

Can Private Investment Deliver on MEA Objectives? The Example of the Kyoto Protocol's Clean Development Mechanism

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The Kyoto Protocol's Clean Development Mechanism (CDM) is a pioneering instrument through which private investment is expected to help achieve the goals of a multilateral environmental agreement (MEA). It therefore serves as an excellent case study for this conference. The following brief analysis begins with some background on the goals and the structure of the CDM, and then gives a brief update on its progress to date. Finally some lessons are drawn with relevance to the broader effort to have private investment contribute to the goals of MEAs.¹

The CDM: Some Background

The CDM has two related objectives, set out in the Kyoto Protocol's Article 12:

- 1) To assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and;
- 2) To assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3".²

It allows private investors to undertake GHG-reducing activities in developing country Parties to the Protocol that do not have commitments to reduce greenhouse gases. Those investors are then granted credits for the reductions they thereby achieve, in units that can be sold on international markets, or used to fulfill any emissions reduction obligations they may have in their home states.³

Given that any reduction achieved in the host state is matched by allowance in some Annex I state to emit that much more and still be in compliance, one of the key conditions for CDM projects is that they be *additional*; that they would not have occurred under a business-as-usual scenario.

Another condition is that the host state must formally approve the project as conforming to its definition of sustainable development. That is, this definition is the prerogative of the host state – a right for which developing countries fought hard during the negotiations.

¹ This short paper draws heavily from analysis undertaken for an IISD research paper: *Realizing the Development Dividend: Making the CDM Work for Developing Countries* (2005) (www.iisd.org/climate/global/dividend.asp)

² UNFCCC Kyoto Protocol, Article 12.2. Annex I lists those Parties—developed countries all—that have undertaken emissions reduction commitments.

³ In the final event the resulting credits are actually split between the investor and the host state.

The credits, known as Certified Emission Reductions (CERs) can be traded on international secondary markets. Current prices vary (depending on project risk, among other things) between USD 5 – 9 per metric tonne of CO₂ equivalent (MtCO₂e). They can also be used by firms to comply with the EU obligations, having currency under the EU's Emissions Trading System.

The Kyoto Protocol limits the emissions of Annex I Parties only in the period between 2005 and 2012 – the so-called first commitment period. Projects may begin to get credit for actions under the CDM sooner than that, starting immediately. But any emissions reductions occurring after 2012 have no value under the current agreement. Negotiations are due to begin this year on the shape of a successor agreement to the Kyoto Protocol.

The incentives all seem right in theory. Investors have a financial incentive to invest in GHG emissions reductions, or to modify planned investments to make them more climate-friendly. Actions in developing countries to reduce emissions are much cheaper per tonne than those undertaken in Annex I countries, so the system contributes to the second part of its objective, helping Annex I countries achieve their commitments in a cost-effective manner.

The first part of the objective—sustainable development in developing countries—is to be achieved as a spin-off from the investment itself. Many of these investments will have significant co-benefits: environmental, social or economic benefits not directly related to climate change mitigation. For example, fuel switching or energy efficiency investments reduce airborne pollution, with attendant public health benefits. And any type of investment potentially carries socio-economic benefits such as increased aggregate income, forward and backward linkages in the host economy, technology spillover benefits, and so on.

The CDM: Rating its Performance to Date

It is too early to give any definitive rating to the performance of the CDM. The Kyoto Protocol only came into force as of February 2005. As such, only four projects have been registered by the CDM's Executive Board (EB) – a step that finally clears the way for a CDM project to begin.⁴ Another 88 projects are in the process of being approved for registration, and another 96 are still in the (prior) process of having their methodologies approved by the EB. More projects join the CDM “pipeline” every day.

⁴ All data in this section is accurate as of April 6, 2005. To finally be credited with CERs, projects will also need to go through monitoring and verification stages.

Yet despite the early stage of the process it is still possible to characterize the emerging regime, and identify several strengths and shortcomings.

Strength: The performance of the market mechanism

The market mechanism looks to be performing brilliantly at delivering cost-effective emissions reduction credits to Annex I countries. A whole class of projects has emerged that was not envisioned when the CDM was created – opportunities that arguably only the market could have discovered and delivered. They are end-of-pipe technologies for decomposing highly potent GHGs during industrial processes. Two of the four approved projects to date are manufacturers of HFC₂₂, who are capturing and decomposing a by-product that was formerly vented to the atmosphere: HFC₂₃. This compound being 11,700 times as potent a GHG as CO₂, each tonne captured earns 11,700 CERs. Thus, these two projects alone constitute 30% of the expected CERs from the 92 projects either approved or in the process of approval. A recently approved methodology for N₂O decomposition offers the same sort of potential, and if approved the project in question will garner *three times* as many CERs per year as the larger of the two approved HFC₂₃ projects. Analysts predict many more such projects to come through the pipeline now that the difficult process of methodology approval has been tackled by these pioneers. Costs are estimated as low as USD 0.50 per tonne—much lower than the prevailing price for CERs (USD 5-9), and much lower still than the price of reducing tonnes of CO₂e in OECD countries (as high as USD 100, if compliance had to be achieved only through domestic actions).

Limitation: But is it sustainable development?

The delight of Annex I countries in the success of the market mechanism is not matched by across-the-board delight in non-Annex I countries. The projects in question yield, by any measure, very little in the way of sustainable development benefits.⁵ They have no local environmental or public health impacts, they create little employment or technology spillover impact. Their linkages in the local economy are pretty well non-existent.

And yet by their sheer size, this class of projects may lower the price of CERs, and compete for CDM investment, such that they make many other CDM projects unviable. Projects with high sustainable development benefits, in the areas of renewable energy and energy efficiency, are both more costly per tonne of CO₂ reduction, and more risky in terms of new technologies and processes. By comparison, they suffer a number of disadvantages. Yet these were the types of investments negotiators had in mind when the mechanism was created.

⁵ But note that they have, of course, been approved by their host governments (India and South Korea) as contributing to sustainable development.

The fear is that the market mechanism has been *too* effective at its task, and has left behind what was supposed to be the incidental benefit – sustainable development.

Limitation: Business vs. bureaucracy

The CDM is an initiative conceived and administered by government bureaucrats and negotiators in the UN system. It is to their immense credit that they have pioneered this effort, but there are signs of culture clash between the bureaucrats and the private sector stakeholders who are using the system.

The issue of additionality illustrates this problem. As noted above, all projects must be additional to what would have occurred in a business as usual scenario. They must demonstrate that fact using a multi-step “additionality tool.” Step 1, for example, gives proponents the option of demonstrating that host country regulations are so poorly enforced that they should be ignored in considering whether a particular project is additional. That is, even where a practice is required by law, it could be considered not to be business as usual if the law is never enforced. In reality no investor would make such a public argument about the state where it hoped to take up economic residence.

Several key elements of the tool are simply invitations for proponents to perform creative writing or creative accounting. The financial additionality criterion (step 2) is an example of the latter, asking proponents to show that CERs worth \$5/tonne will tip the scales to make projects financially viable. Outside of HFC decomposition projects very few if any will be able to demonstrate this; any project that would qualify would be considered fundamentally too weak in the eyes of investors and financiers. Also, it goes against basic business practice to make this kind of financial information public, where competitors can find it.

Barriers analysis—an alternative to financial additionality whereby investors can demonstrate that the project faces barriers insurmountable under a business-as-usual scenario—is seen as similarly strange from a business perspective. Overcoming barriers is what business does; it is what separates the winners from the losers. It seems strange to reward firms for painting a picture of barriers they cannot overcome.

The *impact of registration* step (step 5) asks the proponent to demonstrate that registration as a CDM project will overcome the barriers or financial hurdles to allow the project to proceed. This sounds fine in theory, but in fact no investment decision can be broken up into component parts in this way, with any one being identified as the factor that makes the critical difference. Again, the demand here is for storytelling, which can be and will be done as required, but is a poor basis for business involvement in the Kyoto Protocol.

A related overall criticism of the CDM is that the approval process is far too slow and complex. Projects can take years to be approved. Any project that is fundamentally strong cannot wait that long, and will proceed outside the framework of the CDM, leaving the CDM roster full of financially shaky propositions. The slowness involved—a function of an underfunded, understaffed EB, unduly complex procedures, a project-by-project approval approach, and meticulous care under the eyes of suspicious environmental NGOs to approve only projects that are additional—is not particularly abnormal by UN or national government standards, but is dysfunctional from a business perspective.

The result, of course, is a much smaller volume of projects than the full potential – and smaller than is needed to fulfill the market demand for CERs. Given the current average size of project in the pipeline, some 750 – 2,200 projects would be needed (most in the next few years) to satisfy estimated demands. Yet the current system is stalling at the seams in approving just a fraction of that number. Granted, the process will become easier as methodologies are approved and are available for use by subsequent project proponents. But by any reckoning the scale of the need will outstrip the system’s capacity to supply credits.

Prices will rise somewhat as a result, but the more significant result will be increased purchases of credits through the other Kyoto mechanisms – emissions trading and joint implementation, neither of which have any requirements for sustainable development impacts, and which represents a failure of the Kyoto Protocol to fully exploit the potential of private investment in fulfilling its objectives⁶.

Broader Lessons

The lessons of the CDM experience to date are clear, but must be moderated by the understanding that the final shape of the CDM has yet to be determined. What follows are preliminary assessments only, based on an emerging, rather than a final, regime.

First, other such efforts must anticipate that the market mechanisms employed may be quite successful at their primary goal, but that it may take some ongoing guidance to manifest the “invisible hand” that works toward any desired incidental objectives. As such (and in any event), careful crafting of the

⁶ Joint implementation does involve private investment – it is a CDM-like mechanism, but involves investment from Annex I countries into other Annex I countries. If anything, however, JI has been even *more* plagued than the CDM with investment-detering complexity and uncertainty.

instruments will be required, and the regime should have built-in provisions for flexibility and adaptive learning.

Second, the cultures of business and bureaucracy are different, but must co-exist in any effort to use private investment to achieve the objectives of MEAs. As such, in the design of any regime negotiators should consult broadly with the business community (as well as other stakeholders) in a way that would be normal practice at the domestic level in most OECD countries. As well, there should be mechanisms for direct communication between the business community and the administrators of the mechanisms, both for the sake of expedited day-to-day operations, and in order to facilitate adaptive learning and improvement of the regime in the longer term. The OECD's BIAC is an example of such a mechanism. If the final shape of the regime is too complex and unworkable from a business point of view, it will ultimately be of limited value.

In a related vein, it should be noted that there will always be tension between the fundamentally political nature of MEAs and the needs of private investors. A case in point from the Kyoto process: unless Parties can soon agree on the value of carbon post-2012 (that is, after the first commitment period), new investment in the CDM will quickly begin to dry up. Given a drawn-out approval process and a several year start-up time, the window of opportunity to get credits in the first commitment period is quickly closing. But there is little hope that negotiators will soon settle the hot issue of what sort of regime should succeed Kyoto.

Finally, the CDM shows that it *is* possible to have private investment contribute meaningfully in the pursuit of the objectives of multilateral environmental agreements. For all its faults, the CDM is a critically important innovation, both in its contributions to the Kyoto Protocol and more broadly in the example it sets for other such attempts.