JIKO Info 3 | 09

Wuppertal Institute for Climate, Environment and Energy

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Editorial

Dear reader,

With the slow pace of negotiations on the future of the climate regime beyond 2012, the debate on the environmental integrity of the Kyoto mechanisms continues. In this JIKO Info newsletter, we want to feed the debate and look at the issue from varying standpoints. Criticism of the work performed by DOEs has been underpinned by the findings of a new study on which we report in the adjacent article. The CDM Executive Board hopes to see improvements in the validation and verification procedure with, among other things, the new accreditation rules introduced in March (see the article elsewhere in this newsletter).

The CDM Gold Standard is on course for expansion as a CDM quality benchmark and label. Our authors take this trend to task and ask whether it will help the Gold Standard to emerge from its niche status. Also, CDM Watch, an independent watchdog, has (re) formed to monitor the environmental and social aspects of the CDM.

The rules on programmes of activities (PoAs), which the CDM EB revised in May, will assist in accelerating development of this project type. PoAs harbour potential for projects with great social additionality, especially in least developed countries (LDCs). A guest article sets out some new ideas on ways to implement more CDM projects, particularly in Africa. Finally, we report on climate change projects in the industrial gas sector, where the focus is on securing the environmental integrity of the CDM while assessing its impacts on certain production locations.

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

Christof Arens

Contents

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JIKO Analysis

"Serious Shortcomings in Project Evaluation"

Öko-Institut develops DOE rating system

by Lambert Schneider, Öko-Institute

On behalf of the WWF, the Freiburg-based Öko-Institut (Institute for Applied Ecology) has developed a rating system for use in measuring the performance of Designated Operational Entities (DOEs) under the Clean Development Mechanism (CDM). The system rates how often projects accepted by a DOE are criticised or rejected by the CDM Executive Board. It shows that there are still considerable shortcomings in the project validation and verification process: in over 50 percent of the projects accepted by DOEs, the CDM EB either asks for corrective action to be taken or rejects the project altogether.

Commissioned by the WWF, the rating system is designed to provide greater market transparency by showing which DOEs ensure a higher rate of success in getting projects approved. The study measures the rate of success achieved by DOEs in relation to the number of CDM projects that are registered with the CDM Executive Board. Öko-Institut has drawn up statistics for each DOE on the projects that they validated and which the CDM EB either approved, rejected, asked to be corrected or subjected to review. A DOE with a high number of its validated projects being rejected by the Executive Board thus receives a poorer rating than one with a higher rate of EB approvals.

Continued on page 2

JIKO Analysis

Gold Standard on Expansion Course

The CDM Gold Standard was launched in 2003 as a label to certify the quality of CDM projects which, apart from achieving emission reductions, serve sustainable development in the host country. Although the Gold Standard became firmly established in the carbon market, it attracted only a small number of projects. There has, however, recently been a strong increase in the number of projects in the GS pipeline. Also, GS is currently setting up a network of local experts to develop and disseminate knowledge on the Gold Standard and to boost capacities to implement CDM projects. This will serve previously underrepresented regions which stand to benefit from the high quality of Gold Standard projects. JIKO Info analyses the latest trends in the CDM carbon quality segment.

The Gold Standard had little influence on the CDM pipeline for a number of years. This was largely because it provided no added value for key players in the carbon market. For countries and businesses looking to purchase carbon credits, the main priority is to comply with their emission reduction commitments under the Kyoto Protocol and the EU Emissions Trading Scheme.

Continued on page 5

JIKO Analysis

Serious Shortcomings in Project Evaluation

Continued from p. 1

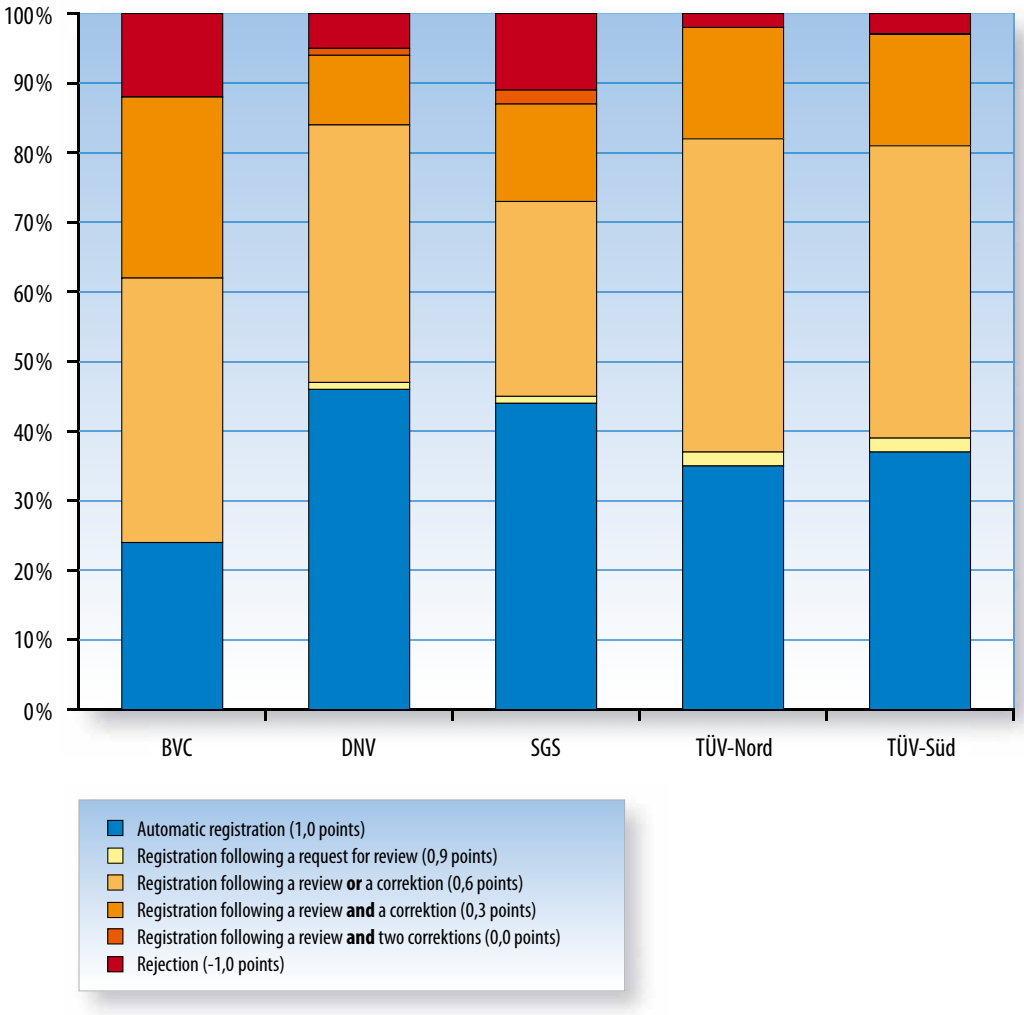
Lambert Schneider joined the energy and climate change section at Öko-Institut in 2000. He has been a member of the German delegation at UN climate change negotiations since 2001, where he is responsible, among other things, for the flexible mechanisms. He was appointed to the CDM Methodological Panel in 2005 and has conducted research on innovative energy production technologies and the implementation and further development of the flexible mechanisms.

The Board's decisions regarding project registration were rated with scores ranging between –1.0 for a rejection and 1.0 for automatic registration.

Hence, the rating system evaluates whether the DOEs comply with CDM EB requirements and meet its expectations. Other aspects such as cost and timeliness of validation and verification services were not included in the study. The evaluation took in all projects submitted for registration within the past two years and on which the Board had already made a final decision. This meant a total of 900 projects submitted by 14 DOEs. The study covered the five DOEs that had handled the most projects. For each DOE, an average score was calculated and a rating awarded: 'A' being the best-possible rating and 'F' the poorest. The results are shown in the following table and graph.

The ratings show that the CDM Executive Board found fault with or rejected many of the projects that had been validated by a DOE. This gives DOEs a poor rating across the board. The German TÜV Süd faired best, with a 'D' rating. The worst rating (F) was awarded to BVC, mainly due to the large number of rejected projects. SGS ranked between BVC and the

DOE	Score	Rating
TÜV-Nord	0.66	D
TÜV-Süd	0.65	D
SGS Climate Change	0.54	E
Bureau Veritas Certification (BVC)	0.43	F
Det Norske Veritas (DNV)	(0.64)	F



Source: Öko-Institute 2009

JIKO Analysis

TÜVs with an 'E' rating. DNV's accreditation was suspended for the period November 2008 to February 2009 on grounds of serious shortcomings in its performance and thus received an 'F' rating.

The Öko-Institut study is available for download at: http://www.oeko.de/aktuelles/dok/911.php

The ratings highlight the need for considerable improvements in the work performed by the DOEs. This has been confirmed both by numerous spot checks conducted by the EB and by the suspension of DNV's accreditation. The main reason for projects being rejected is their lack of additionality. This is where the DOEs need to take particular care. But their job is not easy: the CDM rules are often vague and are frequently inconsistent. And in many instances, EB decisions are made on a case-by-case basis and sometimes for political reasons.

The considerable problems in the validation and verification process raise the question as to whether the conflict of interests faced by DOEs can be better resolved: currently, the DOEs are paid by the project developers as their clients but evaluate the projects on behalf of the CDM EB. This situation could be avoided if the Board commissioned the DOE's services directly and recouped the costs by levying fees.

The DOE ratings should improve over time. Firstly, the CDM EB requirements are becoming more detailed and clearer. Last year, the EB published a Validation and Verification Manual (VVM) which sets out the precise requirements for project validation and verification. Secondly, the DOEs are under considerable pressure to implement inhouse measures to guarantee and improve the quality of their work.

The new project type for programmes of activities (PoAs) poses a challenge for DOEs. Among other things, further clarification is needed regarding validators' liability for certain parts of their evaluations. The photo shows the Solar Home Systems in Bangladesh PoA, which is being conducted in conjunction with the Grameen Microcredit Bank.
Photo: World Bank/Community Development Carbon Fund

JIKO Analysis

New Accreditation Rules to Improve Quality of Project Evaluations

At its 46th meeting, the CDM Executive Board (EB) adopted new rules on the accreditation of Designated Operational Entities (DOEs), the third-party certifiers that vet CDM project activities. The rules now take in an amended approval process and a set of accreditation standards which include provisions on subcontracting. Immediately after the meeting, the EB accredited several new DOEs. It is thus expected that project evaluations will now be processed faster and fees will drop.

Last year, project validations were taking longer and longer and the costs involved had almost doubled. DOEs faced increasing criticism and were accused of not ensuring the environmental integrity of the CDM. At its last meeting before the COP in Poznan at the end of 2008, the EB temporarily suspended market-leader DNV's accreditation on grounds of substandard performance, see preceeding article.

The COP asked the EB to simplify the accreditation process so that more DOEs could be accredited and project validation accelerated. This was coupled with the hope that greater competition among DOEs would improve the quality of project evaluations.

The most important change in the accreditation procedure is that DOEs can now be accredited without their work being assessed on the basis of an actual CDM project (scheduled witnessing). Accreditation is now simply subject to an on-site assessment at the DOE's premises and a look at relevant documentation. Once this has been done, the DOE receives its accreditation. Instead of the previous procedure of assessing the applicant entity's eligibility based on actual projects in advance, the procedure now involves regular performance assessments by a member of the assessment team appointed by the EB Accreditation Panel. These assessments expressly provide for on-site visits to the projects under review. It is this aspect in particular which the EB hopes will improve quality assurance controls within the DOEs.

The quality of project evaluations will also be improved by means of the new accreditation standards and largely thanks to the new multi-site accreditation provision, which allows the allocation of validation and verification functions to other sites operated by a DOE. The Accreditation Panel (AP) decides which sites may be included in the on-site assessments. The new accreditation rules also stipulate which functions must remain with the entity's central office and which may be delegated to another office belonging to the same group.

Also, the rules are now clearer in that subcontracts may only be awarded for technical expertise. The core functions of project evaluation must remain with the DOE itself. Further, subcontracts may only be used to supplement a DOE's internal resources.

Following the adoption of the new procedure, the CDM EB immediately accredited eleven new DOEs. Another five accredited entities whose accreditation had expired and was up for renewal were re-accredited by the Board in line with the new procedure. It remains to be seen, however, whether the quality of project evaluations will actually improve. There are no signs so far to indicate any reduction in validation costs.

The wording of the new accreditation rules can be viewed online:
Accreditation Standards: http://cdm.unfccc.int/EB/046/eb46_repan02.pdf
Accreditation Procedure: http://cdm.unfccc.int/EB/046/eb46_repan03.pdf

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JIKO Analysis

Gold Standard on Expansion Course
Continued from p. 1

It makes no legal difference in this regard whether the credits stem from 'normal' or Gold Standard projects. Buyers of carbon credits usually want to buy as many certificates as possible and at the lowest price possible. And for a long time, project developers were uncertain about how the Gold Standard criteria should be applied in practice.

For about a year now, the Gold Standard pipeline has seen rapid growth: although for a long period of time only five projects were certified under the Gold Standard scheme, in May this year there were 100 CDM activities in the GS pipeline. Added to this are an equal number of project activities which have been registered not for the CDM but for the voluntary offset market. The Gold Standard website currently lists 23 project developers. This growth is partly due to the fact that, thanks to various funding providers, the Gold Standard Foundation has been able to step up its marketing activities to promote the Gold Standard. And with Version 2.0, transparency and usability of GS for project developers was significantly improved. A newly-developed Version 2.1 will apply from August 2009.

The recruitment of new country experts is instrumental in expanding the Gold Standard's reach. The new staff members will forge contacts to bring relevant stakeholders together, both within and between the various regions, and will also develop and disseminate strategic knowledge on the Gold Standard and implementation capacities. This will reduce market entry and transaction costs in regions that have as yet had little opportunity to benefit from Gold Standard projects. The employees recruited in April 2009 will be deployed in North Africa/Middle East, sub-Saharan countries in Africa, Mexico/Central America, South America, India, China and South-East Asia. For these seven regions, action plans will be drafted which include workshops, training courses, campaigns and the creation of project pipelines.

Applying the Gold Standard in Practice

The new Gold Standard Version 2.0 provides for greater transparency and usability. This was confirmed by project developers in a range of interviews conducted by Wuppertal Institute staff as part of an ongoing study. In the interviews, project developers point out that the principle of bottom-up assessment is practicable. This means that, depending on the project type and local conditions, impact assessments can focus on specific sustainability criteria and thus provide for a balanced cost-benefit ratio.

With bottom-up assessments, the Gold Standard sees intensive stakeholder participation, positive feedback and suggestions for improvement from local residents and stakeholders as key components in ensuring high-quality projects and gives these priority over a pre-determined understanding of sustainability. This has given rise to the award of the Gold Standard label to a project involving biogas derived from a large herd of livestock.

Gold Standard Requirements

The Gold Standard only certifies renewable energy and demand-side energy efficiency projects that actively promote sustainable development. End-of-pipe technologies are excluded by this positive list from the outset. Project developers must use a list of sustainability criteria to document the positive effects of their project designs. The most important instrument in quality assurance, however, is close cooperation between project developers and independent actors at local level. This is why the Gold Standard requires at least two rounds of stakeholder reviews and documentation of how local people's objections and suggestions are responded to. Also, the Gold Standard is associated with a network of internationally active environmental organisations who submit comments on the various project activities. The new Gold Standard local experts help in implementing registered projects. The Gold Standard has also introduced a sustainability monitoring scheme which requires project developers to document their statements on the impacts of their own projects once they have been implemented.

JIKO Analysis

Gold Standard Organisation

The Gold Standard was originally set up as an initiative involving several non-governmental organisations and headed by WWF, SouthSouthNorth and Helio International. A secretariat was opened in Switzerland in 2004 and the Gold Standard Foundation was established as a non-profit legal entity in 2006. The secretariat is responsible for overseeing, registering and certifying projects and for conducting marketing activities. The Foundation employs country experts who it deploys at local level. Strategically fundamental decisions are currently made by a six-strong Executive Board whose members are largely recruited from the affiliated NGOs. A Technical Advisory Committee (TAC) advises the Gold Standard to provide clarity regarding rules and procedures and their further development. The TAC comprises eight members from NGOs, private industry and international organisations. To avoid any conflict of interest, the Foundation does not engage in the purchase or sale of carbon credits.

The stakeholder reviews have come under criticism, however. Many developing countries have either not yet developed a culture of debate or it is not as well developed as in industrialised nations. This often results in local people not putting forward their criticisms and objections or making any suggestions for improvement.

Project developers also point out that stakeholder reviews can often be counterproductive. For example, they give competitors of the company involved an opportunity to bad-mouth and find fault with a particular project. The presence of journalists gives them a platform for inappropriate comments that have nothing to do with the project itself.

The Gold Standard project on solar steam for cooking and other applications. At 18 locations throughout India, solar-thermal energy will be supplied to temples, hospitals and schools. Solar dishes collect energy from the sun in a tube in which water is heated and then channelled to kitchens. By 2012, approximately 4,000 tonnes of CO_2 will be saved. Around 20 jobs will be created and the ambient air in the kitchen, which previously exposed cooks to diesel soot, will be cleaned. Photos: © atmosfair, gtz (H. Liptow, M. Netzhammer)

JIKO Analysis

Conclusions and Outlook

The Gold Standard has evolved from an idea to a workable instrument. However, its quality assurance procedure appears to be based on an intensive management process which may not be entirely suited to broad-based reproduction. Clarification is also needed as to whether the Gold Standard really improves project quality or whether the majority of projects submitted for certification are highly sustainable anyway. Hence, the Gold Standard is still some way from achieving its objective of enhancing the CDM as a whole.

On behalf of the German Environment Ministry (BMU), the Wuppertal Institute is currently conducting research into the potential quality criteria, including the Gold Standard, for CDM projects under the future climate regime. The findings of the study will be published in October this year.

CA, FR, WSt

The d.light rural lighting project in India, in which petroleum lanterns are replaced with solar-powered LED lamps. This Gold Standard project has been validated and awaits registration by the CDM EB. With a lifecycle stretching from 2009 to 2018, the project is expected to achieve emission reductions of 30,000 t CO_2 per year. Work is also under way to expand project activities to cover the entire country.
Photos: D.light/OneCarbon, Julia Fleck.

JIKO Analysis

New Initiative Monitors CDM Sustainability

by Eva Filzmoser, CDM Watch

Eva Filzmoser is a programme coordinator at CDM Watch. A lawyer who specialises in environmental law, she has worked as an environment and energy policy advisor to the European Commission and also to non-governmental organisations in developing countries.

The Clean Development Mechanism (CDM) is currently the only instrument which actively includes developing countries in emission reduction efforts under the Kyoto Protocol. There are, however, growing concerns regarding the environmental and social integrity of projects conducted under the CDM. This is why in April 2009, CDM Watch was called into being by a group of non-governmental organisations. The aim of their initiative is to boost the ability of grassroots groups in CDM host countries to influence both the international debate on CDM reform and the implementation of current CDM projects.

CDM Watch has set itself the task of improving the CDM's contribution to protecting the environment and achieving sustainable development, particularly as regards preventing the negative social and environmental impacts of CDM projects in developing countries. This calls for greater involvement of local stakeholders. But stakeholder input is dependent on prior knowledge and cooperation between local agents and national and international NGOs. Key in this endeavour is thus the empowerment of local stakeholders and NGOs by means of knowledge dissemination, training and education. The local population is to be put in a position to put their views forward and make their demands heard, both in national and international CDM approval processes.

In establishing CDM Watch, a coordination office was set up at the Bonn-based NGO Forum Environment and Development, which developed the concept for CDM Watch in conjunction with a number of international NGOs. CDM Watch is funded by the German Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU).

To give NGOs greater influence in the CDM process, CDM Watch will draft a guide for local stakeholders to assist them in developing their standpoints. In this connection, workshops will be held in India and Brazil, the aim being to establish stakeholder networks at regional and national level, and to foster debate on ways to exert influence.

CDM Watch will also evaluate specific CDM projects and warn potential buyers against those they rate as harmful and non-additional. CDM Watch views large-scale hydropower projects with particular scepticism. For example, it has warned German utility RWE against

Monitoring activities at the EcoMethane Landfill Gas to Energy Project in Aguascalientes, Mexico (CDM Ref. 0425). The project involves flaring of methane at two landfill sites. At one of the sites, the gas is burned to generate electricity. This photo won a prize in the UNFCCC/CDM International Photo Contest 2008.
Photo: Thiago Augusto Pimenta Viana

JIKO Analysis

buying emission certificates generated by the recently registered Xiaoxi hydropower plant in China. CDM Watch is concerned that the project does not meet the minimum requirements of the World Commission on Dams. According to an eye witness, several hundred people were subjected to forced resettlement. These accusations are currently being investigated by the German Emissions Trading Authority (DEHSt).

CDM Watch will expressly work towards ensuring that businesses purchase certificates from high-quality projects such as those involved in Gold Standard-certified activities (see preceeding article). In this regard, CDM Watch supports the approval of new CDM methodologies for small-scale projects designed to reduce emissions in the waste management sector. Until now, the CDM has promoted the closure of large landfill sites in order to capture and flame the methane they produce or to use it to generate electricity. But these projects rob people of their livelihoods – people (Recicladores) who earn their living by collecting waste from the sites. To halt this trend and elevate the Recicladores' position in society, CDM Watch calls instead for the introduction of waste separation and recycling systems. The Recicladores could then be trained to do recognised jobs and the use of waste recycling and composting would save up to 25 times the quantity of emissions achieved with waste incineration.

CDM Watch will also look at the institutional deficits of the CDM rules and develop a set of recommendations for improvement (see the article "Serious Shortcomings in Project Evaluation"). In particular, CDM Watch will analyse the decisions of the CDM Executive Board and submit recommendations for pending decisions. Among other things, CDM Watch calls for improvements to questionable CDM methodologies and has repeatedly notified the EB regarding the need to change the methodologies for HFC 23 reduction projects. Given the huge greenhouse gas potential involved in HFC 23 activities, investment in flaring this gas would generate a large number of carbon credits. As yet, these activities do not, however, contribute to achieving sustainable development. In December 2007, non-governmental organisation Noe21 submitted the first set of proposals to the Executive Board. These allow certification of only 10 percent of emission reductions achieved in burning HFC 23. Despite repeated reminders, this proposal has still not been addressed.

CDM Watch cooperates with a finely-meshed network of organisations who are directly involved with CDM projects. These include the Centre for Science and Environment in India, International Rivers in the US, and Germany's Protestant Church Development Service (Evangelische Entwicklungsdienst (EED)). The list of cooperation partners continues to grow. Interested NGOs can contact CDM Watch via the website, where they may also subscribe to a regular newsletter.

For more information: www.CDM-Watch.org

CDM Watch Network

CDM Watch cooperates with the following organisations:
Action Solidarité Tiers Monde – ASTM, Luxembourg; Both ENDS, Netherlands; Agricultural Development and Training Society – ADATS, India; Centre for Science and Environment – CSE, India; Evangelischer Entwicklungsdienst – EED, Germany; Federação de Órgão para a Assistência Social e Educacional-FASE, Brazil; Forum of Collective Forms of Cooperation – FCFC, India; Forum Environment & Development, Germany; Germanwatch, Germany; Global Alliance for Incinerator Alternatives – GAIA, Philippines; Indian Network of Ethics and Climate Change – INECC; International Rivers, USA; Noé 21, Switzerland; Laya Resource Center, India; WWF Germany and WWF Japan.

JIKO Analysis

PoAs and Adapted CDM Methodologies Allow More Projects in Less-Developed Countries

by Angelika Smuda and Karsten Karschunke, German Emissions Trading Authority

Angelika Smuda has worked at the German Emissions Trading Authority (DEHSt), which is an arm of the Federal Environment Agency (UBA), since March 2007. Her work focuses on making German government travel carbon neutral, the UBA's position on the voluntary offset market and approval of CDM/JI projects.

Karsten Karschunke joined the Federal Environment Agency (UBA) in January 2003. His duties at the German Emissions Trading Authority (DEHSt) largely involve evaluation and approval of CDM/JI projects, and cooperation in further development of the project-based mechanisms.

Observers have long criticised the inequity in the regional distribution of CDM projects. In Poznan, the CMP instructed the CDM Executive Board to improve and simplify the CDM process for countries with fewer than 10 CDM projects. In doing so, the CMP emphasised that any simplification should in no way compromise the environmental integrity of the mechanism. Also, some promising ways of reducing emissions in LDCs are emerging which do not throw the additionality of the measures into question. This article looks at some of these ways.

The less-developed countries have long called for support in creating the capacities needed to participate in the CDM. As early as 2006, the Nairobi Framework was created to coordinate and intensify activities to boost capacities in these countries. At a meeting of CDM approval authorities in Bonn at the end of April, representatives from UNEP and UNDP reported on the progress made so far. This increased the number of African projects in the pipeline from 35 to 100; the number of registered projects rose from 11 to 30. There are now Designated National Authorities (DNAs) in no less than 39 African countries. This compares with just 29 in 2006. The work under the Nairobi Framework has shown that in some countries, project implementation fails due to factors unrelated to the CDM – poor infrastructure and a generally high country-specific risk. It thus makes sense in this regard to expand CDM capacities once the overall investment climate has improved. Alternative financial sources such as the World Bank's Global Environmental Facility could serve such efforts.

Apart from capacity building, there are project types and methods that are particularly suited to least developed countries. The most important of them, programmes of activities (PoAs), can help reduce transaction costs by consolidating many similar activities which each produce marginal emission reductions. Typical PoA projects include the distribution of biomass cookers and the installation of photovoltaic systems for individual households that have no access to electricity. PoAs can serve in exploiting decentralised emission reductions in LDCs where no large-scale industrial plants exist. This project type can also be combined with micro-credit systems, as has been seen in Bangladesh: in a project involving the installation of solar facilities, the Grameen Bank acts as a coordinating office along with a number of non-governmental organisations; the bank developed the microcredit system cp. photo on page 3. The combination of these two instruments provides promising prospects for projects in least developed countries and can make a significant contribution to alleviating poverty in those countries.

To calculate the baseline emissions of a CDM project, it is often necessary to collect comprehensive data. This is one area where the methodologies for small-scale projects need to be adapted so that the baseline can be calculated using predetermined, conservative standard values. The AMS II J methodology for distributing energy-saving lightbulbs is a useful example. It takes into account any grid losses, emission leakage and free riders by deducting a standardised amount from the gross electricity savings without the need for time-intensive data collection. Because projects in less developed countries tend to be smaller in scale and these methodologies are primarily used in PoAs, LDCs benefit from these simplified procedures.

The number of certificates that can potentially be generated from the use of renewable energy is largely dependent on the 'grid factor', which depicts the level of emissions in relation to the country's total electricity production. Currently applicable calculation methods only include electricity production which is fed directly into the grid. In less developed countries, however, a large proportion of electricity is produced by privately-owned diesel generators because the grid is overloaded and thus unreliable. If grid capacity and reliability are improved by feeding in renewables-generated electricity, a portion of the grid-independent electricity production will be replaced by electricity from the grid. A methodology developed in Nigeria

JIKO Analysis

The Kuyasa Low Cost Urban Housing Energy Upgrade Project in Cape Town, South Africa, is a registered CDM small-scale project in which the homes of low-income householders are insulated and equipped with solar-thermal systems and energy-saving lightbulbs. Further development of the project as a programme of activities (PoA) is currently being reviewed. This approach could serve as a blueprint for use in many less developed countries.
Photo: SouthSouthNorth

for cases such as this is now under discussion. This could be used to develop further methodologies which, for example, would allow the creation of a grid in non-electrified regions of African countries.

Under the Marrakesh Accords, the baseline can be a scenario with rising emission levels. This is the case, for example, when the population is unable to meet its basic needs from the prevailing energy supply (suppressed demand). Assuming that development will be achieved in future years, a growing demand for energy is likely to be met from conventional sources and probably using less efficient equipment. What this means is that a country need not necessarily develop by means of emission-intensive practices in order to conduct CDM projects. Rather, use of the CDM can mean a low-emissions path to development. This is the approach used to calculate the baseline emissions in the Kuyasa low-cost urban housing energy upgrade project in Khayelitsha (Cape Town) which has been registered in South Africa in cooperation with NGO SouthSouthNorth. SouthSouthNorth has proposed that the project be switched to a programme of activities (PoA) in which a National Sustainable Housing Facility acts as a coordinating office to launch energy-saving measures in a large number of low-income households. If the CDM Executive Board approves this methodology, it could serve as a model for similar projects in many less developed countries.

There are numerous ways to increase LDC involvement in the CDM without softening the requirements on upholding environmental integrity. What is needed, however, is a shift in thinking and greater flexibility on the part of the CDM Executive Board. With the decisions concerning programmes of activities (PoAs), the Board made inroads to this end at its meeting in May). A range of proposals were taken up from the input submitted by project developers, independent experts and other stakeholders, and the rules were amended accordingly. At the same time, the countries in question must attempt to improve conditions for investment, for example by making it easier to feed renewables-generated electricity into the grid and by optimising administrative processes at national level.

JIKO Analysis

CDM Projects in the Industrial Gas Sector

Upholding Environmental Integrity and Securing Production Sites

When climate-damaging production facilities are built for the sole reason of generating and selling emissions certificates under the CDM then something is very wrong. It does not help efforts to mitigate climate change and it perverts a key instrument in climate cooperation between industry and developing countries. The HFC 23 debate is a prime example (see JIKO Info 04/2007). Up to now, it has been possible to prevent the CDM being used as an incentive to produce ozone-damaging gases. But the debate has been refuelled with regard to projects designed to reduce nitrous oxide emissions. JIKO Info looks at the stance taken by the CDM Executive Board and by the German government, and weighs up possible solutions.

At its 46th meeting in March 2009, the CDM Executive Board adopted guidelines on the development of methodologies for projects to reduce the industrial gases N_2O, SF6 and PFCs in new facilities. These industrial gases have a high global warming potential (GWP) and projects to reduce emissions of them generate large quantities of certified emission reductions (CERs). For example, N_2O is 310 times as harmful as CO_2. For every tonne of N_2O emissions saved, 310 certificates are generated and these bring in correspondingly high revenue from the carbon markets operated under the CDM. This could result in chemicals production in which N_2O occurs as a waste product being stepped up in order to generate additional revenue from the CDM. There is also a risk of market distortion and emissions being relocated because most industrialised countries prescribe reductions of N_2O emissions. The extremely high income potential from the CDM could thus act as an incentive to relocate production from industrialised to developing countries. In all of these instances, the CDM would then be deemed to effect a global increase in greenhouse gas emissions.

CDM projects in existing facilities built on or before 31 December 2005 are already allowed. Given the risk of the perverse incentives mentioned earlier, the EB is faced with the question of whether and under what conditions projects should be allowed in new facilities. In the guidelines adopted in March, the EB set out the factors that must be taken into account when calculating the emission reductions to be achieved with such projects:

- Possible incentives to choose a technology with a high emission factor.
- Possible incentives to relocate production from an existing facility to a new one.
- Potential obstruction of technological advancement.

The original draft also required incentives to relocate facilities from Annex I countries to non-Annex I countries to be taken into account. Several EB members from developing countries rejected this and pointed to the Marrakesh Accords by way of justification.

This position is difficult to understand because if production is relocated, the closed facility in the industrialised state must be included when determining the baseline. Under the Marrakesh Accords, certificates may only be issued for emission reductions which are achieved in addition to the baseline. The argument put forward by the developing countries is different again: when determining the baseline, they believe that the comparison should be made solely on grounds of the emissions produced in the host country. This means that existing facilities could generate a considerable number of certificates which would give developing countries a significant advantage over competitors in industrialised states.

The adoption of the guidelines should not, however, be confused with the approval of new methodologies for industrial gas projects. The Executive Board will conduct an in-depth analysis of proposals submitted on new methodologies.

JIKO Analysis

N_2O destruction at an adipic acid plant at BASF. Waste gas is heated to a high temperature by a catalyser and then catalytically destroyed. The obtained heat is used to generate steam in the steam superheater located below. Photo: BASF

Analysis by Working Group on Emissions Trading

The AGE mandate can be viewed online: http://www.bmu.de/emissionshandel/age/doc/20125.php

At a meeting of Sub-Working Group IV, an arm of the German Environment Ministry Working Group on Emissions Trading (AGE), representatives from the chemicals and electricity sectors clearly pointed to the above-mentioned risk of unfair competition. Members of sub-working group IV were largely in agreement that in cases involving competition at international level, the baseline must be determined globally; this could be taken into account in the respective CDM methodology. In principle therefore, new production facilities would only be built if product sales are guaranteed.

Categorising CDM Methodologies According to Project Types

However, a strict distinction according to project type must be drawn when it comes to the additional emission reductions achieved with N_2O projects:

- Facilities involving nitric acid (HNO_3): Fertiliser industry, explosives manufacturing.
- Facilities in the adipic acid value chain: softener production, polyamide production

Adipic Acid Plants: Global Perspective Needed

The situation is particularly serious with regard to adipic acid. In the production of 100,000 t of adipic acid at full capacity, investment costs and CER revenue are more or less even. Hence, where large-scale facilities are concerned, the CDM would quickly become an incentive to build new production facilities.

In ongoing analysis of the global market, it becomes evident that the four new adipic acid facilities in Brazil, China and Korea, at which no N_2O destruction activities are planned, more or less match the world surplus production capacity. These new facilities are already able to conduct N_2O destruction projects using current methodologies approved under the CDM and have a de facto competitive advantage: theoretically, they can survive in the market without demand for their products and finance their activities solely through the sale of CDM-generated certificates. In the meantime, their competitors in Europe face pressure to decommission facilities because they are legally bound to conduct N_2O destruction projects (German Federal Immision Control Act/IPPC Directive, from 2013: EU Emissions Trading Scheme). If new CDM methodologies give yet more facili-

ties access to the market, then market distortion would be a foregone conclusion and not a single tonne of N_2O emissions would be saved to assist climate change efforts. There is thus a need either to introduce a global baseline according to the global state of the arts in available technology (90 percent reduction in N_2O in ADP facilities) and/or a globally applicable sectoral approach, where possible based on cap and trade rules. Failing this, these new facilities should not be given access to the carbon market.

New CDM Methodology Needed for Nitric Acid Plants

In the case of HNO_3 facilities, the situation is more complex: both existing CDM methodologies (AM0028 and AM0034) only apply to facilities that went into operation on or before 31 December 2005. At the AGE event, business representatives pointed out that at a price of around €10 per CER, these facilities were 80 percent viable from sales of their products and only 20 percent from the sale of CERs. At present, facility operators are concerned that CER revenue needed to finance ongoing operation of N_2O destruction activities will be lacking unless a post 2012 agreement is reached and that these will then have to be stopped. Given the necessity of CER-based financing in new facilities, it is clear that N_2O destruction components can only be carried out if the CDM EB's guidelines are used to develop a new methodology without further delay. Project stakeholders must be required to engage in suitable efforts to this end.

Conclusion

Industrial gases, currently N_2O, are an excellent example in calling for a review of the procedure involved in developing CDM methodologies. In the early days of the CDM, a bottom-up approach was necessary which bound methodology development to a number of CDM activities. With the current situation, new climate change potential could be better exploited if the Executive Board itself developed the methodologies or initiated their development by qualified professionals. This issue must, however, been seen in connection with the new sectoral approaches in a post-2012 climate change agreement.

The German Environment Ministry (BMU) and the German Emissions Trading Authority (DEHSt) are currently looking at how to proceed as regards the CDM EB guidelines on industrial gases. The talks and analyses conducted by the Working Group on Emissions Trading (AGE) have supplied valuable input. New developments in this matter will be announced on the JIKO website (www.jiko-bmu.de).

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