

## **CARBON FINANCE AND THE CLEAN DEVELOPMENT MECHANISM (CDM)**

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Clean Development Mechanism (CDM) is a mechanism whereby an Annex One party or industrialized country under the United Nations Convention Framework for Climate Change (UNFCCC) system and its extension project, the Kyoto Protocol, may purchase emissions reduction which arise from projects located in Non- Annex One countries or developing countries.

The carbon credits that are generated by a CDM project are termed Certified Emissions Reduction (CER) expressed in tones of CO<sub>2</sub> equivalent.

It is important to note that both the UNFCCC and the Kyoto protocol recognize the fact that the industrialized or annex one countries are responsible for most of the Green House Gas (GHG) emission in the atmosphere that cause climate change, and as such must lead in the global efforts at reducing emissions.

And based on the principle that the effect on the global environment is the same regardless of where GHG emissions reduction are achieved, countries may meet their targets through a combination of domestic activities and use of the Kyoto protocol 'Flexible mechanisms', which are designed to allow annex one countries to meet their targets in a cost effective manner and to assist developing countries in particular to achieve sustainable development.

There are three Kyoto protocol flexible mechanisms namely Joint Implementation (JI), CDM, and International Emissions Trading (IET). Both JI and CDM are 'project based' based mechanisms which involve developing and implementing projects that reduce GHG emissions, thereby generating carbon credits that can be sold on the carbon market.

JI is a mechanism that allows the generation of credits known as Emission Reduction Units (ERU) from projects within annex one countries, whereas the CDM allows the generation of CERs from projects within non annex one countries.

Examples of CDM projects are such projects in the renewable energy industry which involve the generation of zero-emission energy (electricity or heat) from renewable sources such as wind, wave/tidal, solar, hydro, biomass or thermal energy, or manufacturing industries that can reduce emissions in a number of ways. An example from the cement industry will be the substitution of clinker with an alternative product such as volcanic ash. Here, emissions are reduced due to avoided production of clinker, which is highly energy intensive and based on the use of fossil fuels like coal, oil and natural gas.

Another example of a CDM project is the transport sector which may include projects that aid the improvement of public transport services and thus reduce emissions from cars. Projects may also focus on use of energy efficient vehicles or the use of lower emission fuels such as bioethanol or biodiesel.

Afforestation and reforestation also offer a good example of a CDM project. Afforestation involves planting trees on land which was not previously forested, were as reforestation refers to planting trees on land which was recently cleared. For instance, degraded land may be restored/reforested as part of a

CDM project resulting in the sequestration of carbon from the atmosphere. As at 2007, there were as much as 1700 CDM projects in the pipeline.

### **Project procedure:**

In order for a project to generate CERs, it must undergo a rigorous process of documentation and approval by a variety of local and international stakeholders, as specified under the CDM modalities and procedures. The key stages in the CDM project cycle are the initial feasibility assessment, development of a Project Design Document (PDD), host country approval, project validation, registration, emission reduction verification and credit issuance.

Stakeholders include the CDM developer and the CDM Executive Board (EB) and the Designated Operational Entity (DOE), responsible for validation and verification of the project, and the Designated National Authority (DNA), which has the authority to grant host country approval for the project.

Obtaining host country approval is a critical step in the CDM project cycle, without which a project is not eligible for the CDM. In order for a CDM project to receive formal host country approval, the host country must have ratified the Kyoto protocol and have nominated a DNA to the UNFCCC.

The DNA is formally responsible for managing the CDM approval process in the host country. This approval should be provided in writing in the form of a Letter of Approval (LoA). Such a letter must include confirmation that the host country has ratified the Kyoto protocol, a statement that the host country's participation in the CDM is voluntary, and a statement that the project contributes to the host country's sustainable development.

Once the project is registered, CERs may be issued at any time, following verification by a DOE and a formal request for issuance to the CDM EB. The CDM EB supervises the CDM under the authority and guidance of the Conference of Parties (COP), which constitute member countries of the UNFCCC who meet every year to review progress and take decisions. The EB's core tasks are as follows: Accreditation of independent auditors (DOEs) for validation and verification, Review of validation reports and PDDs, Approval of new baseline and monitoring methodologies, which quantifies the emissions reduced and therefore the carbon revenue potential of a project and, Registration of projects, and Issuance of CERs.

Other essential elements involved in CDM project implementation are, using an approval methodology, proposing a new methodology, project additionality, diversion of official development assistance, and environmental impact assessment and consultation exercise.

### **Emissions Trading Schemes:**

Under Emission Trading Schemes (ETS), an overall limit is set on the installations falling under the scheme are allowed to emit. This cap (cap is how much pollution in total allowed (for a region). Those who exceed the cap are penalized for their excess pollution while still trying to bring pollution rates down) is distributed among the participants in the form of allowance to other participants.

The European Union Emissions Trading Scheme (EU ETS) is currently the largest emissions trading system in operation, and as such is the most significant in terms of generating demand for CERs. The system started operating in January 2005, with the participation of the 15 EU member states in addition to the 10 new Accession States which joined the EU in May 2004. The first phase of the

scheme runs from 2005 to 2007; the second phase coincides with the first commitment period under the Kyoto protocol.

Other examples of ETS are the Keidaren Voluntary Action Plan, set up by the Japanese Business Federation on voluntary basis for industrial action on climate change, the Chicago Climate Exchange based in Chicago where by participants agree to reduce their emissions, The Regional Greenhouse Gas Initiative which is a coordination between seven north eastern and mid-Atlantic states to implement a cap and trade program to limit GHG emissions in the region. **Source:** 'Guide Book to Financing CDM Projects' a publication produced by United Nation Environment Programme (UNEP) Capacity Development for CDM (CD4CDM), and EcoSecurities, a CDM project development and consultancy firm.

### **Merits:**

The above publication notes that main advantages for countries hosting CDM or JI emissions reduction projects are the attraction of foreign investment, the transfer of technology, and the contribution to the country's sustainable development.

The same publication, however, is quick to point out some key barriers associated with implementation of CDM projects in non Annex one countries. Such barriers facing many project developers which prevent a much larger potential expansion in the number of CDM projects world wide include lack of access to financing.

Observing that lack of access to financing is one of the key reasons why CDM project concepts have not materialized, the publication points out that this has been the Africa and other parts of the developing world. At the same time, local financial intermediaries in developing countries continue to play limited role in CDM financing.

Further more, the lack of knowledge of CDM modalities and procedures and a lot of approaches for financial appraisal of CDM projects, are among the reasons for this lack of appreciation in the CDM by local banks in the host countries.

Moreover, approaches, tools and skills for CDM project appraisal are lacking in relation to the skills in comparable institutions in developed or Annex one countries.

Consequently, developing countries financial institutions are unable to properly evaluate the risks and rewards with investing or lending to developers undertaking CDM projects. They therefore have by and large refrained from funding the projects. In addition, some potential project proponents lack experience in structuring arrangements for financing a project.

### **Scholarly opinion:**

Top scholars and CDM experts have expressed varied opinion about the CDM, and the remaining two mechanisms, JI AND ETS. Among such positive opinion is that the mechanisms have managed to build a carbon market (created a commodity), and also managed to change the way of thinking of energy and climate issues and provided us with a lot of lessons learnt and furthermore, have actually emissions of GHG.

However those scholars who hold divergent opinion think that the mechanisms might not have fulfilled expectations about sustainable development, have not changed energy consumption patterns in large scale, have done nothing in relation to forestry issues, and have not managed to attract enough foreign direct investment to developing countries.

Such critics also think that people who in the beginning didn't want a market based approach still don't and have nothing to do about that. However, the critics end on a note of hope that less people about the mechanisms today, but are quick to recommend that a lot of work has to be done to develop and reinvent the mechanisms even further.

## **Action:**

There is every indication that developing countries need CDM projects most in meeting their sustainable development needs and especially embarking on the kind of projects to help them mitigate the effects of climate change.

But as things stand now, very few CDM projects find their way into Africa, with the Annex One countries giving much concentration and focus to the implementation of CDM projects in China, India, Brazil in particular to the detriment of Africa, the continent which is hardest hit by the effects of climate change. There ought to be a direction of focus and ensure that there is equity in the distribution and implementation of CDM projects with especially Africa in mind Africa and benefitting most.

The issue of capacity building and technology transfer about CDM project implementation need to be revisited and tackled with dispatch to help address the problem of lack of expert knowledge by Africa's financial institutions, so that they have a better understanding about the utmost benefits associated financing CDM projects for sustainable development. Annex One countries have a role to lay here to assist developing countries and their institutions to gain such expert knowledge to their advantage.

Again, developing countries ought to be assisted financially the international community to implement CDM and other sustainable development projects in line with the provision as stated in the Kyoto protocol which places such responsibility on the Annex One countries.

There ought to be a clear cut financial aid mechanism to assist developing countries do just that, and hopefully, the Copenhagen talks has this as one of key agendas coming up for discussions.