The Deadlock of the Clean Development Mechanism: Caught between Sustainability, Environmental Integrity and Economic Efficiency

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1. Introduction

At first sight, the Clean Development Mechanism (CDM) tells a story of success. It has been rapidly developing as an important element in international climate policy by providing to industrialized nations a cost-effective means of complying with their greenhouse gas reduction commitments entailed in the Kyoto Protocol. There are currently more than 1150 registered CDM projects in 50 developing countries, and about another 2000 projects in the project registration pipeline. The registered projects have so far resulted in 180.748.431 issued CERs. The CDM is expected to generate more than 1.3 billion CERs by the time the first commitment period of the Kyoto Protocol ends in 2012, each equivalent to one tonne of carbon dioxide.[1]

Defined in Article 12 of the Kyoto Protocol, the CDM provides for Annex I Parties to implement project activities that reduce emissions of greenhouse gases (GHGs) in developing countries, in return for certified emission reductions (CERs). The CERs generated by such project activities can be used by Annex I Governments to help meet their emissions targets under the Kyoto Protocol. They can also freely be traded on the emissions trading scheme or used for investment purposes. Article 12 also stresses that CDM projects are to assist the developing country host Parties in achieving sustainable development and in contributing to the ultimate objective of the UNFCCC.

Despite the encouraging responses so far, it has become clear that the CDM is burdened with structural flaws, which must be dealt with if the mechanism is to

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[1] http://cdm.unfccc.int/Statistics/index.html (last visited 22.08.2008).

achieve long-term climate benefits. These flaws can be linked to the colliding interests informing the mechanism. The protection of the CDMs contribution to sustainable development and its environmental integrity on the one hand is counterweighted by demands of procedural efficiency and economic feasibility on the other. Yet, while most of the participants, i.e. investors, project developer, host countries and Annex I Governments, in the CDM cycle have a strong interest in realizing low cost emission reductions and receiving cheap CERs, ensuring the environmental integrity and its contribution to sustainable development rests entirely on its framework and legal safeguards. In the absence of checks and balances, legal rules and careful administration are the only safeguards against fraud and corruption.

If the rules and UN administration of this mechanism are not strong enough, it can actually result in an increase in global GHGs emissions. So far, the intentions behind the CDM mechanism are good, but the rules and their exercise are not.

It remains crucial that a CDM project delivers real climate benefits (environmental integrity) while supporting sustainable development (in particular energy sustainability) of host countries. Yet, a legal challenge remains of how to simultaneously pursue all three elements: to reduce emissions reductions in developing countries in a way that contributes to sustainable development in a reliable, transparent, quick and cost-efficient manner.

This paper first briefly describes the current crisis of the mechanism before analyzing the (often) colliding considerations that inform the CDM. In the final part, it suggests various proposals for political and legal reform.

It will be shown that demands of economic efficiency required to attracting investment in CDM projects often outpace legal and institutional safeguards of sustainable development and environmental integrity. It is argued that unless the global carbon market in general and the CDM in particular are grounded on a sound commitment to sustainability no real long-term climate benefit can be expected.

2. The CDM in Crisis

From its inception, it has been clear that the CDM was intended to serve a temporary role. For as long as developing countries remain not bound by quantified emission reduction targets, the CDM is a means for reaching out to these countries by

providing a financial incentive for climate investments to and climate mitigation action in developing countries. Despite (or because of) its temporary character the market strongly embraced the mechanism. The high demand for CERs and the large number of projects spurred the CDM machinery. As a result, the UN CDM institutions and the regulatory framework have been strained by the market surge. Yet, the effectiveness of the CDM in delivering its triple goal depends on its methodological, institutional and legal safeguards. By being faced with strong market forces it has become evident that the CDM is its current design is flawed. The deficiencies which the CDM encounters are many. I will only outline a few:

a) Non-Additionality of Projects

Article 12 of the Kyoto Protocol requires the CDM to generate emission reductions that are real, measurable, long-term and additional to any that would have occurred in the absence of the project.[2] In other words, an emission reduction project is 'additional' when the project goes beyond business as usual und thus deserves to be rewarded with tradable credits. If a CDM project is not additional but nevertheless leads to the issuance of CERs, these credits result in an increase in global GHG emissions as they enable Annex I countries or companies to emit more GHGs whereas the emission reductions from the project in the non-Annex I country would have occurred anyway.

Several recent surveys showed that for a high number of registered projects the additionality criterion was not fulfilled. Between 40% and 70% of the analyzed projects would have been carried out anyway, even in the absence of carbon finance.[3]

Demonstration of additionality is not straightforward. The controversial issue is that the question as to whether emissions reductions would also have occurred in the absence of the project is hypothetical and needs to be measured against a counter-

[2] Article 12.5 of the Kyoto Protocol defines a CDM project as additional if 'anthropogenic GHG emissions are reduced below those that would have occurred in the absence of the registered project activity'. It is similarly defined in 3/CMP.1, Annex, paragraph 43 as follows: 'A CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity' (3/CMP.1, Annex, paragraph 43).

[3] Delphy Survey, Oeko Institute/WWF, and Mass media, Guardian, BBC etc. In a Delphi survey by Öko-Institut, 71% of the participants agreed with the statement that "many CDM projects would also be implemented without registration under the CDM" and even 86% of the participants affirmed that "in many cases, carbon revenues are the icing on the cake, but are not decisive for the investment decision".

factual baseline. A baseline for a CDM project activity is a hypothetical reference case, representing the volume of greenhouse gases that would have been emitted if the project were not implemented.[4] The baseline can be used to determine whether a CDM project activity is additional; and the volume of additional greenhouse gas emission reductions achieved by a project activity. In other words, additionality can never be proven with absolute certainty. Moreover, the claim of financial additionality is often based on company-intern or even subjective criteria.[5]

The CDM Executive Board, the UN organ charged with registering valid CDM projects, has made some improvements in terms of setting up benchmarks and barriers for additionality analysis [6], while others are pending.[7] Still, the high number of projects and pressure on the CDM institutions leads to registration of projects, whose additionality is questionable. This problem is enhanced by the strong market demand in CERs and inaccuracies in project applications (projects design documents, so-called PDDs) as well as non-compliance with the original project proposal. These issues continue to haunt the CDM and affect its credibility.

b) Carbon Leakage and Rebound Effect

Another critical aspect of the CDM is the possible reallocation of polluting industries within the CDM host country or to other countries, so-called carbon-leakage. Because the CDM in its current form only validates and verifies reductions in GHGs emissions on a project base, it does not take account of increased emissions elsewhere in the country, or outside its borders, caused by the implementation of the project.[8] Suggestions have been made to meet this shortcoming. These include policy crediting and sectoral or target-based crediting.[9] Both types of mechanisms are not possible

[4] The baseline derived from a 'baseline scenario' for a CDM project activity is defined in 3/CMP.1, Annex, paragraph 44 as follows: 'The baseline for a CDM project activity is the scenario that reasonably represents the anthropogenic emissions by sources of greenhouse gases that would occur in the absence of the proposed project activity (3/CMP.1, Annex, paragraph 44)'.

[5] Michaelowa 2008.

[6] What exactly: investment return analysis?

[7] See Executive Board: Call for Public comments on the 'Proposal for an enhanced barrier test for project activities that have a potentially high profitability without CER revenues', CDM – Meth Panel, Thirty-third meeting, Report Annex 111/2. (http://cdm.unfccc.int/public_inputs/Panels/meth/033/mp_033_an11.pdf)

[8] Source

[9] See for an overview W. Sterk, *From Clean Development Mechanism to Sectoral Crediting Approaches –Way Forward or Wrong Turn?*, Wuppertal Institute, JIKO Policy Paper 1/2008.

under the current CDM. Similar to the issue of carbon-leakage is the effect that energy reduction generated by a valid CDM project can lead to increased energy consumption elsewhere. This energy saving-rebound effect was recently observed in an extensive study of Dutch CDM projects.[10] These are systematic flaws which only can be addressed by design changes.

c) *Negative Impacts on Biological Diversity, Local Communities and Water Quality*

The current design of the CDM credits projects which lead to GHGs reductions. Other effects on local populations or other environmental media are neither credited nor discredited. This is particular controversial with regard to forestry projects that reportedly led to decline in freshwater quality[11] and loss of biological diversity.[12] Similar concerns exist for large hydro dam projects that impact on river ecosystems and water quality and require reallocation of local populations.[13]
In order for the CDM to gain international acceptance and to provide a credible mean for addressing global (climate) inadequacies and inequities, these 'collateral' damages urgently need to be addressed.

d) *Adverse (Perverse?) Policy Incentives*

The CDM as a mechanism for engaging developing countries in climate change mitigation holds the danger of dis-incentivizing these states from taking strong climate measures on their own. Because developing countries experience an influx of green investment and technology via the CDM, there seems to be little need or willingness to exchange it for a binding obligation to cap GHG emission set out in an *international* agreement. A cap on national emissions would not fit well with the current design of the CDM as a baseline-and-trade mechanism. Though the CDM is generally adaptable to such change, the possibility of losing CDM related investment

[10] IOB Evaluations, *Clean and Sustainable? An Evaluation of the Contribution of the Clean Development Mechanism to Sustainable Development in Host Countries*, April 2008, Ministry of Foreign Affairs, The Netherlands.
[11] Source
[12] Source
[13] Insert relation to World Commission on Dams

and revenue acts as a 'political chill' in climate negotiations about capping developing countries' emissions.[14] Proposals exist that aim at restructuring the entire CDM by replacing narrowly project baselines with sectoral or policy baselines. For reasons of space, they will remain outside the scope of this paper.

Moreover, the additionality criterion in its present state can create adverse policy incentives to *national* climate change mitigation and clean energy regulation. The potential of CDM projects to generate much-needed investment flows into a host country has led some developing countries to back off from more progressive energy or climate policies and respective legislation. These policies and laws, if integrated into the baseline, would disqualify CDM projects that aim at meeting these new standards or thresholds for reasons of missing additionality.[15] Also the idea of a mandatory environmental and sustainable impact assessment for all CDM projects has been seen as an infringement of the sovereignty of potential host States. As a result the final language of the agreement is weak, requiring nothing more than an 'analysis of environmental impacts only if the host country makes it mandatory for the project to be approved'.[16] The CDM Modalities and Procedures do not provide for the situation that the host country does not have any laws on environmental impact assessment. If stakeholders have concerns about the local environment or social impact of a CDM project, it should be evaluated under the highest international environmental and social assessment procedures and standards.[17]

However, the more stringent the rules on environmental and sustainable impact assessment are, the more costly might CDM projects become. Since a host country benefits from a CDM project, the absence of harmonized international rules may create an incentive for the host country to refrain from insisting on a thorough impact assessment, in order to make its own market attractive for CDM projects. 'The CDM's geographical flexibility,' warn *Meijer and Werksman*, 'should not become a means of channeling projects to host countries with the lowest environmental standard.'[18]

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[14] Source

[15] For examples in Ecuador, Mexico, Colombia, see C. Figueres, 2006, *Sectoral CDM*.

[16] Annex, Decision 17/CP.7, paragraph 37(c) and Appendix B, Art. 2(e).

[17] UNEP, *CDM Information and Guidebook*, 2nd edition. 2004, 61–2. However, the identification of international standards provides additional challenges. It has been suggested that existing international or regional standards, such as the Convention on Environmental Impact Assessment in a Transboundary Context (30 ILM 802; Espoo, 28 February 1991) or the World Bank's operational procedures on environmental assessment (World Bank Operational Policy/Bank Procedures 4.01) could be useful in this context. See Meijer and Werksman, 2005, 210.

[18] Meijer and Werksman, 2005, 210.

Internationally harmonized rules on impact assessment of a CDM project would counter such a perverse incentive.

e) Contribution to Sustainable Development?

Another critical aspect of the CDM is its contribution to the sustainable development of CDM host countries. It is the prerogative of the host country to determine whether a project contributes to sustainable development. Sustainable development benefits could accrue directly related to GHGs reductions, like e.g., technology transfer needed for GHG reduction, energy supply diversification, and improved energy efficiency. They can also be indirectly linked to GHG abatement by job creation, local community support, poverty alleviation, improved water quality and quantity. Yet, no common indicators or international standards have been accepted for measuring sustainable development. Praxis has shown that host countries have not been very critical in approving CDM projects with little or no added 'sustainable' value. Host countries often define CDMs contribution to sustainable development in line with existing national development strategies, which more often than not are based on economic development rather than sustainability. Although some countries, such as China, India and Brazil, have a definition of sustainable CDM projects, they fail to include quantifiable indicators to measure the outcome, or do not have the means for monitoring or enforcing the sustainability benefits.[19] Two recent reports also highlighted the fact that local stakeholders, and partly also host countries Designated National Authorities (DNAs), who are in charge of writing a letter of approval for each project application, are not really informed about the additional, economic and social benefits that could 'trickle down' to them from 'sustainable CDM projects'.[20]
The steep increase in international demand for CERs has led Annex I Governments engage in projects which have a strong benefit in terms of GHG reduction, e.g. HFC23 and fugitive industrial gases, but which contribute little in terms of sustainable development.[21]

[19] P. Castro and A. Michaelowa, Climate Strategies Report, 2008, 8.
[20] Ibid; and IOB Evaluations, *Clean and Sustainable? An Evaluation of the Contribution of the Clean Development Mechanism to Sustainable Development in Host Countries*, April 2008, Ministry of Foreign Affairs, The Netherlands.
[21] See IOB, 2008.

Despite the clear goal mentioned in Art. 12 of the Kyoto Protocol, achieving sustainable development benefits remains generally uncertain. The CDM institutions, i.e., the Executive Body (EB) and accredited Designated Operational Entities (DOEs), do not assess or review projects for sustainable development benefits; neither is monitoring of these benefits structurally integrated into the CDM, nor are procedures envisaged to enforce the benefits.[22]

Another critical issue relates to the question of how to balance two purposes of the CDM as written into the Kyoto protocol: cost effectiveness and promotion of sustainable development. Critics have claimed that basing GHGs emission reductions on a market mechanism will lead to pursuing emission reductions at the lowest possible cost and to purchasing CERs at the lowest possible price. Yet, this search for least-cost carbon credits sidelines sustainable CDM projects, e.g. renewable energy projects, by not rewarding the additional benefits they provide.[23] Ultimately, as one critic says, 'the CDM's first mandate to help reduce Kyoto Protocol compliance costs is making it impossible to fulfill its second mandate to promote sustainable development'.[24]

f) Sinking Credibility

In the wake of substantive criticism leveled at the way CDM projects are conducted, the credibility of the CDM has suffered. The fact that many projects turned out not to have been in need for carbon financing through the CDM and would have gone ahead anyway led to general skepticism of the UN system. Calls have consequently been raised to abolish the CDM altogether.[25]

A successful CDM project requires legal, technological and financial expertise, knowledge of the carbon market and the fruitful connection between project developers, host Governments and investors. Because of this intricate and complex

[22] Joint Implementation Quarterly, vol. 14, No. 2, July 2008, notes "Consequently, when a project generates CO2 eq. emission reductions but fails to deliver all envisaged sustainable development benefits, this will generally have little contractual consequences for the project partners. Even in cases that host country governments intend to enforce the compliance of the project to its design, they may lack the means to do so." at 5.

[23] Streck, CCLR 2007, 59.

[24] B. Pearson, The Clean Development Mechanism and Sustainable Development, available at: http://www.cru.uea.ac.uk/tiempo/newswatch/xp_comment050301.htm.

[25] See, for example, C. Hagem and B. Holtsmark, *Er det noen fremtid for CDM-ordningen?* Samfunnsøkonomen Nr. 5, 2008, at 10-18.

relationship, the CDM has turned out to be a 'cash-machine' for lawyers, accountants, economic counselors, brokers and intermediaries. Moreover, the CDM also generated in some cases substantive revenue and investment returns[26], which let to questioning the market rationale of the mechanism: is it still an economic means serving an environmental end or have economic rationales taken over?

After all, the CDM functions as an offset mechanism, allowing capped countries to emit higher amounts of GHGs than what they are allowed under their Kyoto protocol commitment and justifying their inaction at their own territory. In other words, via the CDM rich, polluting countries are able to buying their way out of their 'climate responsibility'.

The influx of high numbers of CERs has the effect of diluting the emission caps set by Annex I States. EUs '2008 Climate and Energy package' recognizes this concern:

> "there is a risk that too generous a use of CDMs can dilute the effectiveness of the ETS [EU Emissions Trading Scheme] by increasing the supply of credits and thereby cutting the demand for allowances, and reducing the incentive for governments and companies to promote emissions reductions at home. This can also limit the ETS' capacity to act as the key driver to realize the target for renewable energy'.[27]

The EU proposal is a clear indication of the diminishing credibility of the CDM.[28]

In this context suggestions gain weight which aim at restructuring the CDM away from an off-set mechanism to a crediting mechanism that would truly combine cuts in GHGs emissions with sustainable climate benefits in developing countries.[29]

g) Outstanding Issues

[26] 2008 BBC documentary about Chinese and Indian projects.

[27] *20 20 by 2020 – Europe's climate change opportunity*, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the regions, 23.01.2008, Brussels.

[28] More: US critical opinions on the CDM?

[29] See P. Zapfel, DG Environment, *From the EU ETS Review to the Global Carbon Market*, European Climate Change Law Conference, Berlin, 25.07.2008 (presentation on file with the author). Also: M. Cames, *Discounting CDM in a Global Carbon Market – Component of a Post-2012 Agreement?*, Side Event at the Climate Change Talks, Accra, Ghana, 16.08.2008. (available at: www.unfcccc.org). L. Schneider, *Key lessons learned on the CDM and its use in the EU ETS Briefing paper for a workshop by Ecologic at the EU Parliament, 3 June 2008.* (available at: http://www.ecologic-events.de/cdm-workshop/documents/schneider_briefing.pdf).

The CDM is not a finished product and the regulatory tools are not developing at the same speed as the market is driving the mechanism. Regulation of the CDM happens on a 'learning while doing' basis and is marked by 'trial and error'. A number of critical issues remain unresolved and contentious. In terms of methodologies for present or future project areas, the following remain under constant criticism: HFC 23 projects,[30] Carbon Capture and Storage (CCS) projects,[31] biofuel projects,[32] forest projects (especially when including genetically modified plant species or mono-cultural tree plantations),[33] and large hydro dam projects.[34] Other outstanding issue regarding the implementation of the CDM is the question of *supplementarity*, i.e. the quantification of what part of their emissions reduction commitment Annex I Parties can cover by using CERs. In other words, should climate targets be met where they are cheapest or are there any other restrictions on where climate mitigation measures are to be implemented?[35] This issue relates to the deeper dilemma of how to balance global cost-effectiveness in climate mitigation with demands of global equity and responsibility. Although emission reductions in developing countries can (still) be realized at lower costs than in industrialized countries, this does not mean that they are an excuse for inaction and 'business-as-usual' 'at home'.

This also relates to the question of quantitative and, possibly, qualitative limitations buyers, especially governments as buyers, can impose on the purchase of CERs. Finally, uncertainty also concerns *retroactive crediting* of projects i.e. the crediting of projects which have started years ago (e.g. in 2001) but request carbon credits only years later. In order to secure that the CDM delivers additional GHG reductions the retroactive crediting of projects should stop, since in such cases it is not very convincing that the CDM was seriously considered in the investment decision.

These are only few, but important, issues and questions which still warrant answers.

h) What are the Ethics behind the CDM?

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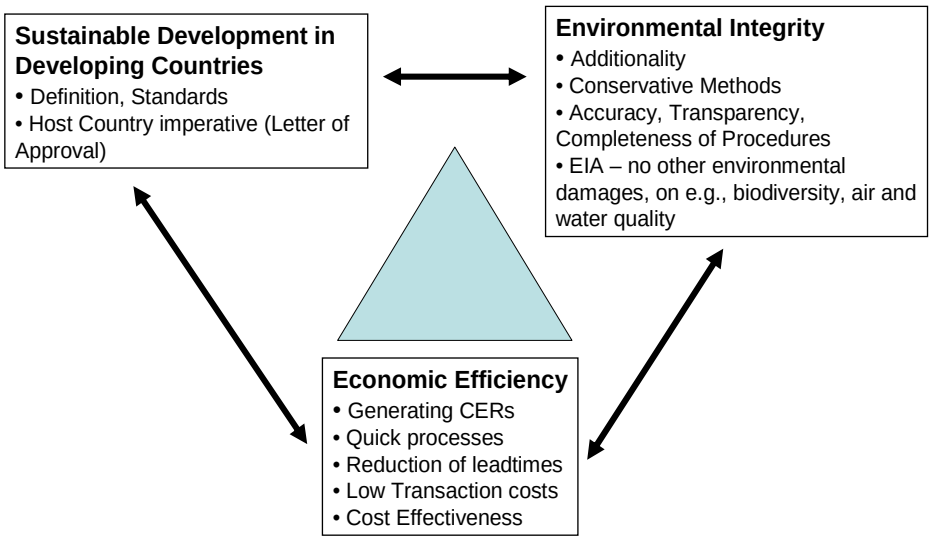
35 H.-J. Luhmann and W. Sterk, *Climate Targets – Should they be met at Home or where it is Cheapest?* Friedrich Ebert Stiftung, July 2008.

Finally, in our – not exhaustive – list over critical components of the CDM is the question about which ethics actually inform the CDM. Is the CDM aimed at securing its environmental integrity, and if so, what does that actually entail? Is – in line with a deontological ethics - every CDM project 'right' as long as it delivers (additional) GHG reductions? Or is it - in line with utilitarian values - supposed to deliver to market demands of increased economic efficiency and cost-effectiveness of climate mitigation measures. Or is the CDM based on a consequentialist ethics of bringing about the sustainable development of the 'South'? The answer probably lies somewhere in the middle, or is simply 'both'. However, by trying to serve 'different masters', different interests are pursued, which often compete against each other.

3. The Core of the Problem: Competing Interests in the CDM

At the heart of the CDMs crisis lays a tridimensional problem; the pursuance of (at least) three different and (often) competing interests: environmental integrity, sustainable development and economic efficiency (see figure 1).

Figure 1: Competing Interests



On the one hand, the CDM is supposed to deliver real, measurable and lasting climate benefits; this capacity often referred to as its environmental integrity. The environmental integrity of the CDM rests largely on the 'integrity of the process'

carried out by the UN institutions and organs and corresponds to the technical and administrative capacity of the Executive Body to develop and apply methodologies that validate projects and certify emissions that are additional to those that would have occurred in the absence of the CDM. The integrity of the CDM thus depends on applying conservative methods, on accuracy and transparency, and the exercise of precaution in decision making. Moreover, it depends on the confidence of the Executive Board to reject projects or not certify registered projects if they fail to meet agreed criteria. It also requires decision making that is not politically biased or influenced or under the threat of legal compensation claims for financial losses of project participants.[36]

The second 'pillar' of the CDM is the promotion of sustainable development of host countries. As mentioned above, a number of uncertainties exist in this respect. Yet, the requirement of additionality is intricately related to the sustainable development goal. In praxis, projects that are clearly additional have proven to very little contribute to the sustainable development of host countries. Projects that are undoubtedly additional are those that would only cause costs without the CDM, such as HFC 23 and projects involving other industrial gases. Yet, these projects use end-of-the-pipe technology which does not bring about any technological changes in terms of avoiding the generation of GHGs or any other sustainable benefits. Some of those projects even give incentives for producing more GHG gases.[37] On the other hand, projects that do contribute to sustainable development (e.g. renewable energy projects, fuel-switch projects) are often not additional. The CDM does not play any or only an insignificant role in the investment decision. Investment in these kinds of projects is often based on 'business as usual' economic calculations.

Finally, in order for the CDM to play a role in the climate market while being a significant response to climate change, it must succeed in attracting a 'critical mass' of participants, especially project developers and investors, that are willing to participate in 'good' CDM projects, i.e. projects that are both additional and contribute to sustainable development. This will require transparency, consistency, certainty and predictability of the process, reduction of lead times (especially the duration of review) and transaction and administrative costs, and increased overall

[36] Werksman, 2008, 99.
[37]

efficiency and cost-effectiveness.[38] The dilemma, however, is that projects that are both additional and contribute to sustainable development are extremely rare and often have to go through a long, intransparent and very bureaucratic process before registration, which affects their economic efficiency.

In this context *Werksman* notes, 'At issue is the tension between the care required to ensure the environmental quality of projects, and the bureaucratic efficiency and technocratic precision required by the demands of the market.'[39] The crisis described above indicates an imbalance of interests tilting towards market demands and surrendering to market imperatives. It also indicates that the care required to ensure environmental integrity and to deliver to all three goals of the CDM is not systematically built in into the design of the CDM. This situation demands a re-evaluation of the CDM and the role of its governing organ, the Executive Board (EB).

4. Which Way to Go?

The CDM has reached a water shed point: the next step will be decisive for its future. Is the CDM fatally flawed and a failure? Will its credibility sink to the point of being entirely rejected? Or is it worth to embark on a journey of reform?

Given the current stagnation of the international climate negotiations, in my opinion, the CDM is worth to undergo substantial reform. There are several reasons for preferring reform to rejection.

To start with, the CDM is not dead.[40] It is of no use to reject it altogether and thereby 'throwing the baby out with the bath water'. Trying to get rid of the CDM as a bad thing might succeed in destroying whatever good there was as well. The CDM is an innovative mechanism that builds a bridge over the 'North/South' gap in the Kyoto Scheme, and it brings together private economic interests and public climate policy by helping to channel private sector investment toward climate friendly projects that otherwise might not have taken place.

So far, the CDM has no alternative. In international climate negotiations developing countries show a strong reluctance to committing to quantified emission targets.

[38] See Streck, *The Governance of the Clean Development Mechanism: The Case for Strength and Stability*, 15 Environmental Liability 2, 2007, 91-100.
[39] Werksman, 2008, 99.
[40] Or in other words: 'The reports of its death are greatly exaggerated' – to rephrase Marc Twain when reading his own obituary in an American news magazine.

Moreover, there are strong expectations that for reasons of historical responsibility and capability climate mitigation action conducted in the 'South' should be financed by the 'North'. Such expectations are legitimate and in line with the principle of common but differentiated responsibilities and respective capabilities, included in Article 3.1 UNFCCC. Yet, developed countries demand developing countries with the strongest economies to commit to emission cuts.[41] The European Union, Japan and Australia are among those nations that claim it unfair to expect 'the rich group from almost two decades ago to keep on taking the lead'.[42] This catch 22 might be a defining aspect of the international climate negotiations for a long time to come.

Climate action is urgently necessary both in the developed as well as the developing world and the CDM is so far *the only* international mechanism to financially and politically reach out to developing countries and implement much needed technology changes.

Moreover, the problems described above are not intrinsic problems or the CDM. Rather they are linked to missing political willingness to set up a strong and secure framework for the CDM ensuring its environmental integrity. The market will always attempt find a way to cheapest emission cuts. As a result, the effectiveness of the CDM to reduce emissions and create sustainable benefits depends on its regulation, monitoring and enforcement. The market provides the 'players,' but the rules of the game need to be carefully stacked out.

Therefore, the task should be to make the CDM *better, safer and stronger* and to make it deliver to the goals it has ascribed to: long term, measurable, additional emission reductions that contribute to the sustainable development of 'uncapped' developing countries. There is ample room for improvement, though little time. In my opinion, reform, including *legal* reform, is not only possible, it is necessary to make the CDM survive the current crisis. These changes need to be *systematically* implemented into the design of the CDM and they have to happen quickly.

5. Legal Reform: Making the CDM Better, Safer and Stronger

[41] See Planet Ark, *Rich or Poor? New Faultline in UN Climate Talks*, 29.08.2008, available at: www.planetark.org/avantgo/dailynewsstory.cfm?newsid=50006.
[42] Ibid.

Reform needed to revitalize the CDM has to happen on different levels and in different arenas. Political will and leadership is important as well as financial support. But also the legal framework of the CDM, its administration (and administrative regulation) and the possibility for judicial review of decisions made by the organs governing the CDM are defining elements in the course of reform.

In what follows I will try to highlight some legal changes and proposals that aim at securing the delivery of the CDM to its ascribed goals. In detail I will look at the following elements (a) rule of law; (b) standards for sustainable development; (c) definition of environmental integrity; (d) stakeholder involvement; and (e) judicial review.

a) Rule of Law

In order for the CDM to function on its premises it has to be based on the rule of law. In general, the rule of law agenda has been formulated as imposing restraint on the actions of political leaders and providing predictability for the citizenry. The World Bank has offered the following definition, ”the rule of law requires transparent legislation, fair laws, predictable enforcement, and accountable governments to maintain order, promote the private sector growth, fighting poverty and have legitimacy.”[43] In terms of the CDM, the rule of law translates into (i) setting up clear and comprehensive rules, (ii) transparency, consistency and predictability in decision making (due process), participation and information, and (iii) possibility for judicial review and appeal.

To start with, ambiguous and broad wording in COP/MOP documents leave much room for clarification and interpretation by the EB, which leaves to uncertainty and unpredictability. Reform of the CDM would need to seek that new rules and decisions are *phrased clearly and precisely* in their content, leaving little room for circumvention.[44] With regard to the existing framework, it would be advisable to ask the UNFCCC Secretariat for *authoritative interpretations* on a number of controversial issues.

[43] The World Bank, *Initiatives in Legal and Judicial Reform*, Washington, DC: The World Bank, 2004, p.4.

[44] For example, definition of ’financial additionality’

The existing regulatory framework of the CDM has amounted to an intricate system of a high number of documents containing COP/MOP decisions and decisions of the EB. Many of the rules governing the CDM came about in an *ad hoc* manner and lead to a fragmented system, where single, technical issues are dealt with separately. Providing an official *compilation* of the documents in an ordered, systematic and regularly up-dated manner would promote legal security of the CDM to.

Problems of intransparency, inconsistency and unpredictability of decision-making partly relate to *communication deficiencies* between the main CDM institutions, bodies and sub-bodies and project participants. The number of institutions and bodies involved during the project cycle is increasing. For example, since April 2007 the UNFCCC Secretariat has become more evolved by being asked to issue a guidance note on each project application (PDD). Another example is the recently created Registration and Issuance Team (RIT) which has been endowed with the task to assist the EB when considering requests for registration of project activities and requests for issuance of CERs submitted to the Executive Board by DOEs. The RITs decisions are highly influential, yet neither its documents, nor meetings and decisions are open to the public. Clear rules of and guidance through the administrative procedures and competences of the organs involved would help increase transparency.

Information needs to be provided to the project participants by the EB about the status of their projects at all stages of the project cycle. Such openness would increase fairness of the process and predictability of the outcome of EB decisions making.

Decisions-making also remains highly unpredictable. Recent objections and criticism directed at the EB from NGOs and the private sectors have led to a sudden increase in reviewed and rejected projects. While this, of course, is a laudable development, it shows, however, that decision making can become *politically influenced* and thus less predictable. Furthermore, analysts have listed a number of factors that influence the consistency and thus predictability of EB decisions: lack of collective or institutional memory in the EB due to rotation of its members, insufficient technical, administrative or/and financial expertise, and conflict of interests of EB members due to concurrent exercise of other functions, such as negotiators for their country or representative of designated national entities (DNAs) for the CDM.[45] Especially the

[45] See Streck and Chagas, CCLR 2007, 60, with further references.

last point often leads to political frictions and bias and hinders efficient and credible decision-making.[46]

Further, strengthening the role of the UNFCCC Secretariat in terms of providing binding authoritative interpretations of the COP/MOP legal texts to the EB would bring collective memory (the Secretariat is long-term staffed with specialised experts and lawyers) into the decision-making process of the EB.

Finally, in order to secure working capacity and impartiality of EB members, they need to be employed on a full-time basis, selected by competence (technical, administrative, financial and legal) and salaried via the UN system. Moreover, support by sufficient and skilled staff would ease the pressure to deal with important work in a qualified manner.

b) Standards for Sustainable Development

The absence of measurable standards or indicators is the main impediment to ensuring the contribution of CDM projects toward sustainable development. Despite the resistance of host countries to commit to binding standards for sustainable development, reform of the CDM needs to include objective, international *quality criteria* for local and global environmental sustainability, social sustainability and development; and economic and technological development.[47] Here is it important to make host countries aware of the additional benefits that could be generated via carbon financed projects. A post-Kyoto agreement and future decisions of COP/MOP ought to entail clearer formulation of the requirements of sustainability, both

[46] Streck and Lin, EJIL 2008, 417. Castro and Michaelowa, *Empirical Analysis of Performance of CDM Projects*, Climate Strategies Report, 2008. Flues, A. Michaelowa, and K. Michaelowa, *UN approval of greenhouse gas emission reduction projects in developing countries: The political economy of the CDM Executive Board*, CIS Working Paper, 2008.

[47] These standards could be formulated equivalent to those established by the Gold Standard Foundation (see: www.cdmgoldstandard.org):

Local/regional/global environment

Water quality and quantity; Air quality (emissions other than GHGs); Other pollutants: (including, where relevant, toxicity, radioactivity, POPs, stratospheric ozone layer depleting gases); Soil condition (quality and quantity); Biodiversity (species and habitat conservation)

Social sustainability and development

Employment (including job quality, fulfilment of labour standards); Livelihood of the poor (including poverty alleviation, distributional equity, and access to essential services); Access to energy services

Human and institutional capacity (including empowerment, education, involvement, gender)

Economic and technological development

Employment (numbers); Balance of payments (sustainability); Technological self reliance (including project replicability, hard currency liability, skills development, institutional capacity, technology transfer).

substantial and procedural, the latter including Environmental Impact Assessment (EIA) and/or Sustainability Impact Assessment (SIA).[48]

Where agreement on sustainability standards proves impossible, non-binding guidelines for developing countries based on national criteria, could be a second best alternative.

The advantage of binding, objective sustainability criteria is that they open for approval, monitoring and enforcement of compliance of the project with SD requirements. Here, the role of the Executive Board and of the DOEs warrants revision. The contribution of CDM projects to sustainable development during the entire project cycle ought to be continuously assessed. Validation should require a sustainability check alongside the proof of additionality. Similarly, the registration, verification and issuance of credits, needs to based on proof of contribution of the project to sustainable development. The requirement of contribution to sustainable development needs to be systematically built into the CDM legal framework and be systematically checked. This includes monitoring of SD contribution which needs to be structurally incorporated into the *general* design of the CDM, and into *each* project.

On the side of CER *buyers*, no restrictions apply as to the choice of projects from which the credits are acquired. However, buyers in general and Annex I Governments in particular, can via 'sustainability conscious' investment and purchase pull the development of CDM projects into a more sustainable direction.

Yet, the demand for CERs is large and buyers still prefer cheap credits to 'good credits'. Thus, the use of *quantitative and/or qualitative limitations* for CER buyers could bundle the purchasing power to strongly influence the CDM into a sustainable direction.[49] Alternatively, for those projects which do not directly contribute to SD it could be required to provide for financing measures or other means that support the contribution to SD of the host countries in other ways.

Moreover, buyers and hosts of CDM projects, stand in a *contractual* relationship. This contract can much more strongly and clearly demand sustainable development benefits and envisage procedures to *enforce* such benefits. Contractual *consequences*

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[49] See, for example, e.g. EU proposal to not allow new CERs into the ET ETS after 2012, unless an international agreement is in place. Other proposal: MP Avril Doyle: all CERs from 2013 shall be of 'Gold Standard Quality'.

for non-sustainable performance of projects, such as devaluation of CERs, penalties, taxation etc. can in themselves provide incentives for a more sustainable CDM.

c) Definition of Environmental Integrity

With regard to ensuring the environmental integrity of the CDM a number of similarities exist to the challenge of the ensuring sustainability as mentioned above.

First and foremost a *clear definition* of environmental integrity is missing. Although the Modalities and Procedures for the CDM demand that '*environmental integrity is to be achieved through sound modalities, rules and guidelines for the mechanisms, sound and strong principles and rules governing land use, land use change and forestry activities, and a strong compliance regime'*[50] it remains unclear what is meant by the term. Is environmental integrity understood solely in terms of additionality or does it require *additional* environmental benefits, or at least the absence of other environmental damages to, e.g., water quality, biodiversity? The relationship of the Kyoto Protocol to other MEAs[51] plays a role in this respect, and requires further legal elaboration.[52]

When it comes to ensuring *additionality*, a number of legal options for reform exist. The assessment of additionality should be based on more transparent and objective criteria, such as ambitious benchmarks. This should involve increased use of technology benchmarks for baseline setting and additionality testing. The use of subjective barriers (e.g. "the own management is not willing to invest") should be abandoned.

When it comes to enhancing the compliance with the framework, so could, for example, the review of DOE decisions by the EB made mandatory and sanctions be strengthened, the latter entailing not only to replacement of missing CERs for projects which are not additional, but penalty fines or CER premiums. However, by the end of the day it is the EB which registers projects as valid and issues CER for generated reductions below a hypothetical baseline. Yet, no independent judicial review mechanism exists for the decisions and acts of the EB. The establishment of an

[50] FCCC/KP/CMP/2005/8/Add.1.
[51] CBD, Desertification Convention, others? World Commission Guidelines on Dams?
[52] Rüdiger Wolfrum/Nele Matz, *Conflicts in International Environmental Law* (2004).

independent panel and appeal body – similarly to the WTO Dispute Settlement Body – could function as a corrective to faulty decisions of the EB.[53]

Another reason for imperfections in the CDM system are strong differences in what the project developers stated in the PDD as the expected potential of the CDM project regarding emissions reductions and the actual reductions achieved during the performance of the project. Project developers, as well as host countries and DOEs, have a pecuniary interest in receiving high amounts of CERs out of a CDM project. CER numbers are often exaggerated, barriers overstated, financial decisions made intransparent or documentation does not provide all necessary information (e.g. on external financing). One incentive to avoid and detect fraud is the inclusion of a so-called 'Truth Clause' in the PDD and contracts; a statement of the project developer that all information is correct and complete. Such statement opens for the possibility of criminal proceedings against a company that is found to have given wrong information in the PDD. Given that such clause can function as a general fraud prevention tool, its inclusion in the PDD should be made mandatory.

Finally, stronger financial barriers for profitable projects and environmental barriers need to come into place. Yet, it remains important to keep the validation, registration and verification processes simple and transparent.

In addition, a number of specific projects, such as projects generating biofuels, forestry (LULUCF) projects, HFC23, Large Hydro dams, and the possible inclusion of carbon capture and storage (CCS), demand a set of special rules and regulations, dealing with the particularities of these projects.

d) Stakeholder Involvement

Much criticism has been levelled at the democratic deficit in the CDM. Significant parts of meetings of the EB have largely been carried out behind closed doors. The public is generally exempt from meetings of expert panels, teams and working groups. Likewise, DOEs do not involve the public in the course of their assessments.[54] Although the reports of EB and panel meetings are publicly available on the UNFCCC website, the minutes of the meetings are not.

[53] See Voigt, 2008, *Responsibility for Environmental Integrity of the CDM: Judicial Review of Executive Board Decisions*, Draft, on file with the author.
[54] Streck 2007, 59.

Apart from these procedural issues, stakeholder involvement and public participation is also a requirement for project validity. However, the rules remain unclear, as it is the host countries prerogative to set up the framework for local/stakeholder involvement.[55] Anxious about interference with their sovereign authority, host countries have been unwilling to accept binding standards for public participation. In many incidence stakeholder involvement has been nothing more than a farce. The public was either unable to submit comments or 'stakeholders' were persons closely connected to the project itself.[56] In order to increase the legitimacy of the CDM, stakeholder rights need to be established, where they are missing, and strengthened. This includes the definition of 'stakeholder', including local and indigenous communities and due process rules for participation (especially regarding form, time, hearing, information, consent etc.). The mechanisms of prior informed consent or advance informed agreement procedure, including a mandatory environmental impact and sustainability impact assessment, could provide a workable approach as a starting point.

Moreover, these rights need to include the right to environmental information as a prerequisite to public participation in decision-making. The *right to information* also corresponds to the *duty* of the host state to have and provide information on the CDM project. This also means that publicly accessible lists, registers and files, contact points are to be in place, which inform the public about planned or implemented CDM projects.

Further, stakeholder involvement includes public *participation in decisions* on specific CDM activities**.** In order to do so, the public must receive effective information as to the proposed activity, nature of decision, draft decisions, site, physical and technical characteristics, the effects on the environment, measures envisaged to reduce and prevent these effects, outline of alternatives, non-technical summary and notification (sometimes even individual notification).

Stakeholders, or the public, should also have access to a *review procedure* before a national court or an independent and impartial body where they can claim sufficient interest or impaired rights. Such access to justice should provide adequate and effective remedies – including injunctive relief – that must be equitable and timely.

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Finally, the procedural inclusion of public comments and concerns is one thing, the *substantive* importance of these comments quite another. The fact that, for example, local communities strongly oppose a certain project, does not lead to the rejection or review of the project. In this respect, judicial review, which opens for stakeholder claims could provide an adequate means to prevent damage to affected persons, or to provide a platform for compensation claims.

e) Judicial Review

The issue of establishment of a competent judicial panel under the CDM to review decisions was already mentioned above. This is an important aspect of securing the functioning of the CDM, while delivering environmental integer results and projects that contribute to sustainable development. Review needs to include decisions of the EB, such as registration of projects and issuance of credits and the accreditation of DOEs) and decisions of DOEs, i.e.validation and verification, for their contribution to SD and environmental integrity. The problem which arises in this context is the question of *justiciability* of sustainable development. In order to meet this challenge, it was suggested to set up objective criteria, standards or/and indicators for SD.

A review mechanism would first and foremost give project participants and other entities with rights under the CDM a right to appeal the decisions. In this context, question of invocation and legal standing arise. Would a claim require the violation of a right under the CDM or would a legal interest in environmental integrity of a particular project or the interest in the contribution to sustainable development be sufficient? Could, for example, a NGO or an academic in Norway demand the review of a decision of the EB because a registered project in China has a detrimental impact on the quality of freshwater and the ecological integrity of a river? And what would the consequences be of such review? What kind of sanctions would be advisable – and effective – to secure the efficiency of the CDM?

Finally, relevant procedural issues and rights need to be elaborated, such as public proceedings, right to petition and appeal, costs etc.

6. Conclusions

This paper showed that the framework of the CDM is poorly equipped for balancing market forces with environmental integrity and contribution to sustainable development, and falls short of succeeding in praxis. No strong regulatory framework exists yet, and is only very slowly developing. In this process reformatory changes are urgently needed!

Such 'face-lifting' has to happen now – before all credibility is lost. The carbon market in general and the CDM in particular are a not panacea: they will need to be flanked with other financial incentives to drive low carbon technologies in developing countries. As shown in this paper, there are problematic issues in the CDM linked to additionality, to problematic project types (HFC23 and others), to validation and verification, especially the unclear regime for DOEs and the lack of a verification and validation standards, quality control, standards for sustainable development, and outstanding governance issues of the CDM by the EB.

The time is *now* to strengthen the CDM, otherwise the chances for the CDM and the possibility for reform are quickly diminishing. In order to strengthen the CDM, real and additional emission reductions have to be ensured. This involves increased use of technology benchmarks for baseline setting and additionality testing. Moreover, possible perverse incentives resulting from (low cost) CDM have to be addressed. The EB has to be assigned a more executive and supervisory role, including delegation of decision-making and strengthened professional support staff. Revision of CDM decision-making procedures, including due process, appeals system and sanctions is a valid means to secure 'good' projects. Reform also includes an assessment of roles and responsibilities of DOEs. Due Process, increased consistency of decisions and rules, and securing environmental integrity while establishing a balance between sustainable development of host countries and economic profitability for project developers - while reducing GHGs would considerably strengthen the CDMs legitimacy.

The CDM already plays a significant role in the carbon market today and might grow post-2012. An environmentally more effective CDM should continue to play a role. But offsetting alone is not enough. The CDM offers promising potential but need to succeed in developing new tools that build on the sustainable development of developing countries.