

**PROGRAMMATIC CDM:
REGULATORY HURDLES THAT CAN BE OVERCOME**

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INTRODUCTION

The possibility to register an unlimited number of CDM project activities under a single CDM program of activities was opened to project developers in June 2007. Skeptics point to the fact that by September 2008 there were only four programs of activities (PoAs) in validation, and argue that procedural and methodological hurdles impede the development of PoAs. However, there is much interest in developing PoAs, particularly from those stakeholders that target mitigation at the consumer level, and/or are committed to improving access to energy as a means of poverty alleviation. This paper suggests that most of the regulatory issues that have been identified can be solved with relative ease.

GOAL OF PROGRAMMATIC CDM

A CDM program of activities is a coordinated effort on the part of a private or public entity to implement a GHG reducing policy or measure via an unlimited number of emission reduction project activities that are dispersed over a geographic region and implemented over a period of time. Complementing traditional CDM that focuses on emission reductions (ERs) achieved in a single site, programmatic CDM allows the aggregation of ERs achieved in a dispersed manner. The intent behind the creation of programmatic CDM (pCDM) was to broaden the scope of the CDM to include:

- Households and small/medium enterprises, each of which could individually achieve only a minimal level of emission reductions that would not be high enough to enter the market;
- Mitigation activities that are dispersed and happen over time due to unpredictable uptake rates, such as renewable energy or energy efficiency in homes and buildings, and individual/family transportation;
- Developing countries that are currently underrepresented in the CDM portfolio due to the fact that they have no/few large single point emission sources that could undergo a technological upgrade for purposes of achieving emission reductions.

The programs of activities that are underway show that programmatic CDM is actually reaching the intended sectors. As of September 2008 there were four PoAs under validation: home solar systems in Bangladesh (using AMS-I.A), biodigesters in small pork farms in Brazil (using AMS-III.D), solar water heaters in South Africa (using AMS-I.C), and Compact Fluorescent Lights (CFLs in Mexico (using AMS-II.C).

Although not yet under validation, further PoAs that are under preparation show that pCDM is not only targeting the intended sectors, but will directly benefit millions of people and improve their quality of life. PoAs in preparation include:

TYPE OF ACTIVITY	COUNTRY	EXPECTED # OF ACTIVITIES
CFLs	Senegal	tbd
	Thailand	tbd
	Ukraine	2 million
	Central America	tbd
PV systems in homes	Bangladesh	1 million
	Uganda/Tanzania	100,000
	Nicaragua	75,000
Solar water heaters	South Africa	tbd
	Tunisia	tbd
Bio pellet cooking stoves	Vietnam	tbd
	India	10,000
AC replacement	Ghana	100,000
	Mexico	10 million
Chillers	India	400
Municipal composting	Uganda	9 municipalities
Methane avoidance in sago industry	India	800 sago units
New taxicabs and minibuses	Egypt	40,000 taxis
		13,000 minibuses

Public sector entities that are developing PoAs hope that this new registration mode might provide the operational rigor and financial support to implement important social and economic development programs with mitigation benefits (such as demand side energy efficiency and distributed renewable energy in rural areas) that have been intended for some time but have not been implemented due to scarcity of resources. For some governments, the possibility of using CER income to close the gap has reaffirmed the synergy between climate considerations and development planning. The government of India, for example, has decided that all public sector PoAs will be implemented by the government in order to ensure alignment with public policy and goals.

Private sector enterprises interested in promoting clean technologies (e.g. CFLs) realize that PoAs offer a helpful structure through which to partner with retailers, and understand that the provision for automatic inclusion of legitimate CPAs saves much transaction time as compared to the traditional registration procedure of traditional CDM.

BARRIERS AND SOLUTIONS

Despite the enthusiasm surrounding programmatic CDM, all stakeholders admit that it will not be easy to implement successful PoAs. Under a PoA the coordinating entity, whether private or public, assumes a responsibility and a role that often goes beyond that which has been assumed in the past. Not only does the coordinating entity have to learn the nuts and bolts of the CDM project cycle, it is responsible for the effective long term implementation of all CPAs in such a way that they be measurable and verifiable by others. This requires institutional capacity and operational continuity during the lifetime of the entire PoA. Furthermore, in those PoAs where CERs are the only cash income (e.g. energy efficiency) much of the cost of the PoA is front loaded, and there is a high financial risk that few financial institutions are willing to absorb¹. Ironically, these are the PoAs that are “most” additional because they depend exclusively on the CER income to be implemented and would therefore not occur at this time were it not for the CDM.

The launch of programmatic CDM on the part of the Executive Board in 2007 was an invitation to project developers to begin preparation of programs of activities. As with other aspects of the CDM, the PoA guidance and procedures have a “learning by doing” intent, in the sense

¹ The CERs income from PoAs has the flexibility to be channeled either into consumer credits e.g. for individual purchases of household appliances, or into micro financing structures for small and medium enterprise development. However, financial institutions perceive high risk in a new instrument that has no track record of success yet.

that they were released together with the written commitment of the Board to revisit these as the body of experience grew. One year after their release, the Board has already made a public call for input on programs of activities, in order to learn directly from the experience of involved stakeholders. The August/September 2008 call for input motivated 36 responses from project developers, DOEs and other stakeholders, confirming broad interest in PoAs and identifying issues that have arisen from the practical application of the guidance and procedures. Stakeholders point to a broad mix of issues, many of which stem from a lack of clarity in the guidelines that has unfortunately lead to various misinterpretations of the text. These can be easily clarified in a subsequent version of guidance documents. A relatively small number of issues identified by stakeholders are actual regulatory hurdles that can also be solved once the Board has had an opportunity to examine them. The most important issues are:

- 1- **Liability for erroneous inclusion:** the procedures for registering PoAs establish that if the involved DNA or one Board member “identifies *any error* (emphasis added) that disqualifies a CPA from inclusion in the PoA” they report it to the Board. If after a Board review it is confirmed that the CPA in question does not qualify as a legitimate CPA, the CPA is excluded and the validating DOE must acquire and transfer CERs equivalent to the CPA to a cancelation account. The PoA cannot include any further CPAs until all CPAs of that PoA have been checked. If further CPAs are found not legitimately included the same penalty applies to each of the illegitimately included CPAs. DOEs have stated that this liability is beyond what they can assume, and that it is one of the main barriers to validating PoAs. In fact there are currently only two DOEs that have accepted PoAs for validation. Compounded with the routine 12 month time lag for registration, the DOE delay in validating POAs makes programs lose potential CERs that could be sold at a predictable price before 2012, and has caused some project developers to cancel intended PoAs. This is particularly true in those PoAs where the sale of CERs is the only source of income (e.g CFLs, efficient cooking stoves) and where a few months delay can cause a significant difference in the business case. It is to be noted that the full reliance on CERs as income is bound to be more prevalent in PoAs than it is in traditional CDM.

The issue is one that can be addressed by both project developers and the regulator. But first, it must be made clear that the stipulation is for the erroneous inclusion of a CPA, not a single activity under a CPA. For example, in the current CFL program in Mexico, the first CPA would distribute 1 million CFLs in the city of Puebla, and further CPAs would distribute approximately one million CFLs each in 29 different cities. The erroneous inclusion clause would come into effect if one of those CPAs as a whole were found to be erroneously included. It would not come into effect if some of the individual CFLs under each of the CPAs were mistakenly counted under the CPA. Although the system must be sound to a statistically acceptable level, in the case of micro activities such as CFLs, the sheer volume dictates that there cannot be 100% perfection in the system. Project developers can minimize the danger of erroneous

inclusion by “unambiguously defining” the criteria for inclusion of CPAs such that it is very clear which activities belong to the PoA and which do not. Project developers can also propose the statistical level of accurateness that they expectt in each of the CPAs. They can furthermore facilitate the engagement of DOEs by including in their contract with DOEs a clause that shares the liability of erroneous inclusion.

From the perspective of the regulator, it is well to remember that the purpose for the penalty was to balance the automatic nature of the inclusion of CPAs (no lengthy verification process, just desk review, low transaction costs) with a clear disincentive to play outside the rules of the game. DOEs claim that this provision creates the perception of a low cost assessment but carries high risk for the DOEs. The regulator could consider clarifying the language in the provision by defining what “any error” means, differentiating procedural errors from errors that have a substantive impact on the PoA. In order to give the review process some predictability, the regulator could also decide on a specific timeframe for the review process, and could establish that costs of the review are to be borne equally between DOE and the coordinating entity. The regulator could furthermore clarify that if all CPAs are found to have been correctly included, CERs would be retroactively recognized for the time the CPAs were under examination. These measures would effectively limit the liability of DOEs while still maintaining the clear incentive for all to ensure integrity.

2- Debundling rule

The debundling rule that applies to the use of small scale methodologies has been applied to PoAs. Two small scale CPAs are considered de-bundled components of a large scale CPA if they are both implemented by the same activity implementer and are within 1 km of each other. In the case of traditional CM projects, the debundling rule was put in place to prevent a large scale project from being disaggregated for the sole purpose of using the simpler small scale methodologies.

In the context of CDM projects the debundling rule makes much sense, but the logic does not apply to PoAs. The express purpose of a PoA is precisely to allow project developers to aggregate an unlimited number of small dispersed mitigation activities into one registration. Particularly in the case of micro activities, such as CFLs, cooking stoves, solar water heaters and PV home systems, it is not realistic to expect project developers to divide the city or town into sections that are separated by 1 km. It is furthermore not logical to force coordinating agencies (government institutions, NGOs, etc.) to artificially create subsidiaries or put individual people in charge of CPAs for the only purpose of complying with the stipulation that the activity implementers have to be different from each other. One example is a governmental energy efficiency agency that sets up an incentive scheme to replace all incandescent lightbulbs in a large city. The energy efficiency agency may choose to be both the coordinating

entity as well as the implementer of all the CPAs, because it is an action that can occur in the space of a few years and does not justify the creation of sub-institutions or artificial subsidiaries.

The issue is further complicated by the unpredictable character of incentive schemes. A coordinating agency will launch an incentive scheme for which they trust there will be a sound uptake rate, but there is no guarantee of that rate. Hence it is impossible to know ahead of time how small/large to make each geographically delineated CPA, since the density of installations within that boundary can be unpredictable.

Project participants have proposed various ways of getting around the restriction of the 1km minimum proximity. Some propose defining the CPA in terms of a finite period of time (e.g. all those lightbulbs distributed between January 1 and March 31), and others propose defining CPAs according to the size of the installation (e.g. all solar home systems below 30kw), and still others propose stacking CPAs over time inside of “zones”, where each time the small scale limit of the CPA is reached a new CPA would be opened inside the same zone. In order to avoid these cumbersome constructions for the mere purpose of complying with the stipulation, the regulator could consider defining a “micro” level of activities (that would include household appliances) and determining that CPAs of these micro activities are exempted from the debundling rule if they occur in areas of high population concentration. Alternatively, and perhaps even simpler, the regulator could exempt CPAs implemented at the household or building level from the debundling rule.

3- Role of the project participants

The CDM modalities allow project participants that are buyers of CERs to have their purchased and issued CERs deposited directly into their registry account. Although not expressly defined by the modalities, in practice project participants also often negotiate other rights such as the veto power to add new project participants. In a PoA it may often be the case that the coordinating entity sells CERs from one CPA at one point in time to one buyer, and CERs from another CPA at a different point in time to another buyer. Each buyer has jurisdiction over its own CPA but not necessarily over the entire PoA. Project developers have suggested that in order to facilitate this relationship, and in order to allow for direct deposit of issued CERs into buyers' accounts, it may be advisable for the coordinating agency to list project participants at the level of CPAs. This is currently not forbidden by the procedures, but it is also not expressly allowed. The Executive Board could consider providing for this possibility. In the case of CPAs with different project participants, the coordinating entity would be required to submit a new Modalities of Communication listing the project participants for that CPA every time a new CPA is added to the PoA.

4- Restriction to one methodology

In order to start what could be considered as a PoA “pilot phase”, the Board decided to initially restrict PoAs to the use of a single methodology for all CPAs. The logic behind this decision is quite simply that there is no experience with the practical application of the guidance and procedures of this new registration option, and that it was deemed advisable to gather some experience before opening PoAs to further methodological complexity. In principle the decision makes much sense, except in cases where the single activity actually needs the combination of two methodologies. Until recently, all renewable energy generation activities that deliver to the grid needed to combine the ACM002 methodology for generation with the methodology to determine the emission factor of the grid. The obstacle to preparing PoAs for renewable energy generation systems that deliver to the grid was solved by converting the emission factor methodology into a “tool” that can be combined with any methodology. Similar treatment can be given to the case of methane capture where the tool to determine emissions from waste at solid waste sites can be used. This tool could either be expanded for other variations of methane capture, or another tool developed to capture other possibilities. In the absence of Board action on this, any project developer can combine the necessary approved methodologies and submit them to the Board for approval as a single (small scale) methodology. The likelihood of approval is quite high, although the program would suffer the known delays of methodology approval.

Despite the above, one important area is still left out of pCDM: comprehensive energy efficiency measures in homes or buildings. The most effective efficiency interventions combine renewable energy supply, building efficiency measures, and substitution of home appliances, which would require combining several existing methodologies. The Mexican government is considering a comprehensive “green homes” program which optimizes efficiency measures. However, it is difficult to consider this under the CDM. If small scale methodologies are to be used, the initiative would have to develop a methodology that combines AMS I.C for solar water heaters with AMS II.C or AMS II.J for lighting, insulation and air conditioners, and argue how they are all “interrelated” in order to be able to include all three measures in one methodology. Furthermore, the methodology would have to account for the GHG reduction achieved by each appliance, and for the fact that each homeowner has a choice in the size of appliance he/she purchases. Another Mexican initiative incorporates passive measures (siting, orientation, window placement, natural ventilation, natural lighting) for which there are no CDM methodologies. Clearly a methodology could be developed and submitted for consideration, but this will not be easy under the current modalities of the CDM.

From a CDM perspective, the key question to address in energy efficiency (EE) efforts is whether an EE program obtains savings directly from a specific technology, or as a consequence of the combination of a variety of measures. Producing energy savings directly means that the link between the program activity and the savings can be

directly demonstrated and is attributable to a specific measure. An energy-efficient appliance program in which consumers are offered incentives to install energy-efficient light bulbs, refrigerators, or air-conditioners can produce direct savings from the installation and use of each of such appliances, and energy savings can be measured (not without some difficulty) on an appliance level. The energy savings and GHG reductions are directly attributable (measured, monitored and verified) to each appliance. However, in addition to the use of efficient appliances, the more effective EE approach is the systemic approach where EE is optimized by incorporating passive design specifications such as orientation and siting of the homes, type of roof, sun exposure, ventilation, placing and types of windows, construction materials, etc. These EE measures are ideal from an energy conservation point of view, as they mutually reinforce each other in saving energy. However, from a CDM point of view, this integrated approach to energy savings is not directly attributable to a technology, and hence cannot be submitted to the CDM, under its current form.

If Parties are serious about including comprehensive energy efficiency at the level of homes and buildings into the CDM, they will have to take a COP decision that will allow this. In the absence of this mandate, the current modalities will not permit it.

CONCLUSION

Programmatic CDM offers a real possibility to address some (not all) important demand side energy inefficiencies and improve energy accessibility, particularly to those at the bottom of the economic pyramid. The regulatory hurdles that have been identified can be clarified and solved, once the Board has the opportunity to study the valuable input provided by stakeholders. However, the responsibility to make pCDM work remains with project developers and DOEs. They are both the right and the responsibility to structure PoAs and CPAs that meet development needs and simultaneously ensure compliance with CDM rigor.

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