



CARBON FINANCING AND SOLID WASTE MANAGEMENT

What are global warming and the Kyoto Protocol?

As growing scientific evidence showed that the earth's temperature was gradually increasing due to human activity, the United Nations began to turn its attention to addressing the issue of climate change. The United Nations Framework Convention on Climate Change (UNFCCC), which came into force in 1994, established an international framework to address global climate change. Parties to the Convention agreed to stabilize greenhouse gas concentrations in the earth's atmosphere.

In December 1997, 160 countries completed negotiations at the third session of Conference of Parties (COP3) in Kyoto, Japan to finalize a protocol that outlined a timetable of greenhouse gas reduction targets. This agreement subsequently became known as the Kyoto Protocol.

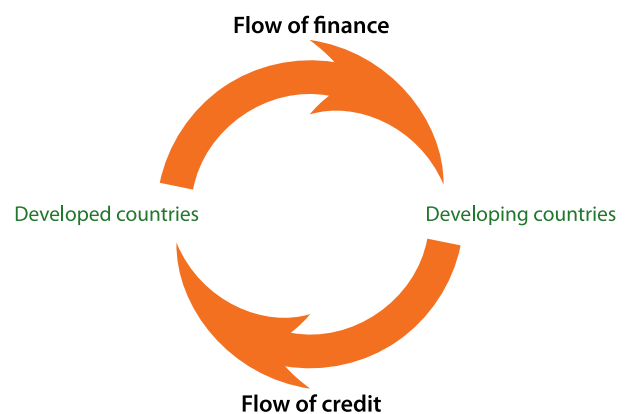
The most important aspect of the Kyoto Protocol is its legally binding commitments for 39 developed countries – known as Annex-B countries – to reduce their greenhouse gas emissions. These emission reductions must be achieved by 2012: the so called first commitment period.

What is the Clean Development Mechanism (CDM)?

The Kyoto Protocol allows Annex-B countries to reach their emission reduction targets in different ways through Flexibility Mechanisms, which includes the Clean Development Mechanism (CDM). CDM is the only Flexibility Mechanism that involves Non-Annex B countries. It allows developed countries (Annex-B) to achieve part of their reduction obligations through investment in projects in developing countries that reduce greenhouse gas emissions or fix or sequester carbon dioxide from the atmosphere.

How does CDM work?

CDM enables developing country entrepreneurs and others to attract investments to conduct projects that reduce emissions, according to two primary criteria: The project proponent must prove that the reduction of emissions would not have occurred in the absence of the project; and the project must promote sustainable development. Figure below illustrates how CDM works. From developed countries, there is a flow of finance either UP FRONT or from annual sale of Certified Emission reductions (CEs), often known as carbon credits. In return, developing countries agree to reduce a certain quantity of greenhouse gas emissions. Once these reductions are approved by the Executive Board of the UNFCCC, they flow back to developed countries as CEs. Throughout the project, an auditor monitors whether or not a project is actually reducing emissions as well as validating the baseline – the amount of emissions that would have occurred without the CDM project.





What is carbon trading?

Carbon trading, also referred to as emission reductions trading, is a relatively simple concept. It is an economic tool which allows for several parties to meet total emission reduction requirements at lower costs by working together. Carbon trading allows any surplus emission reduction – reduction beyond the required limits – to be traded to other parties needing to meet emission limits.

In theory, if one party can reduce emissions at a lower cost than a second party, then the first party could maximize emission reductions and sell any surplus reductions to the second party to help meet its own reduction requirements. The aim is to improve the overall flexibility and economic efficiency of obtaining emission reduction.

Who are the buyers and sellers of carbon credits?

The seller of an emission reduction, or carbon credit, is one who has exceeded his regulated or voluntary emission reduction requirement, or is in possession of unused, banked or traded emission reductions, and is looking to sell these quantified emission reductions. The emission reduction must be real, surplus, quantifiable and verifiable. Under the Kyoto Protocol, all Non-Annex-B countries under the Kyoto Protocol can be a seller of CErS or Verified/Voluntary Emission reductions (VERs) – reductions of greenhouse gas emissions by any project outside the Kyoto Protocol.

The buyer of CEr/VER carbon credits is a party who has to meet a regulated or voluntary reduction in emission. A buyer can also be an investor who believes that the value of emission reductions will increase with time. These credits can, subject to the trading system, be bought, banked and traded (sold) by anyone and at almost anytime. Annex-B countries under the Kyoto Protocol are Buyers of CErS.

What is the present market price of carbon credits?

As of August, 2010, the current market price of emission reduction credits in existing carbon markets is between US\$19 and US\$22 per ton of carbon dioxide for CErS, while the price is between US\$8 and US \$10. For more information on CEr prices, see www.carbonnext.org.

What is the crediting period?

Project activities initiated after 1 January 2000 that meet all the CDM requirements and are registered with the CDM Executive Board are eligible for crediting after validation by a recognized operational entity.

Emission reductions can be claimed for a maximum of 10 years without revision of the project baseline, or for a period of 7 years with two extensions of 7 years each, provided the project baseline is revised at the time of each extension.

How do the public and private sectors benefit from CDM?

A company or Annex-B country participating in a CDM project can finance their project in a developing (Non-Annex-B) country using any one of the following options:

- Full or partial equity: A company finances either all or part of a CDM project in return for full or shared financial return and CErS.
- Financial contribution: A company contributes financially toward the cost of a CDM project equal to some portion of the incremental cost of the project over and above the baseline technology, or finances the removal of market barriers, in return for CErS.
- Loan: A company provides loans or leasing at concessional rates in return for CErS.
- CER purchase agreement: A company agrees to buy CErS as they are produced by the project.

CDM AND WASTE MANAGEMENT

Projects from the waste sector can be registered as CDM both as large-scale and small-scale projects. Small scale projects can be bundled together using a programmatic approach. Examples of registered projects include landfill gas energy recovery, waste biomass to energy projects, controlled combustion, composting of urban organic waste, refuse-derived fuel, landfill gas flaring, gasification and anaerobic digestion. Based on the present price of CErS, waste sector projects can recover between 50 to 100% of the capital cost from sale of carbon credits.

For further information on project types, see <http://cdm.unfccc.int/about/index.html>.