Is the Clean Development Mechanism Warming Up?

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This article charts the growth of the Clean Development Mechanism from its birth, considers recent issues regarding its relationship with the EU ETS, and considers whether the projects and credits that it generates could lead to a win-win situation for both business and climate.

As seasoned travellers will know, Kyoto is famous for its stifling summer nights, with the ring of the surrounding mountains of Higashiyama, Kitayama and Nishiyama resulting in almost no air movement. Perhaps it is no surprise, then, that it was there in 1997 that the international community, in the form of the United Nations, agreed on a strategy to combat global warming and climate change.

The Convention and the Protocol

The Clean Development Mechanism is a creature of the infamous Kyoto Protocol ('the Protocol'), which was agreed under the UN Framework Convention on Climate Change ('the Convention'). The Convention took effect in 1994 and established a framework for governments to co-operate in tackling the challenges of climate change. It was soon realised, however, that, in order to be effective, the Convention would need to be augmented by a further agreement which was binding on the signatories and which established stricter demands for reducing emissions of greenhouse gases ('GHGs').

The Protocol developed strategies previously adopted under the Convention to assist industrialised countries in reducing their emissions of GHGs. It shares the Convention's objectives, principles and institutions, but significantly strengthens the obligations on signatories. The Protocol introduced *mandatory targets* on GHGs for industrialised countries, known under the Protocol as Annex 1 countries. (Developing nations, which do not have any targets to meet, are known, somewhat predictably, as non-Annex 1 countries.) A failure to meet an emissions target during the first obligation period (2008–2012) means that the relevant state must make up the difference in the second commitment period, plus a penalty of 30 per cent. In addition, its ability to sell under emissions trading will be suspended.

States that have ratified the Convention do not automatically become parties to the Protocol – they must sign up to and ratify the Protocol separately. The Protocol is supplemented by decisions of governing bodies stipulated thereby, such as the Conference of the Parties ('CoP'). The CoP in Marrakesh stipulated a series of decisions, known as the 'Marrakesh Accords', which provide detailed rules in respect of some of the Protocol's most important mechanisms. The Accords were issued in 2001 and the Protocol itself eventually came into force on 16 February 2005. Further important specific provisions were added by the decisions of the CoP in Montreal, which took place from 28 November to 10 December 2005.

To achieve their targets, Annex 1 countries must put in place domestic policies and measures. The Protocol sets out an indicative list of measures to enable Annex 1 countries to reduce GHGs. The mystical allure of 'market-based mechanisms' is not absent from the list. In addition to direct measures which countries may take to decrease emissions, the list includes reference to three innovative 'flexible mechanisms' which may be used to achieve the targets: (1) the Clean Development Mechanism, (2) Joint Implementation, and (3) emissions trading. This article will focus on the Clean Development Mechanism ('CDM') and its relationship with emissions trading regimes.

Under emissions trading, an Annex I country may transfer some of the permitted emissions assigned to it under the Protocol, known as assigned amount units ('AAUs'), to another Annex I party. (Note that each emissions reduction certificate under each mechanism has a different name.) It may also transfer reductions that it has acquired through joint implementation or the Clean Development Mechanism (considered further below). Joint implementation refers to an Annex I country implementing a project in another Annex I country which reduces emissions. This gives rise to emission reduction units ('ERUs'), generated by transforming AAUs originally assigned to the country in which the projects takes place. ERUs may be used by the state sponsoring the project (known as the 'investor state') against its own targets.

The Clean Development Mechanism: Fundamentals

The Clean Development Mechanism ('CDM') is the only mechanism under Kyoto that involves those countries which do not have a cap on emissions under the Protocol. The purpose of CDM is to benefit both those developing and industrialised countries. The mechanism enables industrialised countries to go some way to meeting their obligations under the Protocol by paying for projects in developing nations that result in cuts in GHGs. In effect it could be described as involving the same activities as joint implementation, but in respect of projects in non-Annex I countries.

The mechanism relates to a number of different sectors, including energy, industrial processes and waste. Here, credits are newly created (not transformed, as in joint implementation) in the form of Certified Emission Reductions ('CERs'). The 'credits' are calculated by taking the level of emissions that *would* have been caused in the developing nation had the relevant entity not sponsored the use of a cleaner or more energy-efficient

approach to the project (for example, using solar panels instead of diesel generation) and seeing by how much these are reduced when the 'clean' approach is used (known as the 'baseline method'). The idea is that the mechanism should also promote sustainable development in those developing countries and result in technology transfer to them.

The rationale for including these mechanisms is that as greenhouse gases are emitted into the atmosphere they will result in a contribution to global increases in temperature, regardless of the source. It is therefore necessary to control greenhouse gas emissions at a global level, and it makes sense to make reductions where it is most efficient and cost-effective to do so. These mechanisms address this by reducing emissions at the lowest cost location.

It is important to note, however, that parties must provide evidence that their use of these mechanisms is supplemental to domestic action, which must constitute a 'significant element' of their efforts in meeting their commitments (the principle of 'supplementarity', not to be confused with 'additionality', which is discussed below).

The CDM is overseen by the CDM Executive Board ('the Executive Board'). To be certified by the Executive Board, a project must be approved by all involved parties, demonstrate a measurable and long-term ability to reduce emissions, and promise reductions that would be additional to any that would otherwise occur. The Executive Board is also responsible for issuing the CERs. Here we enter the land populated almost exclusively by TLAs ('Three-Letter Acronyms').

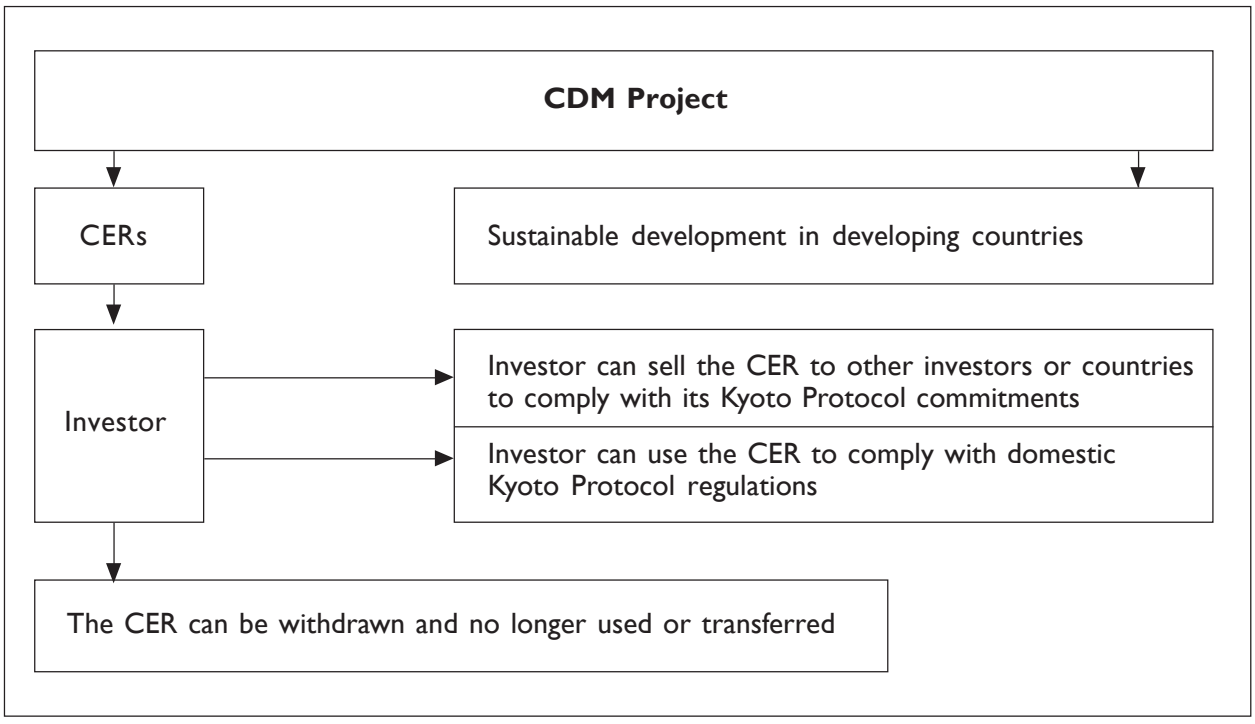
Approval Process for CDM Projects

Any project requires approval from a number of different entities before CERs can be issued. The amount of time which may be taken up with such approvals could be significant; however, market participants will generally aim for a period of around 10 to 12 months from project design and review of project through to construction start-up. Verification and certification thereafter is expected to last anything from one to three years. As these periods suggest, the approval process can be time consuming and expensive, element of a CDM project.

The key document in this respect is the project design document ('PDD'). This document must set out the features of the project, demonstrate the GHG reduction potential of the project, and set out the methodology for calculating the anticipated reduction in emissions.

Before the PDD can be passed to the Executive Board it must go through two prior approval processes. The first of these involves an accredited third party known as a Designated Operational Entity ('DOE'). These entities, which include organisations such as the British Standard Institution, are listed on the UNFCCC website. They fulfil an essential role in the CDM project cycle by validating proposed projects and certifying emissions reductions and removals (although in most cases currently, the same DOE cannot carry out both of these roles in respect of the same project). The DOE must certify that the project satisfies certain criteria. One of the key criteria is 'additionality', that is, that a project will only be recognised as eligible to produce CERs when the reductions of greenhouse gas emissions are additional to any that would occur in the absence of the CDM. By way of example, it may be that an applicant fails to demonstrate additionality if measures that lead to reductions would have been conducted anyway, regardless of the specific incentive of the CDM mechanism, for example as a reaction to environmental legislation, modernisation efforts as a general business decision, and so on.

In addition, the Protocol states that countries who wish to participate in the CDM must designate a national authority in respect of such projects, the Designated National Authority



Source: An Implementation guide to the CDM. United Nations 2003.

Step	Definition	Responsible Entity
1. Project design	A document with the information needed about the proposed CDM project that is submitted for validation.	Project participants
2. Validation	Validation is the process of independent evaluation of a CDM project.	Operational entity
and		
Registration	Registration is the formal acceptance of a validated project by the UNFCCC.	Executive Board
3. Monitoring	The collection and archiving of all relevant data necessary for establishing GHG emissions by sources occurring within the project boundary during the crediting period.	Project participants
4. Verification	Verification is the periodic impendent review and determination that GHG reductions have occurred as a result of the registered CDM project activity during the crediting period.	Operational entity
and		
Certification	Certification is the written assurance that a project activity achieved the GHG reductions stated during the specified time period.	Operational entity
5. Issuance	Certified emission reductions ('CERs') are issued to the parties' account.	Executive Board

Source: 'An implementation guide to the CDM', United Nations 2003.

('DNA'). In the United Kingdom the Department for Environment, Food and Rural Affairs (Defra) acts as the DNA for the CDM. Thus far the DNA has issued 20 Letters of Approval to UK companies, covering 15 projects worldwide. Seven of these projects are in India, three in Brazil, two in China, one in Honduras, one in Vietnam and one in Fiji.

Once the DNA and DOE have fulfilled their pre-development roles, the project may be registered with the Executive Board. Registration is automatic unless a review is requested, although this should not be regarded as a formality. The market has reacted with surprise at the decision by the Executive Board to request reviews of a number of projects. And the Board has demonstrated that its discretion to reject projects is not illusory, with four projects being rejected recently. One of the reasons behind these decisions is thought to be a failure by the project developers to satisfy the 'additionality' criteria.

Monitoring of the emission reductions of the project and production of a monitoring report is the responsibility of the project participants. Their findings are submitted to another DOE for verification. The CDM Board issues the CERs when verification and certification have been received from such DOE. Any issues regarding compliance will be passed to the Compliance Committee under the Executive Board.

The key countries in respect of CDM at the moment are India, China and Chile. However, in terms of the number of registered CERs, China is the largest with more than 30 per cent of market share. While the number of projects in China may be smaller, the size of those projects is significant. The continued growth of the Chinese market is viewed by many as essential in increasing the credibility of the market.

CER Trading and the Linking Directive

CERs may be traded either on the EU market or through the 'UN exchange', a complex system of different registries. We will consider the UN exchange first.

Annex I countries must establish and maintain a national registry to track and record transactions under the CDM and all other Protocol mechanisms. In the United Kingdom, the Environment Agency is acting as the administrator of that registry and applications for an account must go to them. All national registries will be linked by an International Transaction Log ('ITL'), which needs to be in place by the beginning of 2008 at the latest.

The ITL will also link the (already existing) CDM registry to all national registries. The UNFCCC Secretariat has been designated as the administrator for the central CDM registry. The CDM registry is being used to issue CERs from registered CDM project activities to specific holding accounts, prior to implementation of the ITL. Without the ITL, CERs may not be transferred out of the CDM registry. Also, the Executive Board does not allow trading within the CDM registry. The ITL is

therefore a key feature of the implementation of the trading regime.

The ITL is essential infrastructure in order for the theory of CER trading to become a reality. Until the ITL is implemented, credits can only be sold by means of forward contracts, but can not actually be 'delivered'. Once in place, the ITL will provide for the transfer of credits resulting from CDM projects from the CDM registry to, and between, the different national registry accounts. Significant concern had been expressed within the market regarding the ability of the UNFCCC Secretariat to meet its target date of April 2007 for having the ITL in place. However, in August 2006 it was announced by the Secretariat that it will launch the ITL on time in April 2007. Until that time Annex 1 project participants and parties may receive temporary accounts in the CDM registry.

As mentioned above, aside from the CDM, the Protocol established 'emissions trading' between states as another mechanism in promoting lowest cost reductions in emissions. Using this as an example, the EU Commission launched the EU Emissions Trading Scheme ('EU ETS') as a joint effort of the EU Member States to meet their reduction targets under the Protocol (Member States have decided to fulfill their obligations under the Protocol jointly (see Article 4 of the Protocol). This creates an installation-based 'cap and trade' scheme, whereby participants in the scheme, being entities active in those industries which are covered by the scheme, are allocated a level of permitted emissions. If a company wishes to emit above this level, it must buy credits from other participants in order to cover this increase. Likewise, a company that manages to decrease its emissions below the cap will be entitled to sell those spare credits.

However, an early issue with the scheme was that initially it was not possible for a company which was subject to a cap under the EU ETS to use emission reductions gained under a CDM project – CDM being an inter-state mechanism, although with private sector participation – to meet that cap under the EU ETS as a trading system between companies. The Linking Directive[1] was therefore introduced to amend the Emissions Trading Directive[2] to allow Member States to provide for credits earned through the Kyoto project mechanisms to be used for compliance of companies with the EU ETS. This therefore creates a link between the Protocol-level mechanisms, and the EU-level ETS. The use of CERs permitted by these Regulations only applies to Phase I (2005–7) of the EU ETS. For Phase II of the EU ETS (which covers the same period as the first commitment period under the Protocol, 2008 to 2012) a mandatory limit on their use is to be applied, consistent with the principle of supplementarity. This limit is to be fixed in national allocation plans, and the Phase II limit for the UK was specified as part of its National Allocation Plan ('NAP') for Phase II, which was submitted to the European Commission in August 2006.

One CDM credit is equivalent to one allowance under the EU ETS, known as an EU Allowance or EUA (they each equate to 1 tonne of CO_2). The Directive permits Member States to allow companies to surrender credits from CDM projects in place of the equivalent number of ETS allowances. However, it is important to note that although the credits may be 'equivalent', the market is taking varying views regarding the comparable value of CERs and EUAs, with the price of CERs currently being lower than those of EUAs.

Examples of factors influencing the discrepancy in the prices include the ITL risk mentioned above. However, if the ITL is put in place before 2008 then the relative value of CERs could rise since they would represent an asset which could be transferred across national registries (although another variable here is that this would not apply equally to Phase II, when the caps on use of CERs in the EU ETS becomes relevant).

Credits will not become available for compliance until early 2007 when the ITL is to be established at the UN level. In the meantime, credits can be held in the CDM Registry and will be forwarded to project participants' accounts in the UK Registry when a link is established.

Trading Activity: Problems and Solutions

CERs are purchased from project companies under agreements known as emission reduction purchase agreements ('ERPAs'). Purchases of this type are known as the 'primary market', while the secondary market relates to onward transactions from project sponsors or developers to other parties. The International Emissions Trading Association ('IETA') has issued a standard form ERPA[3] which addresses the general risks dealt with in trading agreements while also covering the particular risks associated with the Kyoto mechanisms.[4] An example of these risks is highlighted by the fact that such contracts are currently often subject to conditions precedent that the ITL will be implemented and that the parties are eligible for international emissions trading.

The Linking Directive increased liquidity in the market but also introduced a further potential cause of volatility in that market. This was amply demonstrated in May 2006 when the price of carbon emission rights under the EU ETS plummeted from €29 per tonne to €13 as reports came out that a number of regions, including Spain, had generated emissions significantly below their allocations. Demand on the market slumped and prices tumbled; if emissions across the continent did not exceed the allocations, the price of the credits would be called into question fundamentally. This price volatility fed through into volatility in the price of CERs, with the price suffering a collapse in May. The current price of CERs is around €8 to €12. Looking forward, we would expect this price to be positively affected by the fact that stricter emissions reduction targets will be placed on parties in Phase II of the EU ETS, which should create an upward pressure on prices. We expect this to be exacerbated by the effect of the Stern Report which is likely to put increased pressure on the Commission to limit emissions further.

However, looking forward too far itself presents participants with another cause for concern and/or uncertainty, in terms of the 'black hole' that is Kyoto post-2012. While the EU issues communications regarding its approach post-2012, the reality is that participants are largely in the dark concerning the form of the Protocol and its obligations after this date. Commentators foresee a continuation of the 'cap and trade' approach, perhaps with price caps on the credits produced, to reduce the potential harmful effects of severe price increases. On the positive side, the example of the Linking Directive is seen by many as providing a useful blueprint for participation in the future (that is, post-

1 2004/101/EC.
2 2003/87/EC.

3 A further version of the IETA ERPA was issued in September 2006, which was intended to address issues raised regarding previous versions.
4 The IETA has also issued a standard form Emissions Trading Master Agreement for use in respect of the EU ETS.

2012) by willing non-parties or companies within those countries (such as the United States).

Various other initiatives have been set up to encourage both development of CDM-related projects and trading of the CERs created by those projects. For example, a number of international financial institutions or multilateral banks are setting up bodies to encourage trading in credits. For example the World Bank has set up the Umbrella Carbon Facility, with the European Bank of Reconstruction and Development (together with the European Investment Bank) currently looking to establish a Multilateral Carbon Credit Fund (MCCF).

The MCCF is limited to Countries in Transition covered by the EBRD and will acquire project-based carbon credits from EBRD and/or EIB projects within those countries which produce greenhouse gas emissions reductions. It will be open to private and public sector participants and the process of liaison with the project companies and the participants will be managed by private sector Carbon Managers chosen by the EBRD.

The idea behind the MCCF is that the EBRD has a unique knowledge of the countries covered by the fund, with the relevant projects having been subjected to a high level of due diligence by the relevant institution. Those institutions also have direct access to host governments and have a history of successful interaction with such governments. The Carbon Manager would then provide expertise in terms of assisting the project developers in taking the project to successful completion and acting as the intermediary purchasing entity from those projects and selling on to private participants or to the EBRD on behalf of the public sector participants.

In addition, since 2003 the EIB has established a €500 million Climate Change Finance Facility for capital investments contributing to the generation of carbon credits tradeable in the EU ETS, including €100 million which is allocated for CDM and joint implementation projects.

As this summary demonstrates, there are a number of initiatives in place to increase liquidity in the market. However, issues remain in the form of perceived flaws in the Kyoto process itself. Only time will tell whether those flaws are resolved, or the perception is changed. Indeed, with the immense uncertainty surrounding the position under the Protocol post-2012, time itself may be a contributing factor. Unless the necessary plans are made however, then both the climate, and the carbon market, could suffer.