

The CDM: opportunities and challenges



Richard Sandor is chairman and chief executive of Environmental Financial Products, a Chicago-based company which designs novel risk management tools for the environmental, financial and commodity markets

"Teach us to delight in the simple things"
Rudyard Kipling

In a stunning financial innovation that may radically alter the way developing countries and industrialised nations deal with issues of climate change, participants in the Kyoto debate crafted a project-based carbon crediting system termed the Clean Development Mechanism (CDM).

This mechanism may be critical to jump-starting the carbon emissions markets. It also provides a vehicle for forging political consensus between the industrialised and developing countries, thereby expanding the comprehensiveness of the Kyoto Protocol. While it is still too early to assess the likely impact of the CDM, its early effective date (this year) provides an opportunity to design functional market architecture for the mechanism specifically and for emissions trading in general.

What is the CDM? Simply stated, it is a mechanism whereby developing and industrialised economies can both benefit from projects that mitigate greenhouse emissions in developing countries. "Certified emission reductions" (CERs) are created when a pro-

ject causes emissions to be lower than they might have been. The projects must contribute to environmentally sustainable economic development. Emission sources in industrialised countries can use the emission reduction credits arising from those investments towards meeting their own greenhouse gas emission caps. There is increasing momentum to ensure that credits for reforestation projects are included in the CDM and it is important to emphasize that the use of the credits is not dependent on either country having developed its own emissions trading programme.

The salient features of the CDM, and the associated references to the treaty, are summarised in Table 1.

Although we cannot unambiguously determine the likely size of the CDM portion of the carbon market, academics and governments have attempted to forecast its importance. Most analysts use the assumption that 1 billion tons of annual carbon mitigation will be required worldwide during the period 2008–12. Michael Grubb and Christiaan Vrolijk of the Royal Institute of International Affairs have summarised various estimates of

the possible size of the CDM (see Table 2). A model developed by Grubb and Vrolijk yields estimates that are consistent with the lower end of these estimates. In summary, it appears that the CDM might generate capital flows of approximately \$10 billion per year. This is a significant figure for developing countries.

The CDM is a creative financial innovation that has the potential to make a significant impact on industrialised and developing countries. However, Article 12 of the Kyoto Protocol, in which the mechanism is defined, only provides a framework for implementation. Carbon market participants now face the same challenges summarised by the quote of the day in the internet community – execution is everything – and Goethe's famous thought – the genius is in the details. It's all about execution and details.

Fees, major regulatory uncertainties and significant transaction costs could undermine this potentially powerful mechanism. It's our view that we must develop a simplified CDM process. The widespread use of a rule-based system will enhance sustainable development. We plan to share some simple market architecture with you in the coming months. Our hope is that policy makers will hear this clarion call for simplicity.

I would like to thank Dr Michael Walsh and Rafael Marques for their assistance in preparing this article

I. Salient features of the Clean Development Mechanism

Participation	Transactions between industrialised (Annex 1) and developing countries
Timing	Certified emission reductions can be accumulated starting in 2000 for use in 2008–2012
National emission budgets	Acquisition of CERs raises the "assigned amount" (emissions budget) of the buyer
Recognised projects	Emission reduction projects; treatment of carbon sinks not yet clear
Fees	To be levied to cover CDM administrative costs and to contribute to the adaptation and assistance fund for developing countries vulnerable to climate change damage
Project approval, monitoring and verification	Participation by any country is voluntary. Monitoring protocols, and independent auditing and verification procedures are to be developed
Reporting of transfers	Registries to be established; likely to include both international and national systems

2. Summary of estimates of the potential size of the CDM

CDM share of overall carbon market (%)	Total CDM volume (million tons carbon)	Assumed market price (\$/t of carbon)	CDM market value (\$bn)
19–57	144–723	13–37	5.2–21

Source: adapted from Grubb, Michael and Vrolijk, Christiaan, "The Potential size of the CDM", Greenhouse Gas Emissions Trader, Issue 6, February 1999

Article 12 of the Kyoto Protocol (extracts)

"The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3.

Under the clean development mechanism:

(a) Parties not included in Annex I will benefit from project activities resulting in certified emission reductions; and

(b) Parties included in Annex I may use the certified emission reductions accruing from such project activities to contribute to compliance with part of their quantified emission limitation and reduction commitments"