



# CLEAN DEVELOPMENT MECHANISM

## CDM IN PRACTICE

Peter Zaman and Delyth Hughes,  
Clifford Chance LLP

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## CDM in practice

**The second part of this paper details how the CDM operates. It covers the process of project registration, the different types of CDM projects and their locations.**

### *Operation to the CDM*

The rules governing the CDM are set out in the text of the Protocol itself, in the decisions of the governing body for the Protocol (known as the Conference of the Parties to the Convention serving as the Meeting of the Parties to the Protocol (the "COP/MOP")), and in the decisions of the governing body for the CDM, known as the CDM Executive Board (the "EB").

The following criteria must be satisfied in order for an emission reduction project activity to qualify as a CDM project under Article 12 of the Protocol:

- (a) All entities participating in the project must do so voluntarily, including the operator of the project in the developing country in which the project is located;
- (b) The project activity must result in emission reductions by producing real, measurable and long term benefits related to the mitigation of climate change in the country hosting the project; and
- (c) The emission reductions must be additional to any emission reductions that would occur in the absence of the certified project activity (known as the "additionality" requirement).

Once these criteria have been satisfied, in order to register an emission reduction project as a CDM project, the following steps must be taken:

- (a) The entities participating in the project must obtain a letter of approval (an "LoA") from the designated national authority (the "DNA") of the country hosting the project. This LoA must confirm that the project activity contributes to sustainable development in that country;
- (b) The entities participating in the project must prepare a "Project Design Document" (a "PDD"). This PDD must contain a description of the project and other detailed information relating to its operation, including a proposed baseline methodology for calculating emission reductions and an analysis of its environmental impacts;
- (c) The PDD is then submitted to a designated operational entity (a "DOE") which must validate the contents of the PDD and determine whether the project satisfies the criteria of reducing emissions. DOEs are usually corporate bodies and must be designated by the

COP/MOP, based on the recommendations of the EB, as being qualified to validate proposed CDM project activities and to verify and certify emissions reductions;

(d) If a DOE determines that a project is valid, it submits a request for registration, known as a validation report, on behalf of the project developers, to the EB who must decide whether to register the project, to request a further review or to reject the project.

The ability to have a project recognised or accepted by meeting this criteria may sound simple but, in fact, there is far more to it. In practice, the approval of projects requires very precise and often narrowly interpreted requirements to be satisfied by project developers. The process of obtaining the registration of a project can easily take a whole year and, if the project is under a new methodology, even longer.

Once a project is registered as a "CDM project", the entities participating in the project will be responsible for implementing the emission reduction activities contemplated in the PDD and for monitoring the actual emissions that have been reduced. The monitored reductions must be periodically reviewed by a DOE (which must be different from the DOE that recommended the registration of the project, except where the CDM project is small-scale) to verify that these emissions have, in fact, been reduced.

Following verification, the DOE will, at the project developer's request, issue a Certification Report requesting the EB to issue CERs. For every tonne of CO<sub>2</sub>e that is reduced, one CER will be issued. Issuance will occur automatically within 15 days following receipt of the Certification Report by the EB unless there is a request for review.

Upon issuance, these CERs will be distributed amongst the entities participating in the project in accordance with their instructions. These entities can then deal with the CERs as they wish (e.g. by using them to meet their own compliance requirements or by trading them with other entities).

Please see the appendix for a description of the CDM process in diagrammatic form.

### ***Types of CDM Projects***

In order for a project to be registered as a CDM project, it must follow an approved methodology for achieving emission reductions. The project may follow an existing approved methodology or the entities participating in the project may seek approval from the EB for a new methodology prior to the validation of the project. The proposed application of a given methodology in relation to a specific project must be detailed in its PDD.

There is no comprehensive list of the types of project activity that will qualify as a CDM project. As at the date of writing there are 3,820 registered CDM projects from which 858,871,666 CERs have been issued. Some examples of CDM projects include the conversion of landfill methane emissions to electricity, the decomposition of HFC-23 gas at a manufacturing facility, the construction of wind farms and subsequent delivery of electricity to the grid network, the reduction of nitrous oxide emissions at a chemicals

facility, the enhanced storage and disposal of livestock waste, the use of anaerobic digestion with wastewater to reduce emissions in the starch industry and the construction of biogas digesters to reduce the usage of fuel wood and kerosene in developing countries.

However, despite this, certain limitations still apply to the types of project that are eligible to be registered under the CDM. For example, Annex B Countries are asked to "refrain" from using CERs generated from nuclear facilities to increase their emissions limits, although the Protocol does not actually ban them from doing so. However, the ability to use CERs from nuclear facilities is prohibited in some markets such as the EU Emissions Trading Scheme (the "EU ETS"). In addition, projects that simply prevent deforestation are excluded from eligibility under the CDM, although projects that seek to create new forests are included (i.e. afforestation and reforestation projects).

Over time, new types of CDM projects have been introduced, enhancing diversity and acting as an incentive for greater investment in CDM project activity by Annex B Countries. Less developed countries are also being encouraged to participate in the establishment of, and investment in, CDM projects and these new, more cost-effective methods listed below can help to facilitate this:

(a) **Small-scale projects** – The cost of developing a CDM project is high, but, due to new incentives, a number of small-scale projects are now being registered. Small-scale CDM projects are able to take advantage of the 'fast-track' procedure thus reducing transaction costs. It is widely regarded that small-scale projects are higher in quality than the larger scale CDM, meaning that the impact which they can have on sustainable development in the developing host countries can be much greater. To date, 1,629 small-scale projects have been registered, accounting for almost 43% of all CDM projects.

(b) **Bundled projects** – This is a means of reducing CDM project transaction costs. A number of small-scale projects can be 'bundled' together and developed as one large CDM project. Provided each individual project falls within the definition of a small-scale project, then the whole bundled project can benefit from the reduced transaction costs associated with the fast-track procedure. Spreading costs across multiple projects can also result in savings.

(c) **Programmatic CDM** – This is the most recent of the three innovations outlined here and seems to overcome the criticism that the CDM is bound too narrowly by project or geographical boundaries. A programme of activities (a "PoA") is drawn-up so that CDM project activity can take place at multiple locations throughout the host country (or, in some circumstances, in neighbouring countries). Each facility, if taken alone, is small, but if taken collectively can result in significant emission reductions. An example of a PoA can be seen in the replacement of inefficient light bulbs in grid-connected residential households in India with more energy efficient equivalents, thus reducing CO<sub>2</sub> emissions from power plants connected to the grid.

Following the 2011 Climate Change Conference in Durban, carbon capture and storage projects ("CCS Projects") can now also earn CERs under the CDM. However, project developers must put 5% of CERs generated from the project into a reserve account in the

CDM registry. These shall be returned to the developers once monitoring of the site has shown that there has been no CO<sub>2</sub> seepage for a period of 20 years after the earlier of the end of the last crediting period or after the issuance of CERs has stopped.

### ***Location of CDM Projects***

Most CDM project activity has been concentrated in only a small number of countries, typically because those countries have more larger greenhouse gas mitigation opportunities because of their rapid pace of industrialisation or because of administrative, political or legal conditions which are conducive to foreign investment.

In terms of the total number of CERs issued, by the end of 2011 approximately 59% were in respect of projects located in China, 15% in India and 10% in Korea.

In terms of the number of projects registered to date, approximately 47% are located in China, with a further 21% located in India, 5% in Brazil and almost 4% in Mexico. The remaining registered projects are dispersed, although there is a higher concentration of projects in South America and Southeast Asia and the lowest concentration is in sub-Saharan Africa.

It is expected that the developing countries experiencing the most rapid industrial growth on the largest scale, namely China and India, will continue to benefit from the financial and technological investment by Annex B Countries under the CDM during the second commitment period under the Protocol.

However, incentives to establish CDM Projects in other developing countries, particularly in Africa, are likely to be implemented. For example, there are plans to expand and increase CDM activities by including those projects which focus on land-use and reforestation. Given Africa's lack of industrialisation but huge land mass, industrial tree plantations or biofuel plantations could be of particular interest to the nation. A ban on HFC-23 reductions is also being considered to encourage a re-direction of CDM investment into more sustainable projects in Africa (see Part 3, Criticism). The development of small-scale, bundled and programmatic CDM projects are also part of these efforts.

**PARTICIPATION REQUIREMENTS**  
(paragraphs 28 to 34 of the Annex to Decision 3/CMP.1 of COP/MOP)

- Participation in CDM project activity is voluntary
- Parties participating shall designate a national authority for the CDM
- A party not included in Annex 1 may participate in a CDM if a party to Kyoto
- A party is eligible to transfer/acquire CERs issued in accordance with relevant provisions if it is in compliance with the eligibility requirements:
  - It is a Party to Kyoto
  - It has established its assigned amount (Annex 1 Parties only)
  - It has in place a national system for estimation of anthropogenic emissions by sources
  - It has in place a national registry
  - It has submitted most recent required inventory
  - It submits its supplementary info on assigned amount.

**PROJECT DESIGN DOCUMENT ("PDD")**  
(Appendix B of the Annex to Decision 3/CMP.1 of COP/MOP)

- Project Participants must complete a PDD in the form required by the EB
- PDD includes:
  - General description of project activity and additional environmental benefits the project is expected to generate
  - Baseline methodology
  - Starting date and duration of project activity/crediting period
  - Monitoring and methodology plan
  - Calculations of GHG emissions
  - Environmental impacts
  - Stakeholder comments

**Designated National Authority -letter of Approval**

- DNA of Host Country to issue letter of approval attesting to voluntary participation of the parties and confirming that the project assists it to achieve sustainable development.

**VALIDATION**  
(sections 35 to 40 of the Annex to Decision 3/CMP.1 of COP/MOP)

- Independent evaluation by DOE of project activity against PDD
- Analysis of PDD against participation requirements
- Invites stakeholder comments on PDD
- Determines whether to validate project
- If project activity is valid, submits request for registration to EB in the form of Validation Report

**REGISTRATION**

- Formal acceptance by EB of validated project as a CDM project activity
- Prerequisite for Verification, Certification and Issuance of CERs
- Automatic step unless review of proposed CDM project requested within 8 weeks of receipt of Validation Report.

**VERIFICATION/CERTIFICATION**  
(sections 61 to 63 of the Annex to Decision 3/CMP.1 of COP/MOP)

- Verification = periodic independent review by 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 = written assurance by DOE that during specified time period a project activity achieved reductions in anthropogenic emissions
- Validation and verification have to be performed by different DOEs
- DOE provides Certification Report to project participants, parties involved and EB; the Report constitutes a request for issuance to EB of CERs equal to reductions

**MONITORING**  
(sections 53 to 60 of the Annex to Decision 3/CMP.1 of COP/MOP)

- Project Participants required to implement monitoring plan in the PDD
- Involves collection and archiving of all data during crediting period for estimating GHGs, environmental impacts and quality assurance control
- Provide Monitoring Report to DOE

**ISSUANCE OF CERs**  
(sections 64 to 66 of the Annex to Decision 3/CMP.1 of COP/MOP)

- Issuance automatic within 15 days
- EB requests CDM Registry to issue quantity of CERs less 2% as levy



