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Wuppertal Institute for Climate, Environment and Energy

NEWSLETTER OF THE PROJECT "JOINT IMPLEMENTATION & CLEAN DEVELOPMENT MECHANISM: JIKO" · RESEARCH GROUP ENERGY, TRANSPORT AND CLIMATE POLICY

Editorial

Dear Reader,

NAMA crediting, sectoral approaches, sectoral no-lose targets: the list of potential ways forward for the carbon market is long and varied. How this enhanced market might look and what it would mean for the Kyoto Protocol's CDM and JI mechanisms will only come to light in the next few years. Still, the debate is important to the ongoing existence of the carbon markets.

In this special focus issue, we look at Programmes of Activities (PoAs), an extension of the current CDM. Initially celebrated as a milestone, the euphoria has since ebbed and the PoA pipeline has got off to a very slow start: the CDM EB has registered just three PoAs so far. JIKO Info invited practitioners from various sectors to describe how they view the expansion of PoAs.

Project developers from Perspectives Climate Change analyse the stumbling blocks in PoA-related methodologies, while Det Norske Veritas (DNV) outlines the difficulties faced by DOEs in validating PoAs. The PoA Support Centre Germany gives recommendations based on its own experience in supporting numerous PoA activities, supplemented by a report written by a PoA coordinator in South Africa.

On behalf of the entire editorial team, may I wish you an interesting and informative read!

Christof Arens

Inhalt

Volume 8, Issue 2/2010
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JIKO Report

Support Centre Boosts Support for PoAs

Second Edition of Blueprint Book Presented at Carbon Expo

On behalf of the German Environment Ministry, the PoA Support Centre run by KfW has provided support to aid the development of implementable Programmes of Activities (PoAs) since 2008. The centre provides advice, structuring and evaluation services, and helps project developers in drawing up programme ideas. KfW also provides support in the marketing of expected carbon credits to obtain an optimal market price that allows investment in and implementation of PoAs. On the occasion of the Carbon Expo, KfW reviews events thus far and presents the second edition of its popular PoA Blueprint Book.

The PoA Support Centre plays a leadership role in the international carbon market, a role illustrated by the strong response to its services. Via its website, KfW receives regular enquiries asking for advice or funding for PoA activities. The contacts established so far are actively nurtured and intensified in the course of project development. KfW has now produced a second edition of the PoA Centre's PoA Blueprint Book, which provides guidance in the development and implementation of programmes. The second edition was presented to the specialist public at the Carbon Expo at the end of May.

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JIKO Interview

"The PoA Rules Are Confusing"

Five Questions to Michael Lehman, DNV

Programmes of Activities (PoA) are widely seen as an important expansion of the CDM, opening up the mechanism for small and micro sources of emissions. DNV validated two of the three PoAs registered to date. What is your view as a validator on PoAs? Can they fulfil the high expectations associated with them?

PoA will not fulfil all the expectations. PoAs will facilitate the development of projects consisting of many small measures, such as solar heating, efficient lighting, micro scale renewables, etc. However, due to the small size of these projects, PoAs will not achieve large amounts of emissions reductions and will thus not likely contribute to a large share of the CERs delivered by the CDM. PoAs also have the potential to promote implementation of CDM projects in least developed countries (LDC). However, it still remains to see whether many PoAs will be developed in these countries.

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Support Center Boosts Support for PoAs

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Dr. Klaus Oppermann,
Vice President,
Environment and Climate,
KfW Carbon Fund

Alice Seitz,
Environment and Climate, KfW
Carbon Fund

PoA Pipeline

The PoA Support Centre has initiated and supported the development of some 22 PoAs submitted by eligible implementing organisations. In a second procedural step, PDDs are now being developed for ten programmes. The main focus is placed on savings potential in energy efficiency, renewable energy, industrial fuel switch and general measures in private households and SMEs. Examples include:

- PoA Mexico – methane avoidance in farming
- PoA Central America – small-scale hydropower plants
- PoA Brazil – cogeneration (CHP) in the sugar industry.

Other funded programmes in the KfW portfolio (see table) comprise a PoA on energy efficiency measures in public buildings in Israel, a boiler modernisation programme for SMEs, an energy-efficient refurbishment programme in Poland, swapping inefficient for energy-efficient refrigeration systems in the commercial sector, and a small-scale hydropower project in the Philippines. A further programme, which receives ongoing funding in the form of a start-up grant under the German Environment Ministry's International Climate Initiative, involves the installation of solar water heaters in South African homes – see the report headed "Dependable Partners Are Key" in this issue.

Experience and lessons learnt at the PoA Support Centre

Experience gathered at the PoA Support Centre has clearly shown where the difficulties lie with programmatic CDM: PoAs are structurally complex funding programmes that place exacting demands on PoA coordinators. The coordinating entity must both structure the programme financially and successfully navigate it through CDM/JI registration. The running of a programme again requires the dual skills of a funding programme manager and a CDM/JI manager. It is not enough simply to launch climate-related activities with the funding programme: it is also necessary to register the secured emission reductions in line with strict CDM/JI monitoring requirements, sell carbon credits and then plough the proceeds from selling them back into the programme.

PoA Support Center Pipeline

No.	Region	Programme	Type
1	Brazil	Energy efficiency projects in sugar production (CHP)	PIN
2	China	Biogas projects	PIN
3	Estonia	Energy-efficient refurbishment	PDD
4	India	Energy efficiency in the steel industry	PDD
5	India	Home biogas installations in Orissa	PDD
6	Indonesia	Energy-efficient lighting	PIN
7	Israel	Energy efficiency improvements in public buildings	PDD
8	Mexico	Energy efficiency projects in sugar production (CHP)	PIN
9	Nepal	Solar energy programme	PIN
10	Nigeria	Replacing home cookers	PDD
11	East Africa	Solar lighting programme	PIN
12	East Africa	Small-scale hydropower	PIN
13	Philippines	Energy-efficient refrigeration systems in commercial sector	PDD
14	Philippines	Small-scale hydropower	PDD
15	Philippines	Biogas projects (sugar production wastewater disposal)	PIN
16	Poland	Energy-efficient refurbishment	PDD
17	Poland	Boiler modernisation programme for SMEs	PDD
18	South Africa	Home solar water heating	PDD
19	South Africa	Commercial lighting programme	PIN
20	Vietnam	Small-scale hydropower	PIN
21	Central America	Small-scale hydropower	PIN

Source: KfW, as at May 2010

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A further obstacle to the market launch of PoAs is the start-up funding problem. PoAs are designed to pay for themselves from sales of carbon credits. This does not start working, however, until a large enough number of activities have been launched to generate revenue from such sales. The coordinating entity can then use this revenue to launch further activities. Because of this, for most PoAs, advance funding must be found for at least part of the revenue from carbon credits. Private investors are not yet prepared to assume the risk associated with this because there is absolutely no record of past performance and the return stream of carbon credits is additionally subject to regulatory risk. This is a classic case of market failure that could be remedied by the provision of public funding. The public funding could be taken back out of the market as soon as PoAs reach the critical mass needed for private investors to have an adequate record of past performance.

There are also numerous regulatory barriers which could be broken down by changing the PoA procedure. One example is monitoring: under the current UNFCCC rules, programmes which promote the use of millions of energy-efficient lightbulbs must list each individual user and monitor a statistically representative user sample for each group of activities included in the PoA. Simplified monitoring of market penetration rates during programme implementation based on a conservative baseline scenario would be one way of lowering transaction costs and reducing risk.

CDM PoAs also face the risk of approved CDM methodologies being changed, which would result in costly adaptation of the programme design. At least where PoAs involving micro-activities are concerned, this requirement seems to go too far and is inappropriate when compared with the procedure for single projects.

For further information see:
www.kfw.de/carbonfund

Finally, the current CDM PoA procedure requires that PoA validators be made liable for activities erroneously included in the PoA. This has proven to be a huge barrier in attempts to find PoA validators. The comparable procedure under the JI mechanism appears more suitable, as it focuses on identifying such errors during the verification process (see box).

PoA Procedure for JI:
The better approach?

The JI Supervisory Committee (JISC) announced the procedural framework for Joint Implementation PoAs at the end of 2009. In some cases, the JISC selected completely different approaches to those of the CDM EB. For example, AIE liability is far more limited than that of DOEs because integrating JPAs is the responsibility of the PoA coordinator. With regard to verification via random sampling, AIEs can only be held liable for those credits that were actually part of the sample. Plus, the procedures allow use of differing technologies without them having to be approved by the JISC. The full JI PoA procedures are available at: http://ji.unfccc.int/JI_PoA/index.html

Market Outlook for PoAs

The Climate Change Conference in Copenhagen produced no agreement on fundamental reform of the CDM. Nor did it dispel uncertainty concerning a follow-on regime for emissions trading beyond 2012. This impacts both on the CDM in its standard form and – to an even greater extent – the programmatic CDM.

While the UNFCCC PoA pipeline saw strong growth towards the end of last year, this was largely due to the exception arising from EB 47, which allowed retroactive approval of PoA project activities. This exception expired at the end of 2009. The future of the programmatic approach is heavily reliant on regulatory reform and promotional efforts in Annex I states. The PoA Support Centre Germany helps programme developers and, with its funding resources and expertise, helps overcome the barriers cited earlier.

JIKO Interview

"The PoA Rules Are Confusing"
Continued from p. 1

Michael Lehman
Michael Lehmann is Director for Technologies and Services for DNV's Climate Change Services. Michael has for 10 years worked with the validation and verification of CDM and other offset projects. He has also worked on both of the registered CDM programme of activities.

The original *Executive Board* rulings on PoAs were heavily criticised as too complicated and too unspecific. Are you happy with the reform decisions of EB 47, p.ex. with regard to the start date of CPAs, the provisions on sampling as well as on additionality?

The EB guidance on the start date clarified some issues, but still "punish" some early movers which could clearly show that these programmes were developed with the intention to become PoAs. Further work on guidance on sampling is needed, as the current guidance for example does not address any approaches for sampling to be applied by the DOE validating a PoA or verifying emission reductions from CPAs of a PoA. I feel that there is still some confusion with regard to which extent additionality must be assessed in the inclusion of CPAs or whether the additionality assessment is only performed at the PoA level.

Many DOEs are quite reluctant to validate PoAs, claiming the current EB rules are imposing undue liability on the auditors. Does the current situation concerning a possible erroneous inclusion of a CPA really prohibit validation or are there ways to solve the issue within a DOE?

DNV would like to highlight that DOEs do not object to liabilities per se, but we can not accept a liability that is almost unlimited and difficult to manage. The liability is currently considered not acceptable by DOEs as

i) there is not really a limitation on the size of the possible liability – a CPA can be put under review at any time even many years after its inclusion to the PoA, a review of one CPA can trigger a review of all other CPAs as well, the DOE will in the worst case have to replace CERs issues to the CPAs with CERs on the open market within 30 days and CERs may only be available at a very high price.

ii) It is not clear what constitute an erroneous inclusion – the DOE liability for normal CDM projects is limited to situations of serious errors by the DOE and are indirectly linked to fraud and malfeasance only.

To manage the liability of PoAs that DNV has accepted to validate, we apply the following:

- *As part of the validation of the PoA, we will only accept PoAs with inclusion criteria that are unambiguous and leave as little room to subjective evaluations as possible (to manage the risk of erroneous inclusions).*
- *We reserve the right to only include a limited number of CPAs (to limit our maximum possible liability).*

The latter point above is obviously against the idea of PoAs and we have urged the EB to again consider the issue of DOE liabilities in the PoA.

What do you suggest to improve the EB guidance on erroneous inclusion?

We suggest that any DOE liability linked to erroneous inclusion is limited to cases only where the DOE has made serious mistakes.

PoAs reach a high degree of complexity and only three programmes have been registered so far. Is there enough capacity within the DOE scene for validation, given that many DOEs are already struggling to comply with the timelines set by the EB? Are there further issues hampering validation?

Capacity of DOEs is an issue. However, it is not really the complexity of PoAs that is the issue, but if a DOE can choose between working on a PoA with a possible high risk of liabilities and the validation / verification of a normal CDM project, the DOE is likely to prefer other work than working on PoAs.

Mr Lehmann, thank you for the discussion.

JIKO Report

User-Friendlier PoA Methodologies

Marc André Marr has been head of CDM/JI Management at Perspective Climate Change since 2008. His work focuses on CDM/JI project management, PoAs, feasibility studies and CDM/JI capacity building. Founded in 2003, Perspectives is an independent CDM/JI consultancy with offices in Hamburg and Zurich.

For project types that require a high level of individual planning and design and promise relatively low emission reductions (e.g. energy efficiency projects in the private household sector), the PoA approach can be instrumental in simplifying project implementation. Particularly in countries and regions that have as yet been under-represented, such as the least developed countries (LDCs), the PoA model can help break down existing barriers. PoAs are, however, still at the teething stage. Apart from the lack of experience with PoAs, the use of approved CDM methodologies often leads to problems.

The idea of using PoAs to promote complex CDM projects in greater numbers and in formerly under-represented countries often comes up against the inadequate or complicated requirements in the respective methodologies. Where a specific methodology already proves difficult in practice, the PoA approach is unlikely to make much difference.

Implementing projects under a PoA is useful if the project developer, i.e. the individual projects, enjoy significant benefits from the PoA approach compared with an alternative single project. For the most part, this can be achieved with intelligent programme design where, for example, issues of additionality and monitoring are dealt with at PoA rather than project level, and a number of key management functions are assumed by the coordinating entity.

In developing the first PoA in 2007/2008 on the exchange of energy-saving lightbulbs in India (the PoA has since been registered) and in work on several PoAs and PoA feasibility studies, Perspectives Climate Change has often experienced methodology-related difficulties. Some of these problems are outlined below using 'typical' PoA project types.

Data Collection Difficulties

PoAs for efficient cookers use the small-scale methodology AMS II.G. One particular difficulty currently being experienced is the necessary collection of non-renewable biomass data for the baseline scenario. In many cases, the respective countries and regions have no verifiable data available and the very expensive statistical surveys that are needed pose a huge barrier to this project type. Significant simplification could be a basic factor in such cases. Also, in the current Version 02, the methodology requires annual ex-post monitoring to assess the efficiency of the cookers installed in each CPA together with a check to see whether they are still in use and are functional. Even on a sampling basis, this can involve a huge amount of effort – especially if a CPA stretches across rural and sometimes hard-to-reach areas. Provision of proof via rental payments (as allowed with other methodologies) to show that the cookers are being used would be helpful in such cases.

The methodology AMS I.A, which is currently available in Version 13, can be used for PoAs that replace petroleum lamps with solar-powered lighting (e.g. LEDs). The methodology requires the calculation of a baseline using historical energy consumption figures for the lamps to be replaced. For lighting powered by renewables, the methodology also calls for a comparison of light quality: proof must be provided of the light quality from the existing lamps (e.g. simple petroleum lamps) and the associated energy consumption.

But these figures are simply not available in many developing countries. Conducting a representative, statistical survey of an entire country or region cannot and should not be the project developer's responsibility and thus poses a considerable barrier. In such cases, it should be possible to rely on publicly accessible data from other regions and to approve standardised values for certain types of lamps – not least because these values do not differ to any great degree from country to country. The restriction that the new lamps may only claim emission reductions up to the same service level (light quality) of the lamps replaced by the project does not take account of the 'value

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Training for an energy-efficient lightbulb PoA
Photo: RWE/Osram

added' in terms of quality of life or the often *suppressed demand*.

No Optimal Methodology for Lightbulb Projects

A project type that we have worked with for many years involves exchanging conventional light bulbs for energy-efficient ones. Apart from the PoA in India, we have implemented several individual projects for Osram, three of which have been successfully registered. The project type requires a high degree of preparation and planning, and involves a relatively large amount of effort in implementation (training, distribution and monitoring).

Neither of the two small-scale methodologies (AMS II.C and AMS II.J) has proven to be any better or more advantageous than the other. Apart from the standard value for hours of use under AMS II.J, the biggest methodological barriers to this project type have not been sufficiently addressed. One big challenge is that the emission reductions are extremely difficult to estimate. Information is needed on the actual type of lightbulbs to be exchanged in the region (lightbulb wattage) and the percentage of energy-saving bulbs already used. Local people have to be encouraged to take part in the project in the first place and to use the lightbulbs throughout the entire project lifecycle. While this can, for example, be achieved with an education and information campaign, it would involve a great deal of effort. As many as 1.5 million lightbulbs can be distributed per CPA. A powerful and efficient data management system is therefore called for. Plus, the households must be registered to allow ex-post monitoring (to check whether the lightbulbs work properly).

Although AMS II.J cannot solve all these problems, a reliable and conservative standardisation of influencing factors – as done with the usage hours – can help provide more planning security, both for this and for similar project types. Project developers should, however, have the choice between conservative standard values and more precise measurement figures.

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Setting up a *Solar Home System* in Bangladesh
Photo: KfW Photo Archives/ J. Böthling

Challenges Arising from Methodology Combination

One major challenge involves the potential combination of different methodologies within a given PoA. Some project types actually require it: for example, activities where methane avoidance is combined with electricity generation (say in landfills and wastewater treatment). Each combination must be submitted to the CDM EB for approval. And, according to the PoA procedure, all projects within a PoA must use methodology combination in a consistent manner. Under the current procedure, a PoA designed to promote small-scale hydropower plants in rural regions where an electricity grid exists (AMS I.D) in some areas but not in others must submit and request registration of two different PoAs.

Particularly in respect of LDCs, methodology models are desirable which place greater focus on local conditions in these countries. Standardised baselines and the integration of suppressed demand into baseline calculations could be an important step in this direction.

Conclusion

PoAs harbour huge potential for CDM expansion and optimisation. The goal of promoting project types which have so far been considered too complex, involve high CDM-specific transaction costs and are implemented in under-represented countries, is realistic. However, particular attention must be paid to the practicability of the available methodologies. The CDM EB must press forward with optimisation of existing methodologies and be open to new methodological approaches.

Efficient cookstoves are a promising technology, especially for LDCs. The pictures are taken from the CDM project 2711 *Efficient Fuel Wood Stoves For Nigeria* , a CDM Gold Standard project.
Source: Atmosfair

JIKO Analysis

"Dependable Partners Are Key"

A South African PoA coordinator reports from experience

Theo Covary is the director of Unlimited Energy – a project development and consulting firm specialising in emission reduction, carbon offset and renewable energy projects.

Theo Covary heads Unlimited Energy, a medium-sized South African service company for the carbon markets. He coordinates the *South African Solar Water Heater* (SWH) Programme, a PoA funded by KfW. Covary describes his experience with the CDM and PoA implementation on behalf of JIKO Info.

As a *co-ordinating entity* developing a programmatic CDM for residential solar water heaters, Unlimited Energy has faced some key challenges. The programme is aimed at the entire industry and is an entrepreneurial endeavour to use carbon funding to reduce the costs of SWH and thus stimulate the market. Our role was not defined by or subject to government or industry policy. This was always going to make it more difficult because we only heard about market developments in the sector after the fact.

To overcome this we took a two year view (which is the expected duration for a project to be registered) on how the industry would develop with regular reviews built in to ensure that we remained on track. Another key requirement was to keep believing in the programme and the process. With all the uncertainty created by the outcomes of Copenhagen many key players, especially the banks, would not even consider engaging due to the high level of perceived risks. This is the big advantage that small to medium sized entrepreneurial companies have over the established role players – their willingness to take on risk.

The flip side to this is that often these companies do not have the required funding to go the distance – and this is how development funding can overcome this hurdle. In our case we were able to secure funding from KfW. The initial project idea note was done on risk and submitted. Once reviewed and approved we were awarded a grant to develop the *project design document* (PDD), with no obligation or conditions to enter into any further arrangements, such as an *Emission Reduction Purchase Agreement* (ERPA). This is a key non-condition because it facilitates the following; a global perspective, the financial means to write the PDD with technical support when required, the comfort of knowing that once the document is completed, we can perform an unencumbered review of our options with the possibility of

Solarthermal system of the South African Solar Water Heater Programme
Photo: Unlimited Energy

JIKO Analysis

entering into an ERPA but most importantly, it builds trust between the two parties.

Potential issues that could terminate the relationship would be a project which does not yield the necessary Certified Emission Reduction's making carbon funding ineffective and concerns around the capabilities or working relationship with the project developers. Reasons to exit from the agreement exist for both parties. This did not prove to be the case for either of us and we developed a strong relationship where we consider ourselves as equal partners. This is because the allocated grant is correctly sized; it is sufficient to fund the work but not too big that inefficiencies and complacency sets in. It is not a perfect process and issues have arisen but these have been overcome.

Commercial banks and other carbon development companies should consider this model if they truly want to create a vibrant and active carbon market.

The programme has now entered validation and, having gone through most of the cycle, the following recommendations can be made based on our experiences and the lessons that have been learnt:

- There is very little room for practical application and all the methodologies need to be followed precisely and very often to the detriment of the programme. For example, the most conservative numbers must always be used in carbon calculations – the probability of this outcome is very low but yet we are obligated to do it.
- Very few expertise exist to assist and guide project developers. The DOE's themselves are often very reluctant to assist for fear of getting it wrong or exposing themselves. Consultants from global companies also have a limited understanding but this does not seem to reflect in their hourly rates! This causes much uncertainty, delays and risk.
- There is a very poor understanding in government about the potential of carbon and how it can be used. The word is thrown around liberally but there is little or no support when required. This leads to inactivity resulting in long delays which on its own can terminate projects.

On the positive side:

- A relationship can only be built on trust so it is vital that there is frequent, open and honest interaction.
- Follow the required methodology to the level of detail regardless of how tedious, contradictory or unjust it may appear. If you

The South African Solar Water Heater (SWH) Programme

Title of the PoA	South African Solar Water Heater (SWH) Programme
Host country / PoA boundary	South Africa (SA)
PoA / CPA status	Under validation
Programme start date	March 2010
Applied technology /-ies	Solar water heating units (SWH)
Applied methodology and project type category	AMS-I.C. version 16 (Thermal energy production with or without electricity)
Estimated CERs	Approx. 100,000 t CO_2e per year (average); 1.000,000 over the 10-year crediting period.
PoA target group	Domestic, individual households
PoA Coordinating Entity	Unlimited Energy Resources (Pty) Ltd
CPA developers	Unlimited Energy Resources (Pty) Ltd

don't do it at the outset you will have to do it later which will add time and costs.

→ Be realistic about what you can do and how far you can take the programme. Remembering that the ultimate objective is to reduce GHG emissions and if that means partnering with an entity (public or private) that can achieve this objective, then it is your obligation to do so.

With a little bit of luck and a lot of hard work, we believe that our programme will play its part in achieving government's target of installing 1 million SWH by 2015 and 5.6 million by 2020.

Glossary of Terms

All CDM/JI-specific terms and abbrevations are explained in detail in a dedicated glossary, which can be found on the JIKO Internet site at www.jiko-bmu.de/459.

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Edited by:
Wuppertal Institute for Climate, Environment and Energy, Döppersberg 19, 42103 Wuppertal

Responsible for the contents:
Wolfgang Sterk, Energy-, Transport- and Climate Policy Research Group, Wuppertal Institute for Climate, Environment and Energy, Tel. +49 202-2492-149

Editorial Staff:
Christof Arens (CA, final editing)
Thomas Forth (TF)
Frederic Rudolph (FR)
Wolfgang Sterk (WSt)
Rie Watanabe (RW)

Translation:
Words-Worth, Stocks & Stocks GbR, Bonn, except "The PoA Rules Are Confusing" and "Dependable Partners Are Key"

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