

# CARBON MECHANISMS REVIEW

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Arguing the point:

# Should JI be abandoned?

**Pioneers losing  
their way?**

The EU climate  
policy debate



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February - April 2014

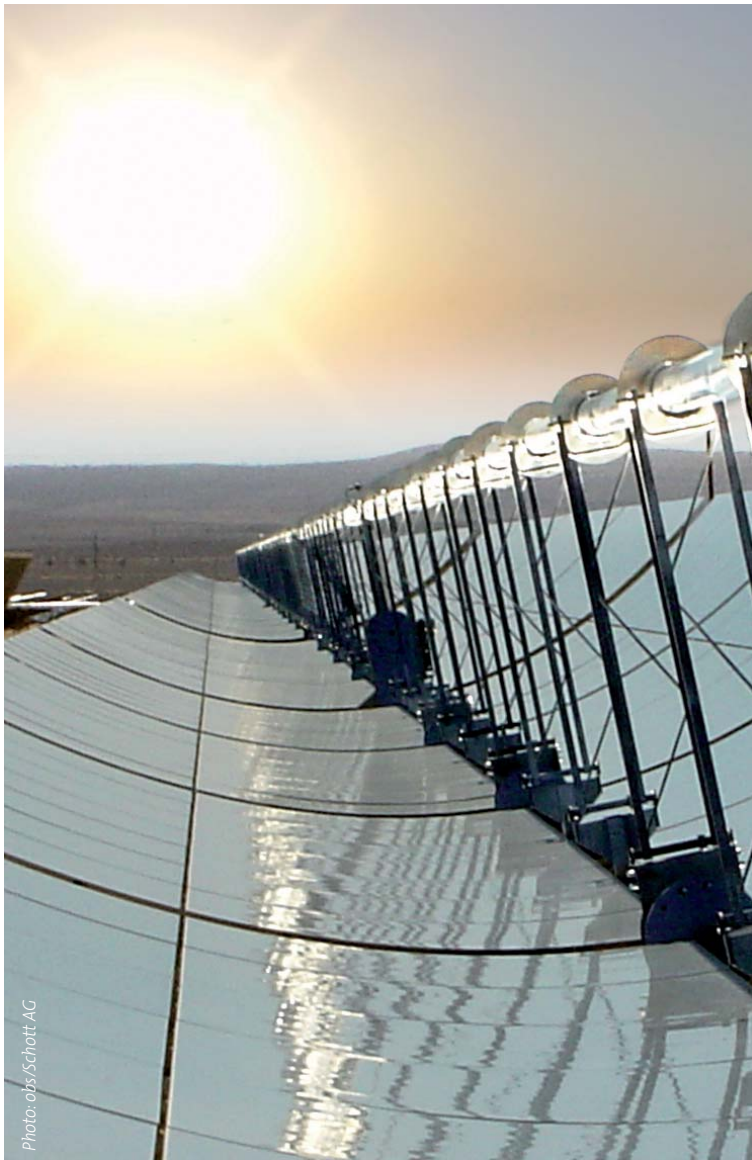


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# editorial

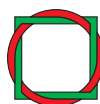
## Dear Reader,

What is the latest on the international climate change regime? What needs to happen and what must be done differently for the negotiations to pick up speed? These much-debated questions are the focus of this Carbon Mechanisms Review (CMR). Instead of their usual approach, the editorial team have chosen a very different angle, looking at two climate change-themed films shown at the Berlinale Film Festival 2014. One film spotlights Japan's Kyoto conference centre, built by a metabolist architect. In their article towards the back of the issue, the two authors compare the centre's structures with the climate change talks and look at how metabolism might explain today's climate change regime.

But before that, the CMR reports on current climate change policy trends and their link with the carbon market. This starts with an analysis of the EU Climate and Energy Package 2030. It then looks at the controversy on considering national policies in baseline and additionality determination, and presents the results of a new research project. Finally, the issue rounds off with an interpretation of the most recent US Submission on the new international agreement on climate change.

On behalf of the entire CMR team, I wish you an interesting and informative read.

*Christof Arens*



**Wuppertal Institute**  
for Climate, Environment  
and Energy

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# Pioneers losing their way?

## EU debates 2030 climate and energy policy goals

*Silke Karcher, German Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, and Thomas Forth*

**On 22 January this year, the EU Commission presented its White Paper proposing an integrated climate and energy policy framework for the period 2020 to 2030. The proposals are based on the notion that to achieve a low-carbon economy (Roadmap 2050, decarbonisation) a competitive, secure energy supply system is needed for all. Dependency on imports is to be reduced, while growth and job creation are to be promoted. The investment needed in all of this calls for a reliable, EU-wide regulatory framework which is to be achieved via a coordinated approach across the member states – action on climate and energy policy within the EU is the main focus of that approach.**

When it meets on 21 March, the EU Council will debate the EU climate and energy goals for 2030. If this results in the White Paper being adopted, it will not just define a long-term development path for EU climate policy, it will send out a message to the international climate change regime.

The decision regarding the EU's 2030 goals comes at a time when the EU member states still account for some 10.5 percent of global emissions. By 2030, according to forecasts, that share will have fallen to 4.8 percent. This is only an effect of the global rise in emissions, however – whether the EU's 2030 climate goals actually compound this trend remains to be seen. It nonetheless goes uncontested that the EU has a global responsibility given its past and present emissions record. And with its considerable economic power, it cannot shy away from this responsibility by pointing to a future 'insignificant' emissions share.

For the Carbon Mechanisms Review team, what matters is not so much the EU climate and energy policy strategy itself (see box), but its impact around the world – an impact that goes largely unaddressed in the White Paper proposals.

### Global dimension

The Council's White Paper contains a 2030 target that sees the EU reduce its emissions by 40 percent compared with the Kyoto Protocol's base year of 1990. This represents the upper margin of the 2020 target window which the IPCC deemed reasonable for industrialised countries such as those in the EU. But the 40 percent target set out by the EU makes no provision for the use of internationally tradable emissions certificates. This is logically consistent.

Only if ambitious EU emission reduction targets are agreed which go way beyond the 40 percent mark can a positive message be sent regarding the use of internationally tradable emissions certificates. This decision on principle is reasonable because, given the underlying level of ambition (see below), a 40 percent target is:

- 1.) Unlikely to generate sufficient demand for internationally tradable emissions certificates
- 2.) At the very least, a necessary step on the way to achieving an EU emissions reduction target of between 80 and 95 percent in 2050

What must be remembered here first of all is that the EU Commission's proposals do not provide for the



Role model EU: Parabolic trough technology used in large-scale solar power production

use of internationally tradable emissions certificates. Nor, when it comes to structural reform of the EU Emissions Trading Scheme (ETS), do they indicate how these certificates might be used in the future. The option of linking emissions trading schemes, to which the Commission refers, cannot replace the international function of industrialised-developing country cooperation on which the CDM is built.

When looked at from an international standpoint, the proposals give rise to two questions:

1. Role model EU: Can the EU adequately contribute to keeping global warming below 2 °C with a 40 percent target which is to be met by emission reductions solely on EU territory?
2. Cooperation partner EU: Do the 2030 proposals provide a basis for cooperation in an international climate change regime?

## Role model by national effort alone

Politically impeding lines of argument that throw lower emissions targets (most recently 35 percent) into the arena are not conducive to the 2 °C goal. This can still be refuted by pointing to the calculations published in the Stern report, which laid out the considerably higher costs of climate damage arising from action that comes too late. Rather than achieving savings, 'late actions' would result in exorbitantly rising costs caused by the extremely rapid reductions then needed.

That weak climate targets are unnecessary in the period up to 2030 is shown in the emission reductions the Commission forecasts for 2020; in the reference scenario these amount to 32 percent. This figure casts yet more doubt on the wording of the EU's conditional 20 percent emissions reduction target for

## The EU White Paper on Climate and Energy Policy 2030

### EU Commission proposals on climate and energy policy for the period 2020 – 2030

- Greenhouse gas emissions are to be reduced by 40 percent EU-wide compared with the 1990 baseline
- Emission reductions will continue to be split between the ETS and non-ETS sectors
- Binding national targets will be set for the non-ETS sector
- The issue of increased ambition in international climate change efforts is only mentioned in brief
- The EU target for greater use of renewable energy will amount to at least 27 percent by 2030
- With reference to the review of the 2020 energy efficiency target in June 2014 as required by the EU Energy Efficiency Directive, the decision on a new energy efficiency target will be postponed

#### *Open issues from a German perspective:*

- An EU climate change target of at least 40 percent is required. Increased ambition should at least remain an option with a view to the international climate change negotiations.
- A three-pillar approach comprising climate change, renewables and energy efficiency remains uncertain.
- An independent, and from a German Environment Ministry perspective binding, energy efficiency target is required. This would boost competition and reduce dependency on energy imports.
- Germany would like to see a binding 30 percent target for renewables. With this, governance must be structured in such a way that it ensures a reasonable contribution from each member state. The question of governance is only vaguely addressed in the Commission's proposals.

### Structural reform of the EU Emissions Trading Scheme

- Introduction of a market stability reserve from 1 January 2021
- The reserve would be filled by reducing auction quantities where the excess amounts to more than 833 million certificates
- Increasing the auction quantities if the excess falls below 400 million certificates
- Expand the timeframe for the backloading of 600 million certificates to the period 2020 – 2022

#### *Other issues Germany would like to see addressed:*

- Earlier introduction of the stability reserve to compensate for fluctuation in demand
- The entire backloading quantity should be transferred to the reserve. This will help increase ambition in the run up to 2020.

The Commission's proposals can be viewed by clicking on 2030 Framework in the navigation bar:

[http://ec.europa.eu/clima/policies/2030/documentation\\_en.htm](http://ec.europa.eu/clima/policies/2030/documentation_en.htm)



2020. As widely reported, the EU refused to adopt the 30 percent target without condition – a move which did not exactly strengthen the EU’s position in international climate change talks.

The newly proposed emissions reduction target, rising from 32 to 40 percent or eight percentage points in the coming decade, is equally unambitious. The 35 percent target repeatedly proposed in recent months is a farce, but one which unfortunately highlights the difficulties involved in agreeing reasonable reduction targets. What this means is that even as a purely EU target, 40 percent remains weak and can only be justified in international comparison with the earlier pledges made by other Parties to the UNFCCC. This does not, however, mean that the EU can start setting out requirements for non-EU member states.

## Cooperation partners

Although its proposals contain no clear statements on the use of internationally tradable emissions certificates, the EU Commission expects agreement on the 40 percent target and only sees such certificates being acceptable when linked to a tougher reduction goal. If the EU climate targets rise above 40 percent, it could provide a similar range of scope for the use of market-based mechanisms. This is something that goes largely unaddressed in the EU Commission’s White Paper. When it comes to the international climate change talks, the proposed EU Policy Framework for Climate and Energy sends a clear message to developing countries: the EU would probably no longer buy their certificates despite the fact that it has been the biggest beneficiary and the biggest promoter of the carbon market.

The lack of demand for internationally tradable emissions certificates will be difficult to understand because the EU currently wants to incorporate net emission reductions into the New Market Mechanism and the Kyoto CDM and JI mechanisms, and at the same time it expects national contributions from developing countries. This will not work without demand from the industrialised countries. As long as neither the EU member states nor other industri-

alised countries are expected to generate such demand, all criticism regarding lack of demand on the global carbon market only serves to hinder climate change talks.

The White Paper provides no great stimulus for negotiations on either of these issues. It is hard to describe the 40 percent goal as anywhere near ambitious. A case in point is the two billion excess whose transfer into the next trading period will bring that goal down to somewhere in the region of 33 to 35 percent. The goal is also reduced when the spotlight is focused not only on the climate change talks, but on what will happen within the respective national frameworks. Addressing this issue in one of its weekly bulletins (No. 6, 2014, pp. 91 – 108), the German Institute for Economic Research (DIW) warned that the EU could soon lose its climate policy pioneer role.

From a strategic standpoint, it would be good if the EU aligned its contributions to global emission reductions in accordance with international comparison. In the foreseeable future, the EU will anyway have to discuss the matter of internationally acceptable targets and cooperation options. In the run up to the Ban Ki Moon Summit in September 2014, and in drafting the binding emission reduction targets for the Climate Change Conference in Paris in 2015, the EU will find it difficult to retain its pioneer role without more far-reaching engagement.

Whether the EU can play a leading role without further international engagement in the use of market-based mechanisms is questionable. These mechanisms can only be used in future-ready climate policy if they have undergone UNFCCC reform. Nonetheless, two aspects concerning buyer responsibility must be taken into account:

1. The EU should limit the use of internationally tradable emissions certificates to specific sectors and project types which neither harbour the risk of carbon leakage nor distort competition. The introduction and expansion of ‘use restrictions’ for internationally tradable certificates – which with its exclusion of HFC and adipic acid projects, the



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*Showing the way: EU climate and energy package – a benchmark for global effort in mitigating climate change*

EU extended as of the third trading period in the EU ETS – would result in a very different practice to that seen in the Kyoto Protocol's first commitment period.

2. The main issue as regards use of internationally tradable certificates involves meeting EU demands in calling for new market-based mechanisms. The aim is to achieve net emission reductions by climate policy means. Moving away from simple offsetting would mean that when it comes to additional emission reductions, developing countries would need to make a national contribution commensurate with their capabilities. This basic concept can only prove successful if demand for certificates from these new mechanisms can be generated (and perhaps also from the Kyoto mechanisms with net reduction components) and the EU joins in as an international cooperation partner.

The issue of net emission reductions will change with the introduction and use both of restructured and new market-based mechanisms. Compared with the Kyoto Protocol com-

mitment systems, it results in reductions which cannot be counted towards industrialised countries' targets. And when compared with the new climate change agreement, these reductions lead to net effects if they are achieved in addition to the agreed targets of the states involved.

The importance of the EU debate on the climate and energy framework for 2030 does not, therefore, limit its impact to the EU. As it sets out its future climate change policy, the EU is setting standards or at least setting the benchmark for global ambition. The EU's own level of ambition and its willingness to continue on that course will be key in deciding how market-based mechanisms are to be used in the future. If the EU sets out ambitious targets, there is reason to hope that others will follow suit. But if the EU, with its pioneer role, fails to accept its responsibility, there is little hope that others will see it as an opportunity to step in and lead the way. Even as its role diminishes, the EU should remain aware of its responsibility and take appropriate action.



## National Policies and CDM

# E+, E- or both?

Randall Spalding-Fecher, Carbon Limits AS

**The question of how to consider national policies in baseline and additionality determination has been a controversial one since the early days of the CDM. As the climate regime evolves to include additional carbon market mechanisms and support for domestic action, this question becomes both more important and more complex because of the potential for interaction between different mechanisms and policy instruments. At the same time, the slow pace of negotiations on new mechanisms may open up more opportunities to push the boundaries of the CDM.**

## Background

For any project-based mitigation activity under the CDM, the crux of the emissions reduction analysis is determining what would have happened in the absence of the mitigation mechanism or incentive. This includes determining the appropriate baseline for a given project activity, as well as the interlinked concept of determining whether the project activity is “additional”. In the early days of the CDM, experts noted that, if new policies supporting climate friendly technologies – so called “E-” policies – were included in the baseline and additionality assessment, then this would reduce the potential for generating Certified Emissions Reductions (CERs). This in turn creates a “perverse incentive” for countries to not implement such policies. Similarly, if a host country introduced policies to provide support to emissions intensive technologies, this would increase baseline emissions and CERs, providing an incentive for host countries to support technologies that

### EB Definitions of E+/E- policies

Taken from EB22, Annex 3 “Clarification on the consideration of national and/or sectoral policies and circumstances in baseline scenarios (Version 2).”

E+ policy: National and/or sectoral policies or regulations that give comparative advantages to more emissions-intensive technologies or fuels over less emissions-intensive technologies or fuels.

E- policy: National and/or sectoral policies or regulations that give comparative advantages to less emissions-intensive technologies over more emissions intensive technologies (e.g. public subsidies to promote the diffusion of renewable energy or to finance energy efficiency programs).

Source: EB22, Annex 3 “Clarification on the consideration of national and/or sectoral policies and circumstances in baseline scenarios (Version 2).”

would actually increase their greenhouse gas emissions. Box 1 provides the definitions of E+ and E- policies from the CDM Executive Board (EB).

Given concerns over “perverse incentives”, the EB determined that further guidance on how and when policies are to be considered was necessary. The EB guidance (EB22, Annex 3) stated that, “as a general principle, national and/or sectoral policies and circumstances are to be taken into account on the establishment of a baseline scenario, without creating perverse incentives that may impact host Parties’ contributions to the ultimate objective of the Convention.” This meant that new E+ and E- policies should not be included in the baseline scenario. The cut-off date for new E+ policies was set at 11 Decem-



Photo: Mriya / Wikimedia Commons

*Climate-unfriendly funding: Subsidising fossil fuel-fired electricity generation – a typical E+ policy*

ber 1997 (i.e. adoption of the Kyoto Protocol) and for new E- policies at 11 November 2001 (i.e. adoption of the CDM Modalities & Procedures).

The interpretation of this guidance played an important role in the controversy in 2008-2009 over the additionality of CDM wind projects in China, in an environment where feed-in tariffs and other subsidies were changing over time. At EB55 in 2010, the EB considered a revision of the guideline document but decided to drop the issue of national policies in additionality assessment except for on a case by case basis.

However, in 2012 the Board decided at EB70 that, for the purposes of investment analysis for additionality assessment, the benefits of an E- policy (i.e. a new feed-in tariff) could only be excluded for the first seven years after implementation of the policy. The EB has been discussing for several meetings since then how to consistently address E- policies in baseline determination, making this an appropriate time to take a closer look at this issue.

## Conceptual and practical challenges

The main conceptual issue is how to balance the risk of perverse incentives for host countries to not implement climate friendly policies with the risk of over-crediting projects because of generous baselines. Understanding the risk of over-crediting, or at least quantifying the change in baselines and additionality assessment that occurs when specific financial incentives are removed from the analysis, is relatively straightforward. The literature on additionality in the power sector in India and China implicitly touches on this question, by arguing that allowing CDM project developers to ignore favorable tariffs in their baseline assessment led to significant over-crediting (Erickson, Lazarus, and Spalding-Fecher under review; Bogner and Schneider 2011). These papers do not, however, separate out the risks from ignoring national policies and incentives from other investment analysis problems such as the choice of benchmarks.

Assessing the risk of perverse incentives is much more difficult. Implicit in the incentive question is an assumption that policy making for renewable energy and energy efficiency, in developing countries, for example, is strongly influenced by the carbon market and UN climate change negotiations. Recent studies of policy making in major CDM countries, however, suggest that, rather than carbon markets, other national political and economic issues as well as institutional frameworks play a stronger role in driving renewable energy markets (but not necessarily all climate friendly technologies) (Phillips and Newell 2013; He 2013; Newell and Bumpus 2012). Interviews conducted for the CDM Policy Dialogue research on the “Impact of the CDM” with policy makers in India and Mexico also suggest that, while CDM may make an important contribution, it is not the primary driver for policy development and market growth in renewables and energy efficiency (Spalding-Fecher et al. 2012). There is, however, no universal agreement on this issue.

The caveat to this assessment would be that the role of the CDM in influencing national policies varies considerably by technology. For example, for technologies with limited benefits other than GHG emissions reduction, such as HFC or N<sub>2</sub>O destruction, the CDM rules could play a decisive role in national policymaking. In this case, the government has few other domestic incentives to implement mitigation policies, and might be reluctant to implement policies that would limit carbon revenue. A second category of technologies would be those with limited co-benefits but higher marginal costs. These could include certain types of coal-mine methane, landfill gas capture without power generation or fugitive emissions from oil and gas production (where there is no additional energy production as a result of the project). Here again, including all new policies in the baseline would discourage implementation of national mitigation policies so there could be a justification to exclude some policies. The third category is technologies with large co-benefits and which are likely to be driven primarily by incentives outside of the CDM and/or comprise more mature technologies and mar-

kets (Schneider and Morr 2010 p. 17). This would include power generation, energy efficiency, and agriculture projects. For these technologies, the risk of over-crediting if national policies are excluded in the baseline would potentially be much larger than the risk of perverse incentives to not implement climate friendly policies.

An additional implicit assumption in the current treatment of E- policies is that it is methodologically possible to remove the effects of E- policies when selecting a baseline or assessing additionality. While this might be true for direct financial incentives such as a mandatory feed-in tariff, it would be increasingly difficult for indirect sectoral incentives (e.g. renewable energy portfolio standards) and almost impossible for economy-wide policies (e.g. domestic emissions trading schemes, infrastructure promotion programmes). Constructing the counterfactual baseline scenario is problematic enough without having to tease out the effects of multiple, often conflicting, policies and incentives.

## Options and analysis

In terms of options for E- policies (see Table 1), the question is not only whether to exclude these in baseline and additionality determination, but also when and where to exclude them. Excluding only direct financial incentives (e.g. renewable power feed in tariffs) is easier to implement and poses less risks of over-crediting, because the narrower application means that countries with policies other than direct financial incentives still face perverse incentives. Not excluding any E- policies would clearly reduce over-crediting and double counting risks, and is the easiest practice to implement, but was the original target of concern. The importance of this effect, of course, depends on the policymaker’s perception of how real the risk of perverse incentives is in practice, and in specific countries and sectors.

The recent discussion since EB 70 has introduced the option of excluding specific E- policies for a limited period. This would mitigate the risk of over-crediting



and double counting, although project developers have raised concerns that technologies such as renewable power are only viable if the carbon benefits can accrue over their entire project life (i.e. 20-30 years). Excluding E- policies only in certain sectors would target those technologies where co-benefits are low and therefore the CDM is likely to be the primary driver for action. In sectors with high co-benefits, the CDM is less likely to be the main driver, and is unlikely to create perverse incentives. The same could be said for excluding E- policies in certain country groups, for which there is a precedent in the micro-scale additionality rules provided for LDCs or countries with less than 10 CDM projects. This would imply, however, that the risk of perverse incentives was higher across sectors in LDCs, justifying the exclusion of these policies. But even in these countries, policy decisions in sectors with large co-benefits are unlikely to be influenced primarily by the CDM.

The reverse is true for E+ policies. Because a new E+ policy (e.g. tax breaks for oil and gas exploration) would increase baseline emissions, excluding this policy not only reduces perverse incentives but also reduces the risk of over-crediting. While there may be some practical challenges in identifying these policies and their impacts, excluding them from baseline and additionality assessment would provide significant benefits.

## Looking ahead to new mechanisms

The analysis above demonstrates that there is a strong case for considering all E- policies in both baselines and additionality. The literature reviewed and experts interviewed for the research this text is based upon suggest that the risk of perverse incentives is not as high as previously assumed in many countries and sectors, while the risk of over-crediting is substantial. In addition, with the introduction of

### Options for addressing national policies in baselines and additionality determination

Option	Reduce risk of perverse incentives	Reduce risks of over-crediting	Reduce risk of double counting	Practical to implement
Exclude all E- policies	✓✓	xx	xx	xx
Exclude only E- direct financial incentives	✓	x	x	✓
Include all E- policies	x	✓✓	✓	✓✓
Exclude E-: for fixed length of time	✓✓	x	x	xx
Exclude E-: for certain sectors/ technologies	✓✓	x	x	x
Exclude E-: in certain countries	✓✓	x	x	x
Exclude all E+ policies	✓✓	✓✓		x
Include all E+ policies	xx	xx		✓

new carbon market mechanisms and international support for NAMAs, the potential for double counting mitigation efforts is greater, particularly if the CDM rules exclude consideration of these new policies. There could be exceptions for specific country groups or technology types, but these should be limited in time and only agreed on the basis of analysis that shows the role of CDM in influencing investment.

Setting baselines for new mechanisms that cover entire sectors will necessarily require a much more sophisticated understanding of how current (and possibly anticipated or near term) policies effect emissions, while new policies implemented after the start of the crediting period would be an important tool in achieving sectoral emissions reductions. The work on standardized baselines for the CDM faces similar challenges, and should be used to test and develop tools and procedures for this broader baseline setting. To avoid potential double counting, any new mechanism must correct for tradable emissions units such as CERs, and the CDM rules should include all of these mechanisms in baseline setting and additionality assessment. In addition, the PoA rules should be used to explore how baseline setting, additionality assessment and MRV can be applied across an entire sector.

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## CDM Designated National Authorities

# The future potential of DNAs

by Malin Ahlberg, German Federal Environmental Agency / German Emissions Trading Authority

In the first Kyoto Protocol commitment period, national capacities for implementing the Clean Development Mechanism (CDM) were boosted with the help of the UNFCCC and a number of donor institutions. The speed and the success with which this structural work was conducted differ greatly depending on the host country involved. In some African states, poor governance structures made for a longer learning curve when it came to developing a functional CDM project approval process. By way of contrast, countries with stronger economies have profited from clearer administrative forms which have allowed the establishment of the structures needed to create a National Designated Authority (DNA) and have thus seen far greater benefit from the CDM.

One fitting example is Thailand, where the DNA also acts as the clearing house for national greenhouse gas emissions. Thus, apart from providing a transparent approval process which includes sustainability criteria for CDM eligibility, the DNA provides a wealth of information concerning the carbon market. Among other things, it promotes CDM project development in determining the emissions factor for electricity generation, and in supporting businesses in seeking approval as CDM designated operational entities (DOEs). In doing so, the DNA informs them about additional financing options for climate change activities in the voluntary offset market as

well as about project opportunities that could arise from a new climate regime.

## Clearinghouse

Despite the huge differences in these country groups, they all have in common that the CDM sparked a learning process for climate change project implementation and raised awareness to the need for climate change measures in their countries. Now, this learning curve is at risk of slumping due to the current situation on the carbon market and the uncertain future of the CDM itself. These countries thus face a severe loss of climate change expertise.

Whether the new climate change agreement for the period beyond 2020 will make the CDM and other market-based mechanisms available to developing countries has yet to be properly agreed. However, it is likely that in some countries nationally or internationally agreed mechanisms will exist alongside the CDM. These countries need to have professional and financial resources at the ready to implement the requirements under the various standards.

## New Challenges

The question remains as to the specific capabilities host countries must possess if they want to imple-



ment national offsets, international crediting or trading mechanisms, and possibly also NAMA projects.<sup>1</sup> Also, how can the various mechanisms co-exist while ensuring environmental integrity? For example, with various project designs and a high number of projects, it will be almost impossible to avoid double counting of emission reductions without the assistance of a competent national authority. The international rules must provide guidance for avoiding double counting and stipulate how certified or tradable emission reductions units may be counted towards a national mitigation target. The host countries will in all likelihood have to bear a portion of the responsibility for implementing these rules. In addition to this responsibilities, host countries must, in the interest of environmental integrity, also accept independent verification of their emissions inventory. These are all relevant issues that must be addressed in the climate change negotiations and in the Partnership for Market Readiness (PMR).<sup>2</sup>

## Expertise Needed

However, the new areas of responsibility to be assigned to the authorities in charge of climate change projects will depend on how the rules for emission measuring, reporting and verification (MRV) and for accounting are set out in the new climate change agreement. It can be assumed that the requirements for the authorities will be more ambitious than they have been under the CDM so far, because net emission reductions will have to be defined on a sectoral or project level. This means that if a country has a sector-specific reduction target and aims to meet it using a market-based mechanism, the net emission reductions must be related to a sole climate change activity. This calls for monitoring and the evaluation of data which are likely not yet available.

In addition, host countries with a national emissions cap will have to consider the additionality of their national climate change projects: if carbon credits are issued for a non-additional project, that project activity will have a negative impact on a country's emissions budget. Securing additionality thus becomes a national interest and its determination is not left solely to an international body such as the CDM Executive Board. To live up to these responsibilities, host countries must build the necessary expertise – and must plan in the time it takes to do so – before they can meet the additionality criteria.

<sup>1</sup> Nationally Appropriate Mitigation Actions

<sup>2</sup> The PMR is a World Bank initiative in which industrialised countries work with economically stronger developing countries to develop new, national carbon market mechanisms for those countries.



Photo: UNFCCC/Karlsen

Role model Thailand: Wastewater treatment and biogas use in palm oil production/CDM Project 4491

However, in a future climate regime the developing countries will not just bear co-responsibility for efficient and effective implementation of climate change activities. Apart from acquiring the expertise described above, these countries must also tackle strategic issues if they are to operate successful climate policy. Which mechanism is best suited to meeting the climate change target in which sector? Which emission reductions can be achieved with the minimum of cost by means of a unilateral NAMA activity? And which activities are reliant on financial support? For successful use of the various market-based mechanisms and instruments to foster development in their countries, the responsible authorities<sup>3</sup> must think as a network and be integrated into the national climate change regime. Hence, the authority responsible for approving climate change activities will cover far broader policy areas compared to those the DNAs now cover under the CDM.

## Developing DNA Expertise

In light of the experience gathered with the CDM, it goes without saying that some country authorities will not find it easy to take on such broad-ranging tasks. Thus, if the new system is to be effective and implemented with integrity, countries' abilities must be realistically assessed during climate change negotiations. Plus, the time available in the lead up to 2020 must be used to maintain and further develop DNA expertise. Developing countries would be wise to gather experience with sectoral approaches if they are to prepare themselves for the new climate change regime.

One way to do this would be to develop sectoral NAMAs which are implemented by means of climate financing. But with its Standardised Baselines and Programmes of Activities, the CDM also offers options for a sectoral approach to climate change. When implementing standardised baselines, the DNAs learn how an MRV system might be structured for a spe-

cific sector or segment, and what is needed for regular data updates. Such measures help to maintain staffing capacities in the countries concerned and improve their expertise.

## Structuring Climate Policies

Apart from practical experience, the phase pending the new climate change agreement's entry into force should also be used to assist developing countries in initiating a political debate on how to use the new mechanisms to structure their climate change policies. Where the CDM is concerned, the DNA Forum is a key body in which country representatives exchange experience and learn from one another. This exchange at international level must be both continued and expanded to include issues surrounding the implementation of different market-based climate change measures.

Some developing country DNAs already have the potential to make themselves ready in time to meet the requirements set out in the new climate change agreement. For countries that cannot be expected to achieve this goal, a compromise must be found which takes their capabilities into account but does not hinder ambitious climate change policy at global level.

*Disclaimer: This article is a personal contribution by Malin Ahlberg and does not necessarily express the opinions of the German Federal Environmental Agency (UBA) or the German Emissions Trading Authority (DEHSt).*

<sup>3</sup> Some developing countries may decide to divide the responsibilities for the accreditation mechanism and NAMAs to two different authorities. These ought ideally to work closely together.





Photo: UN-FCCC/D. Irish Energy Agency

Joint Implementation: Landfill gas use in Poland/JI Project PL 1000060

# Arguing the point:

## Should the JI mechanism be abandoned?

A debate by Anja Kollmuss and Benoit Leguet

Demand for and prices of carbon credits are low. But both the discussions regarding the potential future demand for CDM and JI credits and the reform of these mechanisms are ongoing. The difficulties often associated with JI in the current status affect its environmental integrity and include questions of additionality, baselines and the transparency of methods. The EU ETS currently excludes ERUs from JI projects registered after 2013.

Which place could a reformed JI mechanism have next to potential linking of existing and emerging cap-and-trade systems post 2020? Should JI include options to scale up projects and address larger sections of the economy? Should sectoralization be considered through upscaling of programmatic approaches or should it be approached directly?

Which role should the concept of additionality play in the future? The use of ERUs from non-additional projects within an



unambitious cap could transfer hot air to ambitious environments, diluting the carbon price signals in the more ambitious environments. This type of wind-fall profits would make the overall achievement of the 2° C target harder.

The largest project categories in Western Europe, industrial gas projects, had not been recognized in the previous potential estimates for JI. Are there any potential surprises left regarding the future JI potential, sometimes considered to be limited next to other policies and measures? Does it make sense to discuss the future of JI in the current environment of low carbon prices?

The Carbon Mechanisms Review invited two highly regarded JI experts to discuss these matters. Anja Kollmuss is an independent climate policy analyst who supports Carbon Market Watch with carbon market related policy analysis at the UN and EU levels. Among other things, she worked extensively on the question of „Hot Air“, i.e. surplus Assigned Amount Units from Eastern European countries. Benoît Leguet is the Head of Research at CDC Climat, and has been a member of the JI Supervisory Committee since 2008. He also promoted the development of JI projects in France between 2008 and 2012.



### Anja Kollmuss

JI credits are issued through the conversion of AAUs. This is to avoid double counting of emissions reductions in countries with a Kyoto target. AAUs are the currency of the Kyoto Protocol and do not have intrinsic value outside of the Protocol. With the end of the KP, JI credits can therefore no longer be issued.

It remains unclear if under the new climate deal, we will be able to get the comprehensive rules and accounting framework we would need to ensure quality of units and integrity of accounting (no double counting). As we show in a forthcoming paper on double counting, without a budget approach to pledges and comprehensive accounting rules, it is very difficult to avoid double counting of traded units and emission reductions.

JI track 1 has suffered from a lack of transparency, international oversight and quality. Nevertheless 97% of JI credits have been issued under track 1 to date. Over 90% of the credits have been issued by Russia and Ukraine, both countries with a very large AAU surplus and therefore little incentive to ensure conservative baselines and additionality of JI cred-

its. Willingness to improve the rules and procedures of JI has been very low.

The claim that the AAU surplus was eliminated at the negotiations in Doha is unfortunately not true. Although progress was made in Doha, the details of the rules have not been approved yet and Parties with large surpluses have been blocking progress on this since Doha. It is simply too early to claim that the Doha rules will strengthen the integrity of JI.

Parties did agree to create one single track for JI but the proposed rules and governance structures for this unified track resembles too much track 1 and lacks the necessary stringency to ensure quality. For example, the procedure for validation and registration proposed by the JISC suggests that project registration is exclusively in the hands of a host Party. A review procedure is only proposed at the stage of ERU issuance. Furthermore the suggested rules on ensuring conservative baseline setting and additionality rules are in many instances weak or insufficient. The likelihood that Parties will be willing to substantially reform the JI is very low, especially given that there is very little demand for JI credits in the coming years.

**Anja Kollmuss,** is an independent climate policy analyst who supports Carbon Market Watch with carbon market related policy analysis at the UN and EU levels.

There has been no systematic assessment of JI's environmental integrity performance to date. Unlike for the CDM, there has been little research that looks comprehensively at the performance and integrity of JI to date. Although we have plenty of anecdotal evidence that point to the lack of integrity, an independent assessment is lacking.

For all these reasons it seems unwise to promote the continuation of JI after the end of the Kyoto Protocol.

### Benoît Leguet

In principle JI is more environmentally robust than the CDM, since ERUs – carbon credits issued under JI – are backed by AAUs – national carbon allowances. The environmental integrity of the JI mechanism thus largely depends on the careful allocation of allowances as well as political will. Indeed, countries with large AAU surpluses, notably Russia and Ukraine, lack the economic incentive on their GHG budget and therefore tend to be less stringent on the additionality requirement. Nevertheless, in light of the absence of robust national climate policies in these countries, JI proved to be an effective tool to engage the private sector into climate change mitigation efforts.

Besides, the Russian government obliged project developers to reinvest revenues resulting from JI projects into further emissions reduction, thus strengthening the environmental integrity of the mechanism, as we have shown in our comprehensive assessment of the JI mechanism from the environmental and economic points of view in 2012 (Shishlov, Bellassen and Leguet, 2012).

Conversely, countries without comfortable AAU surpluses have the embedded economic incentive to strike the right balance between additionality – without which they risk paying more than one AAU per ton of emissions reduction – and transaction costs, which may eliminate truly additional projects.

Some countries capture part of the economic rent in order to compensate for the possible non-additional projects by setting stringent baselines for emissions reductions projects. This was the case for example with projects focused on N<sub>2</sub>O emissions in the chemical industry in France (Shishlov and Bellassen, 2012).

Although the development of JI projects in the EU was limited, the implications of this mechanism are far-reaching: JI provided an opportunity for testing new clean technologies, estimating abatement costs, improving national GHG inventories and setting the benchmarks for emissions reduction. The case of N<sub>2</sub>O emissions from the production of nitric acid demonstrates how JI contributed to the establishment of ambitious allocation benchmarks for the Phase III of the EU ETS.

Given the decisions of the COP18 in Doha, which effectively eliminated the possibility to use “hot air” (Morel, 2013), the environmental integrity of JI appears to be further reinforced through constraints on the AAU budget. As more countries are adopting binding emissions reduction commitments and are preparing for a new global agreement in 2015, “JI-like” instruments will become increasingly relevant, compared to “CDM-like” instruments which operate in countries with no emissions reduction commitments.

For all these reasons it seems wise to promote the continuation of JI during the second commitment period as well as in the new international agreement.



**Benoît Leguet** is the Head of Research at CDC Climat, and has been a member of the JI Supervisory Committee since 2008. He also promoted the development of JI projects in France between 2008 and 2012.

## US Submission on the 2015 Climate Change Agreement

# Fair and equitable effort sharing

by Thomas Forth

**In the middle of February, the US handed in its ‘Submission’ on elements of the new climate change agreement. While circumstances dictate that many issues are left unaddressed, the US Submission is instrumental in setting the climate policy agenda in advance of the Paris conference in 2015. This article takes a brief look at the proposals concerning national efforts, the role of the market-based mechanisms in the new agreement and the inclusion of the private sector in climate change policy.**

The principle of “common but differentiated responsibilities and respective capabilities” as defined at the 1972 climate summit in Stockholm was adopted as one of the main pillars of the UN Framework Climate Change Convention in 1992 and of the Kyoto Protocol in 1997. It has not, however, been applied at the level of action needed to achieve sustainable, future-focused policy to tackle climate change. And until the international community reaches consensus on this point, it is unlikely that the Parties’ underlying agreement on the 2 °C goal will lead to the implementation of appropriate measures. If a new climate change agreement is to be adopted in Paris in 2015, the big emitter states will have to address the issue of fair and equitable distribution of effort – the most pressing problem in the negotiations overall. While emission reductions are a key criterion for success in agreeing a new climate change regime, the new agreement must also address the problems faced by the countries most affected by climate change.

„However, we would not support a bifurcated approach ...“

Against this backdrop, the US Submission to the UN-FCCC contains clearly worded proposals on various elements of the 2015 agreement. It follows the underlying principle that a new agreement can only succeed if the manner in which global climate change effort is shared between the states is rethought. This is still in line with the standpoint taken by the US so far, which over the last decade, to put it politely, has resulted in a rather reserved attitude where international and national climate policy is concerned. Accordingly, the climate policy expectations of the Obama administration were high, but they have not yet been met at international level. Nonetheless, the new US Submission must be viewed from a different angle: as the document progresses, it becomes clear that the US believes that the idea of effort sharing within the international community could soon take shape.

The US assumes that a new, common understanding will be achieved in time for the Paris conference, believing that the division of the world into two camps – industrialised countries and developing countries – will be deemed unsuitable in tackling the problems involved with climate change. The Submission suggests that while such a bifurcated approach may



have made sense at the time the Framework Convention on Climate Change was agreed in 1992, it is neither rational nor feasible in the post-2020 era. And it goes on to suggest that it is entirely untenable given the dramatic and dynamic shifts in countries' emissions and economic profiles.

At the same time, the US confirms the applicability of the principle of "common but differentiated responsibilities and respective capabilities" (CBDR/RC) and, in light of the changes seen around the world, speaks in favour of the idea of countries committing to different targets. The Parties' efforts would differ, so the US, due to a range of factors. Such factors may, says the Submission, take in national circumstances, level of development, mitigation opportunities and capabilities.

Contributions should be nationally determined by the Parties taking into account the factors they deem relevant. Their contributions should, however, go be-

yond the general commitments contained in the Convention, and they should be expressed in quantified terms and follow a common timeframe. Countries which do not yet have the necessary capacities or capabilities opt for qualitative contributions such as a set of policies in the energy and land-use sectors.

This could lead to contributions of varying degree in various sectors and segments. Here, the US speaks of 'external financing' for developing countries which would continue post-2020 if those countries provide good 'enabling environments' and if they engage in ambitious climate change activities.

When joining a new agreement, the Parties should present their list or 'schedule' of planned activities, which should also contain the percentage of national emissions covered and the overall emissions anticipated. While the schedule would differ from country to country, the Submission still calls for countries to contribute to the global effort. External support (cli-



Photo: Ullrich / Wikimedia Commons

A Russian coal-fired power station: Can climate change mitigation effort be more equitably shared?

mate financing) would also be provided for countries that have not specified their contribution to the overall effort.

This wording addresses the underlying structure of the agreement, whereby all states contribute to the overall mitigation effort. This is in line with the standpoint adopted by almost all industrialised countries and presents a kind of common conviction



*Fostering sustainable development through market-based instruments: Solar Home System in Bangladesh*

*Photo: KFW/Böbling*

of this group of countries. But whether the Parties can agree on this idea in Paris will depend on significant contributions from this group of countries and from cooperation efforts such as climate financing, and on whether in the run up to Paris they are communicated with sufficient resolve to other groups of countries. The US has some catching up to do in this regard. But then the EU also has problems in agreeing an appropriate emissions target for its own member states.

## „If a party intends to use market mechanisms ...“

The subject of market mechanisms is only indirectly addressed in the US Submission. As a result, it contains no proposals concerning Kyoto mechanism reform or the development of new market mechanisms. In the Submission, the function assigned to the market mechanisms is seen as contributing to achieving national emission reduction targets. What is more, there is no division between specific country groups. Use of market mechanisms lies at the countries' discretion, but should be specified in advance when reporting contributions to the overall effort – this includes a description of the measures to be used to avoid double counting.

In its Submission, the US makes no delineation between seller and buyer states irrespective of the country group to which they belong. In the same vein neither the additionality of reduction efforts, nor net emission reduction effects, nor host countries' own contributions are addressed. In the worst case scenario, such mechanisms could adopt the inventory-based approach used in the trade of AAUs. Should this occur, rules for mechanisms under the UNFCCC and under a new climate change agreement would be rendered superfluous – a course that could be taken if, in the next ten to twenty years, worldwide inventories, registration systems, reliable counting rules and reporting procedures are both established and secure the quality required.

The main problem in using market mechanisms lies in accurately defining how they might be linked to countries' contributions to overall effort and to the question of how binding regulations can be drawn up for those mechanisms at UNFCCC level. The US is to provide input on this issue separately.

## “The Copenhagen goal acknowledges the role of private sector finance by calling for mobilization, rather than provision, of funds.”

The Kyoto Protocol’s CDM and JI mechanisms greatly mobilised private sector financing. An improved approval process, at least for the CDM, largely secures additional emission reductions and sets a standard for new mechanisms – both market-based and those used in climate financing. However, the additionality of these activities does not appear entirely secure at the moment.

In its Submission, the US states that: “The Copenhagen goal acknowledges the role of private sector finance by calling for mobilisation, rather than provision, of funds.” Taking up this argument, the question arises as to how private sector funding can be acquired and how it can be used to achieve additional emission reductions. The US cites the traditional instruments of international funding such as development aid, export credit, bilateral aid, multilateral development banks and multilateral climate funds. Of the public funding made available in climate financing, a large portion should be used to mobilise private sector investment. The US believes that using public funding to leverage private sector funding and creating transparency with a measuring, reporting and verification (MRV) system for climate financing is a trend that should be fostered. But this gives rise to four key questions: Where would the funding come from? In what amount? In which timeframe? And who would it go to?

On the quality side, countries receiving such financing must create an ‘enabling environment’. That the funding be received in the right place is crucial in positioning climate financing per se. This is a matter of common sense given the experience gained with traditional development policy: what is missing, unfortunately, is the question of additionality of the fund-

ing provided and how the use of such funding can actually lead to additional emission reductions. Improved CDM methodologies, the learning curve applied to the additionality tool, the use of benchmarks and the search for suitable indicators for results-based financing could all help in achieving such reductions.

The talk of building on the existing mechanisms means exactly that. But it should not mean simply adopting the various tools, such as the CDM, as is. The structures and institutions must also be reviewed. It would be fatal to simply throw everything overboard or to build parallel structures. The all-important challenge in integrating the private sector is whether market economy dynamics and entrepreneurialism can be mobilised to support climate change activities. This is a very different challenge to the one involved in including business via national or multilateral tenders.

The US Submission on elements of the 2015 Agreement should not only be welcomed with interest. It should be analysed for its inherent potential to achieve consensus, both during regular climate talks and elsewhere.

### Further information:

The US Submission is available for download at [http://unfccc.int/files/documentation/submissions\\_from\\_parties/adp/application/pdf/u.s.\\_submission\\_on\\_elements\\_of\\_the\\_2105\\_agreement.pdf](http://unfccc.int/files/documentation/submissions_from_parties/adp/application/pdf/u.s._submission_on_elements_of_the_2105_agreement.pdf)



## Geographical Distribution

# Africa's CDM potential exploited with PoAs

*Lukas Hermwille, Miriam Faulwetter, German Environment Ministry Advisor, Martin Burian, GFA Consulting Group*

**The CDM largely ignored the African market in the first Kyoto Protocol commitment period. Only South Africa and a few North African states managed to attract large-scale CDM investment. The overall share of African projects among all registered CDM activities amounted to less than three percent – a situation that has hardly altered since then.**

One of the reasons why Africa's CDM potential was not exploited is that a large part of that potential comes in the form of small-scale climate change measures. Experience has shown that the conventional CDM fails to adequately address potential of this type. To a great extent, that is a result of the complex administrative requirements which apply to project design document development, project validation and project registration.

This process incurs high costs for project developers and is largely dependent on the size of the project involved. The smaller scale a project, the higher the proportionate transaction costs. That is why most African CDM activities have involved large-scale projects to date: two-thirds of all CDM projects apply large-scale methodologies, while only a third uses the small-scale variety. And only two projects have made use of their micro-scale potential. (All facts and figures as of December 2013).

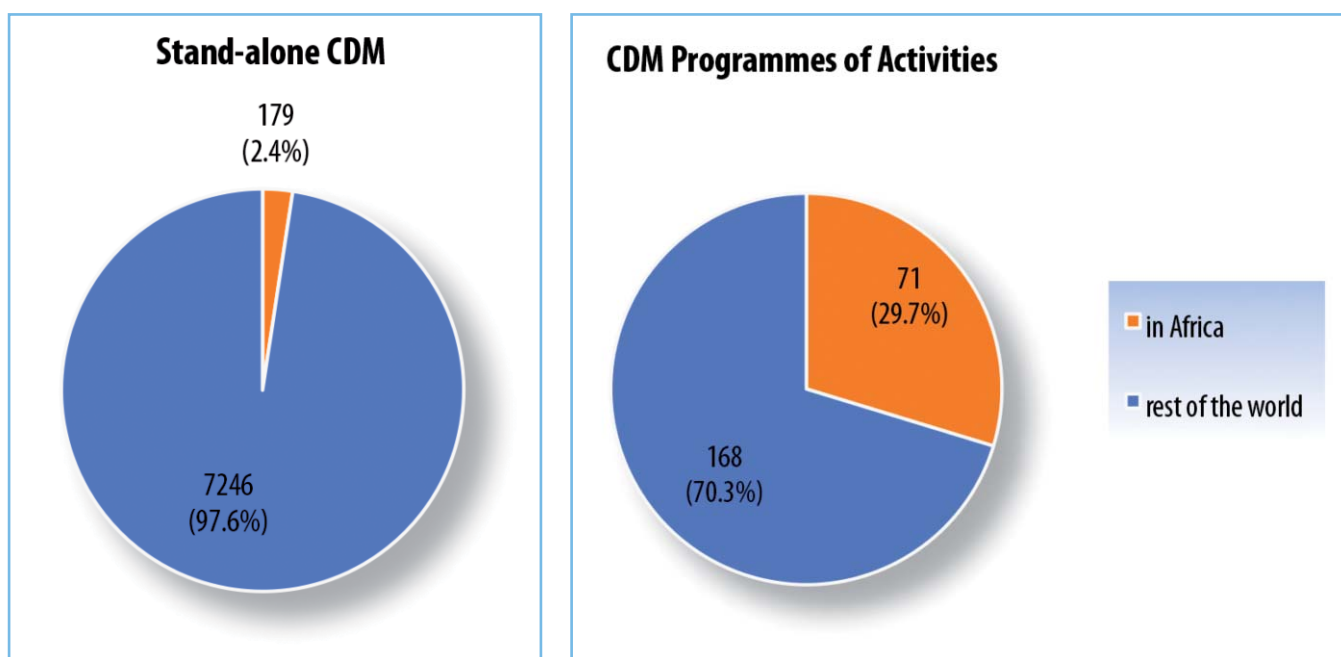
## Movement in the PoA pipeline

The CDM Programmes of Activities (PoAs) allow for several measures to be combined into programmes. This significantly reduces the transaction costs for each individual activity, because only the umbrella programme and not each individual project component must pass through the entire validation and registration process.

## The African carbon market

The rules of the EU Emissions Trading Scheme (EU ETS), whereby from the end of 2012 onwards only certificates generated from new projects conducted in Least Developed Countries (LDCs) are eligible for use under the scheme, fostered a significant rise in the number of registered projects up to the end of 2012. And it was in 2012 that the first PoAs were registered in African LDCs.

Another positive PoA development in response to this EU deadline is that another ten African LDCs have registered additional PoAs, and ten more have been registered in other countries across Africa. With 71 of the 239 PoAs registered throughout the world, Africa has more than ten times (29.7 percent) as many as under the conventional CDM. Table 1 lists the African countries with registered PoAs.



Africa's share in the conventional CDM project pipeline (left) and the PoA pipeline Source: UNEP RISOE

This positive trend is mirrored in the share of small-scale project types. Of the 167 project components (CPAs) registered under African PoAs, more than 84 percent are small-scale activities and some 22 percent make use of the micro-scale potential. Another new development is that a range of PoAs are conducted as cross-border activities. A total of 15 PoAs apply to more than one host country. But there are still countries with no registered CPAs. Countries that participate in a cross-border PoA, but in which no CPAs have been registered to date include Angola, Botswana, Guinea Bissau, Cameroon, Congo, Lesotho, Liberia, Namibia, Nigeria, Sierra Leone, Sudan, Swaziland and Zimbabwe.

The German Environment Ministry (BMUB) promotes adoption of the CDM's programmatic approach using a range of measures as an interim solution on the way to wider-ranging sectoral and national reduction activities. The focal point of this promotion is the PoA Support Center set up by the KfW Bank in 2008, and which provides funding to assist the development and marketing of selected PoAs. Some 49 PoAs have been financed in this way so far. Since 2011, the Future of the Carbon Market Foundation called into being by the BMUB has provided some 10 million €

in in large-scale start-up funding for innovative PoAs which have been integrated into the respective host country's climate policy.

Given the specific emissions profile of Africa's Least Developed Countries, many CDM PoAs have been developed for projects involving energy-efficient stoves. Household energy plays a central role both in emissions reduction and in improving conditions for people in these countries. And as the PoAs take an ever-greater hold, Programmes of Activities are being developed and implemented for other types of projects.

## Energy-efficient electricity supply

One unusual PoA has been developed by Energy and Information Logistics (EiL) Ltd., a company based in Uganda and Zimbabwe. The aim is to establish a new type of business model to reduce electricity losses in Southern African countries.

The loss of electrical power is to be reduced through the installation of reactive power compensation systems. These address a wide-ranging problem in

## Overview of PoAs and associated CPAs in Africa.

Countries	PoAs	CPAs
Burkina Faso	1	0
Egypt	2	4
Ethiopia	2	5
Ghana	4	6
Ivory Coast	1	2
Kenya	13	24
Madagascar	1	23
Malawi	2	3
Morocco	3	3
Mozambique	0	2
Nigeria	3	9
Rwanda	3	5
Senegal	2	2
South Africa	29	51
Tanzania	1	1
Togo	0	1
Tunisia	1	8
Uganda	3	13
Zambia	2	5

Multinational PoAs are only counted for the 'lead' country that submitted the documents. CPAs in multinational PoAs are registered in the name of the country in which they are conducted.

Source: Wuppertal Institute after UNEP Risø.

Africa. The grid is based on alternating current, but industrial consumers often use appliances that run on direct current (such as electric motors and data centres). If the grid frequencies are not in harmony with those of the end-use appliances, this causes industrial plants to produce with a low power factor which results in reactive power. Reactive power compensation systems harmonise the different currents, reduce loss and secure efficient electricity supply.

Reactive power compensation is a tried and tested technology, but its application in Southern Africa faces considerable barriers: industrial plants largely

operate according to projection-related performance figures and energy efficiency is of little importance. Plus, investment in long-term energy efficiency is exacerbated by high capital investment costs and double-digit interest on loans.

To exploit this energy efficiency potential, the business model sees EiL investing in reactive power compensation systems and installing them at industrial consumer sites. The savings in electricity consumption will in turn result in lower emission levels and lower costs.

However, this business model is only feasible if funded from additional revenues from the sale of emissions certificates (CERs). With assistance from the KfW PoA Support Centre and advice from GFA Consulting Group, EiL aims to develop a CDM PoA in 2014 using two CPAs, one in Uganda and the other in Zimbabwe. The electricity savings achieved with the CPAs are estimated at 25.29 GWh per year. The baseline for the PoA will be developed on the basis of the Standardised Baseline for the Southern African electricity grid, the first such baseline to be approved by the CDM Executive Board.

The overall potential for electricity savings is considerable and is estimated at 306 GWh per year for Uganda alone. Implementation of an initial pilot system is planned for the latter part of 2014. Apart from reducing emissions, the aim is to contribute to supply security, promote economic development and foster environmentally sound practices in the region.

A fully developed Project Idea Note already exists for the PoA. The Climate Change Secretariat has been asked to clarify a number of points regarding the methodology to be applied. The first draft for the Project Design Document is expected by mid-2014.

## Drinking water for homes and schools

In Uganda and Rwanda, Impact Carbon has developed a very different kind of PoA in which the use of



efficient water filters will reduce emissions compared with the baseline.

Some 1.1 billion people around the world have no access to clean drinking water. In Africa alone the problem affects 40 percent of the population. Normally, people boil water to make drinking water. As they usually use biomass for fuel, the act of boiling water pollutes the air and harms human health. It also harms the forests and the climate. Accordingly, the Uganda and Rwanda governments have a policy interest in addressing this issue.

The main barriers to the introduction of modern filter technologies lie in the lack of financing opportunities and the lack of awareness or knowledge within the target group. This is the basis on which Impact Carbon aims to support homes and schools with its Safe Water Access PoA, offering interest-free loans and training courses on the benefits of the filter systems. The long-term goal is to create an independent market for these technologies. As a result, the filters will be sold at current market rates instead of distributing them to local people free of charge.

The revenue accrued will go towards financing the programme. Revenue from the sale of carbon certificates will be used to provide financing, training and marketing subsidies in order to spread the programme's reach and create new markets. With the PoA, various types of water filter systems will be sold for use in homes and schools and which are suited to local conditions and needs (school size, electricity supply, water quality and so on).

Pilot programmes have been implemented in homes and schools in Uganda and Rwanda since 2012. The institutional component (schools) was identified as the option with the greatest direct potential. Working with Kiva, a microfinancing organisation, this part of the programme will be expanded, with the homes component being developed in parallel. Additional financing will, however, be needed to expand the activities on both sides.

Some 30 filter systems have been installed in schools so far. Monitoring results show 100 percent satisfaction across all the schools involved and a further 70 schools have registered interest. Emission reductions from the schools component alone are estimated at as much as 609,000 tCO<sub>2</sub>e over a period of seven years. Up to three million people can be reached

in this way. The PoA was developed with the help of the KfW PoA Support Centre and is now going through the validation process, with registration expected in May.

Among other things, the programme stands out on account of its political components and its strong sustainability effects. The current low prices on the carbon market are naturally a hindrance for a business model with which loans, training and marketing are to be financed. These are necessary to ensure that the programme can function in the longer term by creating local markets rather than relying on carbon market revenues. But thanks to its highly positive impact in fostering sustainable development, and not least to its Gold Standard certification, the PoA is likely to attract buyers from the offsets market and possibly international funders operating through carbon credit purchase schemes.

## Outlook

Looking at the CDM pipeline it would appear that PoAs are well suited to exploiting Africa's emissions reduction potential and are more suitable than the conventional CDM. While it has taken some considerable time to develop the institutional structures and gather the experience needed to make PoAs ready for large-scale use in the carbon market, that point has now been reached.

What remains to be seen is how registered and planned PoAs will fare given the current low prices on the global carbon market. While PoAs were registered last year despite the difficult market situation, no CERs were issued on the African market. It thus remains uncertain whether the planned emission reductions can actually be achieved.

### Links:

The Future of the Carbon Market Foundation  
[www.carbonmarket-foundation.org](http://www.carbonmarket-foundation.org)

PoA Support Centre  
<https://www.kfw-entwicklungsbank.de/International-financing/KfW-Entwicklungsbank/Environment-and-climate/Klima%C2%ADschutzfonds/PoA-Förderzentrum-Deutschland/>

Impact Carbon  
[www.impactcarbon.org](http://www.impactcarbon.org)

# Berlinale Film Festival and Climate Change

by Silke Karcher, German Ministry for the Environment, and Thomas Forth



Visitors to this year's Berlinale film festival were treated to a close up on climate change and climate change policy. Carbon Mechanisms Review looked at two of the films on offer. *Nuoc*, a Vietnamese offering, shines the spotlight on rising sea levels, while *Beyond Metabolism*, a German production in the short film category, looks back on the early successes of the climate change talks.

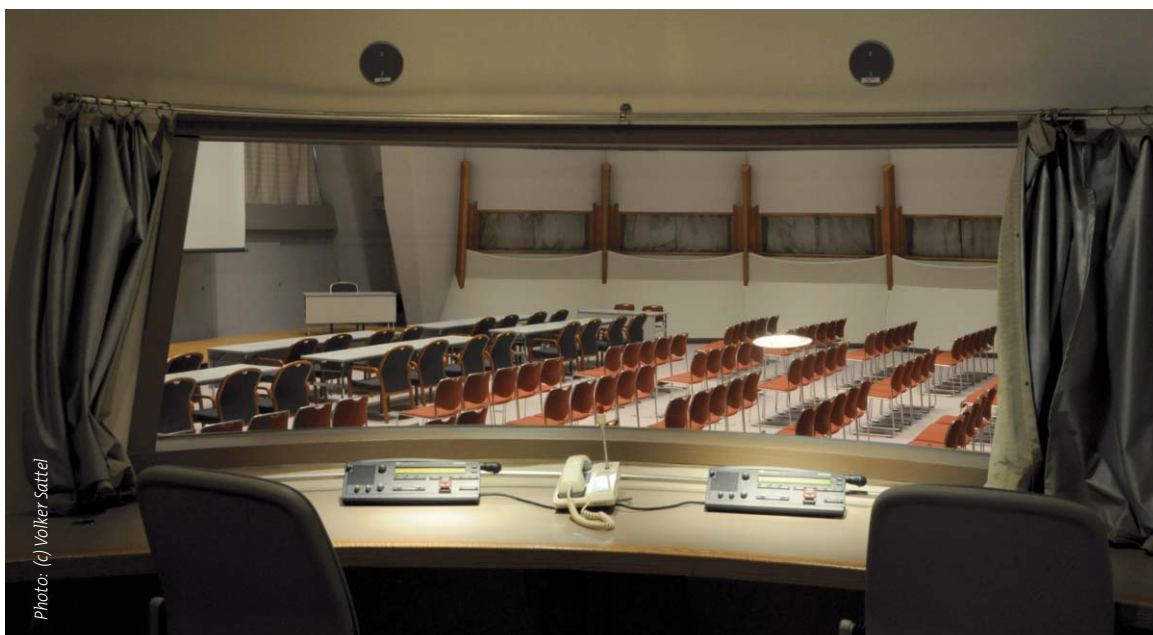
*Nuoc*, Vietnamese for water, opened the International Forum of New Cinema (Forum in short) section with a film that brings the impact of climate change to life. Directed by **Nguyen-Vo Nghiem-Minh**, it looks ahead at the Vietnam of 2030: water landscapes, low-lying clouds, and a vague impression of a futuristic city skyline. These are breathtakingly beau-

tiful images. Parts of the country have sunk into the sea. Signs that once marked border crossing points now stand immersed in water. People, the few that are still there, try to continue their lives on what used to be their farms. Living on modest crops of vegetables and small catches of fish, they lead a sad and sorry life. The water has changed their lives and it changed them as well. Of course, they will have to leave eventually – the film leaves no room for doubt about that. The drama that is known as climate change is mirrored in the triangular connections between three individuals. As their livelihoods are increasingly at risk from the changes happening around them, everyday issues take on a new dimension. And as company interests come into play and the entangled triangle evolves into a plot, the film pans into pictures of water, waves and rain. In *Nuoc*, social superstructures have lost all meaning because they cannot be used to combat climate change. The



Life in a changed climate: the Vietnamese film 'Nuoc'

Photo: Premium Films



At the core of the conference: Film still from *Beyond Metabolism*

Photo: (c) Volker Sattel

film highlights the point of no return – and a problem that should have been tackled long ago. Nonetheless, Nuoc is neither a political documentary nor does it convey a specific message. When asked about this after the performance, the director is somewhat taken aback. That's all so unnecessary, he says. The challenge is plain to see.

In **Beyond Metabolism**, a mid-length video in the Forum Expanded programme, **Stefanie Gaus** and **Volker Sattel** bring metabolist architecture in touch with the Kyoto Protocol. At first glance, the viewer asks what the visions of a group of Japanese architects that formed in 1959 have to do with the Kyoto document. Is it just that the conference building built by Sachio Otani in the 1960s is where the Protocol was agreed in 1997? Or is there some kind of metabolic logic to how the Protocol is set out? At some point, *Beyond Metabolism* turns into *Beyond Kyoto* and the question of metabolic change.

When the film was presented at the Berlinale, viewers heard: “First triangles, then hexagons – the hexagon as the geometric DNA of an erratic architectural structure with an eerie lack of scale. Slowly, in the succession of hallways, apertures, views, and spaces, an enormous construction is disclosed. We find our-

selves in the interior...” With scenes shot from the perspective of an interpreter who recorded the proceedings from her interpreter’s box, the viewer is taken back to the World Climate Change Conference in 1997. Up on the screen Raúl Estrada, who led the Kyoto negotiations, is seen with Al Gore and other key decision-makers shortly before the high-level segment kicks off.

The pictures convey the reverence of the moment, nothing seems staged. The political metabolism appears to be working – but only perhaps in retrospect. As the film explores the conference centre’s architecture and the processes followed at the conference itself, a superimposed text like those used in the days of silent film appears like an accusation: “The conference ended with the decision on the first and to date only treaty under international law on climate protection, the so-called Kyoto Protocol.”

Gaus and Sattel named their film *Beyond Metabolism*. The metabolist concept calls for flexible, scaleable architecture, and many parallels can be drawn with the multifaceted challenges in dealing with growing cities and rising emissions.

So can metabolism be used to describe where the international climate change regime stands today? In





Architecture as a symbol of change and dynamism: A film still from *Beyond Metabolism*

Photo: Volker Sattel

2009, if not before, the Kyoto Protocol began to waver at the climate summit in Copenhagen. In this post-metabolic phase, responsibility for global climate policy can no longer be borne by the industrialised nations alone. The EU now accounts for a good 10 per cent of global emissions, its contribution to global warming on the decline despite the fact that its historical responsibility goes uncontested. The EU thus stands the risk of being the guilty party because it is not certain whether the climate targets agreed by the industrialised countries in negotiating the new climate change agreement are in line with an emissions reduction path that will meet the 2 °C goal.

This hinders the climate talks in a phase where the emerging economies are heavily and increasingly responsible for the growing rise in greenhouse gas emissions and for global warming over all. But they find it no less difficult than the industrialised countries in accepting their new role and assuming responsibility for mitigating climate change. Alternating calls for showing responsibility and willingness to take action have borne little fruit. The only thing they have led to is deadlock. A meaningful formula for burden sharing in line with the principle of “common but differentiated responsibilities and respec-

tive capabilities” as set out in the 1992 UN Framework Climate Change Convention has yet to be found. The post-metabolic phase goes on.

That deadlock can only be broken by a successful outcome from the climate talks. The Kyoto Protocol’s bipolar world no longer exists. The dynamics of climate change have altered, and the old Protocol structure is no longer intact. The multipolar nature of the world is mirrored in the climate change regime, although industrialised and developing countries are separated just the same. The conditions to allow metabolic structures in the future have yet to come to light.

Metabolist vision sees the city of future mass societies designed as part of a dynamic process using large-scale structures that are flexible and scaleable. This can be likened to the current climate talks: instead of binding reduction targets, countries can boost their contribution to the global climate change effort by opting for a pledge and review process. So is this the new order? Voluntary activities, a step by step process, and alternating observation and comparison – all achieving more than can be achieved with binding commitments today? The question is what driv-

ers are needed in the process of creating a new metabolic order?

The metabolist understanding of the need for change and for dynamism came from the realisation that in urban planning the prevailing laws of form and function no longer worked. But in today's climate change regime, the involuntary metabolists have yet to find a way that leads beyond the dividing up the world into industrialised and developing countries.

The old metabolists talked of the new, future cultural and societal requirements calling for the integration of the laws of space and constant functional change. But they never forgot that buildings must be constructed in such a way as to fit the space, the society and environment in which they stand. The conference building in Kyoto may seem rather ugly today, as most buildings of that period do, but it harmonises with the landscape and allows those within it to appreciate its surroundings.

The building's interior creates a sense of community by very simple means: in a setting of close proximity and greater inclusion it does away with the idea of separating conference participants into influential groups and isolating certain individuals on account of the office they hold – at least it does so to a degree. This is an image, a vision that no doubt became reality in the decisive stages of the climate change negotiations, when Raúl Estrada declared as adopted the articles of the Kyoto Protocol – a reality made even more real in that interventions from various parties still went unrecognised. That the Kyoto Protocol was finally adopted is down to the willingness of all involved in wanting to make it work. It could be said they produced an intact metabolic state.

The game of turning a blind eye to the political interventions of specific countries in the final vote at the annual climate conference has been played many times. All it brought was outrage and obstruction. There can thus be no clearer indication that the conditions for a new international climate change agreement must first be visible in what and how the countries communicate, and they then must be made tangible to allow consensus.

Looking at the metabolist take on change in a confused world, several solutions come to mind. But strictly speaking, metabolism takes two extreme forms.

First, there is the more destructive form which weakens cohesion in the international climate regime (the Kyoto Protocol) and break downs its established structures into simple, unrelated fragmented shapes. The potential for timely human intervention in mitigating climate change would then be lost.



*Kyoto Climate Change Conference protagonists: Michael Zammit Cutajar and Raúl Estrada*

Second, there is a constructive form of metabolism, in which the new agreement combines global climate change efforts into a synthesis of simple and complex processes. By offering countries different options for commitment and cooperation, the new protocol could allow them a flexible entry to the international climate regime.

Gaus and Sattel have produced an inspiring work in which the Kyoto Protocol appears a thing of the past. Beyond Metabolism lends an unusual sense of respect and recognition not to the document itself, however, but to the process and the spirit of consensus from which it evolved.



# CARBON MECHANISMS REVIEW



## Technology Transfer and CDM / JI

Policy Brief on the UNFCCC Technology Mechanism and possible synergies with Carbon Market mechanisms. Download at [www.jiko-bmub.de/1394](http://www.jiko-bmub.de/1394)

## CDM/JI Country Profiles

This section of the JIKO Website provides information on potential CDM/JI host countries, with brief country profiles, relevant agreements and decisions, and helpful links. Find out more at [www.jiko-bmu.de/471](http://www.jiko-bmu.de/471)

## Glossary

All CDM/JI-specific terms and abbreviations are explained in detail in the glossary on the JIKO website. You can view the glossary here: [www.jiko-bmu.de/459](http://www.jiko-bmu.de/459)