub> -equivalent
	Up to a period of 7 years: xx tCO <sub>2</sub> -equivalent
	Up to a period of 14 years: xx tCO₂-equivalent
Baseline scenario	CDM projects must result in GHG emissions being lower than
	"business-as-usual" in the Host Country. At the PIN stage
	questions to be answered are at least:
	What is the proposed Clean Development Mechanism
	(CDM) project displacing?
	What would the future look like without the proposed CDM
	project?
	What would the estimated total GHG reduction be?
	(About - page)

# **BOX 2.4: PROJECT IDEA NOTE** continued from previous page

Specific global & local environmental benefits	(In total about _ page)
Which guidelines will be applied? Local benefits Global benefits	Name and, if possible, the website location
Socio-economic aspects What social and economic effects can be attributed to the project and which would not have occurred in a comparable situation without that project?	(In total about _ page)
Which guidelines will be applied?  What are the possible direct effects (e.g., employment creation, capital required, foreign exchange effects)?  What are the possible other effects? For example: training/education associated with the introduction of new processes, technologies and products and/or	Name and, if possible, the website location
the effects of a project on other industries	
Environmental strategy/ priorities of the Host Country	A brief description of the relationship of the consistency of the project with environmental strategy and priorities of the Host Country
	(Not more than _ page)

# C. Finance

Total project cost estimate	
Development costs	xx US\$ million
Installed costs	xx US\$ million
Other costs	xx US\$million
Total project costs	xx US\$million
Sources of finance to be	
sought or already identified	
Equity	Name of the organizations and finance (in xx US\$million)
Debt – Long-term	Name of the organizations and finance (in xx US\$million)
Debt - Short term	Name of the organizations and finance (in xx US\$million)
Not identified	xx US\$million
CDM contribution sought	xx US\$million
CDM contribution in advance	xx US\$million and a brief clarification (not more than 5 lines)
payments. (The quantum of	
upfront payment will depend on	
the assessed risk of the project by	
the World Bank, and will not	
exceed 25% of the total ER value	
purchased by the World Bank for	
the project. Any upfront payment	
will be discounted by a factor	
considered appropriate by the	
World Bank for the project.)	
Sources of carbon finance	Name of carbon financiers other than PCF that your are contacting
	(if any)
Indicative CER Price (subject	
to negotiation and financial	
due diligence)	

# **BOX 2.4: PROJECT IDEA NOTE** continued from previous page

Total Emission Reduction Purchase Agreement (ERPA) Value	
A period until 2012 (end of the first budget period)	xxUS\$
A period of 10 years	xx US\$
A period of 7 years A period of 14 years (2 * 7 years)	xx US\$ xxUS\$
If financial analysis is available for the proposed CDM activity, provide the forecast financial internal rate of return for the project with and without the CER revenues. Provide the financial rate of return at the expected CER price above and US\$3/ tCO <sub>2</sub> e. DO NOT assume any up-front payment from the PCF in the financial analysis that includes PCF revenue stream.	
Please provide a spreadsheet to support these calculations.	

THE CLEAN DEVELOPMENT MECHANISM: A USER'S GUIDE